MARSH & McLENNAN COMPANIES | Asia Pacific Risk Center

EVOLVING RISK CONCERNS IN ASIA-PACIFIC

2017 EDITION

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KEY TAKEAWAYS

1. Rising economic inequality, mounting demographic pressures, persisting international security concerns, complex global economic transitions, environmental risks, and further technological advances are the six interrelated trends that are acutely felt across Asia-Pacific. These trends will likely shape future domestic and global instability and will require businesses to respond accordingly.

2. Businesses need to anticipate the potential disruptions caused by rising economic inequality, including the likely strain on labor relations that would cause increases in strikes and protests. Accordingly, businesses should focus on maintaining labor relations and implementing talent management programs. Existing pension structures may need to be revamped to help prepare for the impact of technology on the future of jobs and an increasingly aging workforce.

3. Companies should safeguard against disruptions from rising protectionism, such as sudden changes in trade policies, taxes or tariff regulations. Ongoing international political developments should be observed closely and corresponding preventative measures, such as developing contingency plans, insulating investments, and ensuring risk transference through political risk insurance, should be implemented.

4. Environmental risks continue to increase in likelihood and impact, and pose a major threat to global supply chains. Simultaneously, the growing focus on environmental and climate concerns from both Asian governments and the private sector has also brought about new market trends that represent significant investment opportunities. Consequently, businesses will not only need to insure and prepare for disruptions, but also understand the implications for their business from changing customer and regulator views on environment related issues, notably climate change and sustainability.

5. While the Fourth Industrial Revolution and the incredible speed of technological advancement can greatly benefit businesses, executives should also be wary of the wide-ranging disruptive effects new technologies can bring. Businesses will have to mitigate a wide range of future market disruptions, including deployment risk, cyber security issues, unknown liabilities and the changing nature of work.

6. Based on current trends, we expect that (I) trade risks in an era of rising protectionism; and (II) the changing nature of work due to technological impacts, will be two of the most impactful risk trends for businesses going forward. The Asia Pacific Risk Center will therefore explore these topics in more detail in subsequent publications.

7. Business leaders in Asia-Pacific should review the key questions by department (Appendix A) to help identify how exposed their organizations are to the evolving risk landscape in the region.

Exhibit 1: Selected risk scenarios for key disruptive trends in Asia, corresponding economic impacts and recommended actions for businesses

RISK SCENARIOS	ECONOMIC IMPACT		RECOMMENDED ACTION
Rising economic inequality strains labor relations	Labor disputes can severely disrupt production and damage companies' reputation.	*A major Korean automaker's strike-related output loss reached **US$2.5 billion** in 2016*[1]	• Review and improve labor relations across organization • Invest in upskilling existing workforce in line with emerging trends and developments • Attempt to proactively anticipate policy adjustments
Increasing protectionism and uncertainty over political risks	Protectionist policies hinder trade and directly impact companies' revenues, while political uncertainties can also materialize into tax hikes or license denials.	*South Korea's automakers expect exports to the US decrease by up to **US$10.1 billion** over the next five years*[2]	• Invest in capability to track signs of expansion of trade protectionism • Invest in skills and contacts to capture early warning signals • Pursue creative use of risk transfer solutions
Environmental risks continue to be a major concern in Asia-Pacific	Extreme weather events disrupt supply chains and damage assets, while environmental regulations tighten.	*A major Japanese car manufacturer lost **240,000 cars** as a result of flooding in Thailand in 2011*[3]	• Embed climate change's direct and indirect impacts into Enterprise Risk Management • Review resilience of supply chain to natural disasters and extreme weather events • Assess the potential consequences of evolving environmental regulatory framework for strategy and operations
Emerging technologies are bringing about great disruptions across society and industry, as defined in the 4th Industrial Revolution concept	Businesses face market disruptions, new liabilities and security risks.	*APAC businesses lost **US$81.3 billion** in revenue due to cyber-attacks in 2015*[4]	• Conduct end-to-end review of cyber risk exposures and mitigations • Set strategies to manage industry disruptions – for example: Fast adopter? Acquisitions? R&D investment? • Fully consider potential new liabilities – for example: who is liable when an autonomous vehicle crashes? The car owner, the car manufacturer, or the software developer?

1 Chandran 2016.

2 Yonhap News Agency 2017.

3 Haraguchi and Lall 2014.

4 Marsh & McLennan Companies Asia Pacific Risk Center 2017b.

INTRODUCTION

Now in its 12th edition, the Global Risks Report (GRR) is one of the flagship publications of the World Economic Forum (WEF), and has been supported by Marsh & McLennan Companies (MMC) since 2006. Each year the report brings together the viewpoints of thousands of business executives and risk experts around the world, and is widely used by policymakers and the private sector to inform discussion on emerging risk trends.

In 2016 a series of globally connected trends combined to bring about a series of electoral results in G7 countries that defied mainstream expectations. Economic observers hoping for a more stable start to 2017 will have been sorely disappointed with the way the year has unfolded in the first six months. Political uncertainty has continued, even post-election, in many countries around the world – a result of increasing societal polarization, growing protectionist policies, and widening income inequality. Geopolitical tensions continue to escalate, especially with conflicting nuclear agendas resurging to prominence over the last decade.

The 2017 GRR identified five gravity centers that will impact global risks this year and beyond.

The first covers the impact of ongoing slow economic growth, compounded by high debt levels and unfavorable demographic changes, which has resulted in a world more exposed to financial crises with increasing inequality

The second is the increasing polarization of society and fracturing of communities as a result of frayed identity politics

The third concerns the rapid advancement of technology – heralded as the Fourth Industrial Revolution – which has not only brought about new opportunities but also major disruptions to almost every facet of life

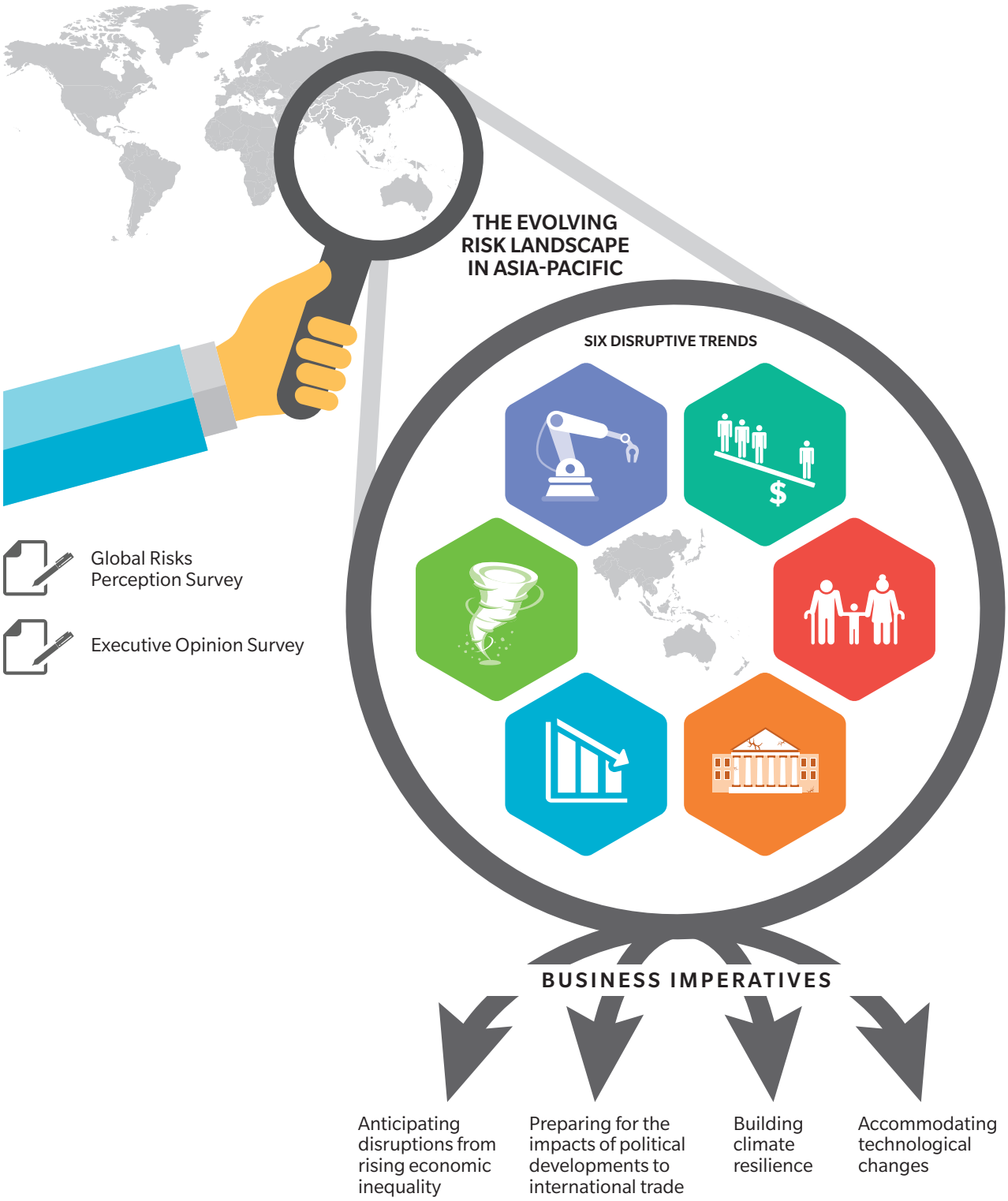
The fourth deals with the deteriorating commitment to global cooperation, signaled by the rise of populist and protectionist governments

Finally, environment-related risks and ineffective management of the "global commons" continue to be a prime concern for leaders around the globe

A key theme from this year's WEF Annual Meeting in Davos was 'responsive and responsible leadership', directed at all aspects of government, industry, and society. In this world of pronounced, interconnected, and evolving risks, leaders face an ever greater challenge to map out the spectrum of risks that are most relevant to their organizations and to develop practical solutions to mitigate them.

In light of Asia-Pacific's growing importance in the global economic and political landscape, MMC launched the Evolving Risk Concerns in Asia-Pacific series in 2016. The series expands upon our partnership with the WEF, using insights from the GRR to highlight a selection of the most important risks to businesses operating in the Asia-Pacific region. In this second edition of the report, we broaden the scope to delve deeper into the underlying disruptive trends from which key risks to businesses are identified, and to set out the most important imperatives for businesses going forward (Exhibit 2).

Exhibit 2: A road map of the Evolving Risks in Asia-Pacific Report, 2017



1. THE EVOLVING RISK LANDSCAPE IN ASIA-PACIFIC

This section begins with an overview of global and Asia-Pacific risk landscapes as identified in the GRR. From there, it details the six key disruptive trends in the region, which together with the overall global risk landscape enables an in-depth discussion on the implications for businesses covered in Section 2.

1.1. TOP RISKS: PERSPECTIVES FROM EXPERTS AND BUSINESS LEADERS

The GRR draws upon insights from a number of wide ranging sources. In this section, we focus on the results of the Global Risks Perception Survey (GRPS) and Executive Opinion Survey (EOS) to identify top risks concerns globally and for Asia-Pacific. The former brings together diverse perspectives of risk experts from business, academia, civil society and government, while the latter provides collective insights into business leaders' perceptions of risks of doing businesses around the world. A more detailed description of the two surveys can be found in Appendix C.

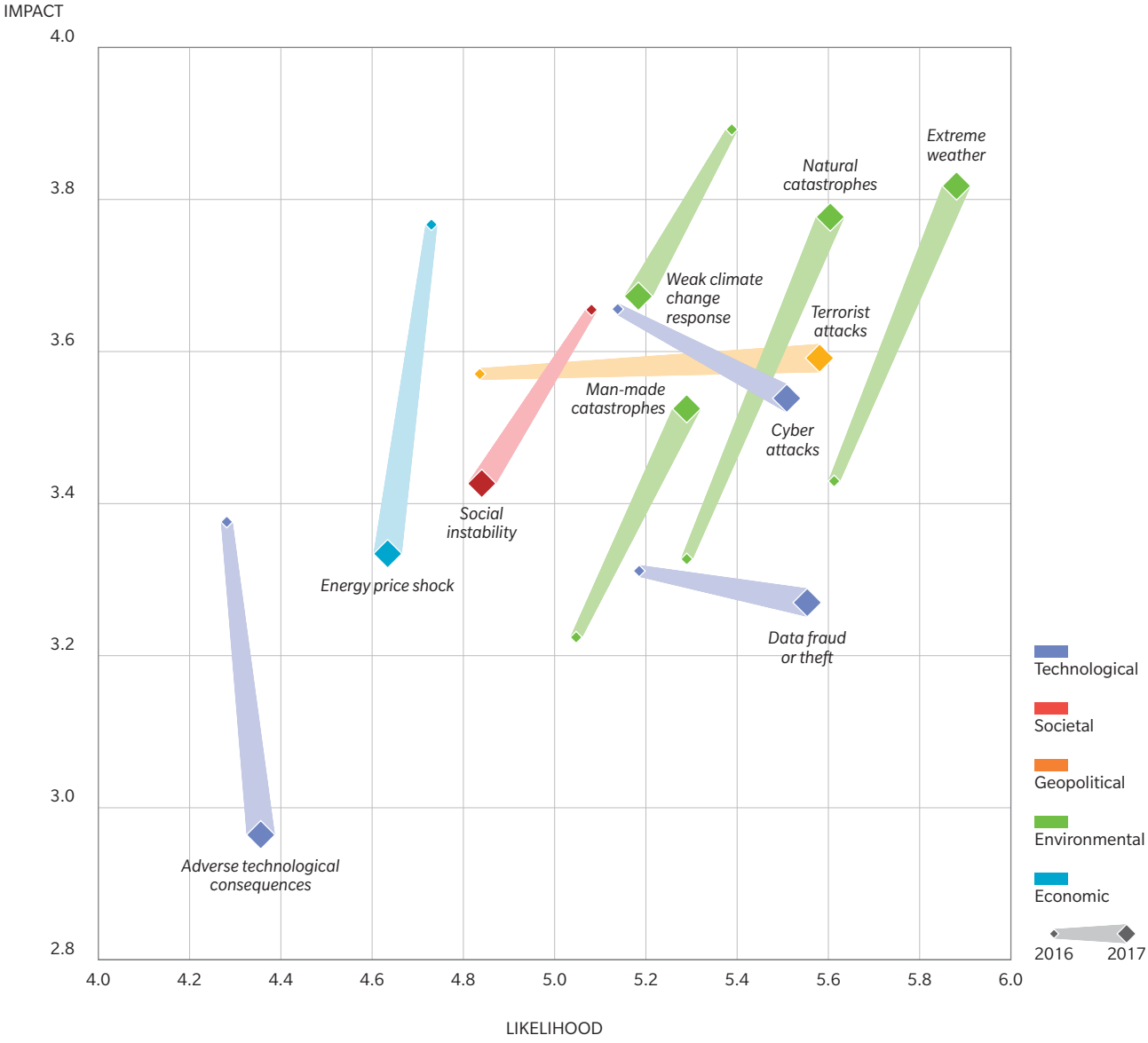
INCREASING IMPORTANCE OF ENVIRONMENTAL RISKS, TERRORISM AND CYBER SECURITY

For the first half of the decade spanned by the GRR, economic risks dominated the list of top concerns – asset price collapse, fiscal crises, and failures in the financial system. They weren't the only types of risk to reach the top of the list, but they featured prominently, and often formed the hub from which other risks emanated. A more diverse picture has emerged in the past few years, which demonstrates greater concern about societal, geopolitical and environmental threats both in terms of likelihood, and impact (Appendix B). A detailed picture of the evolving risk landscape can be seen in Exhibit 3, which illustrates the top ten movers in likelihood-impact between 2016 and 2017.

Compared to 2016, concerns over the potential for a weak climate change response have reduced significantly, reflecting the signing and ratification of the Paris Agreement. Policy makers and regulators have begun to enact a wider and deeper set of responses to manage the impact of climate change across all industrial sectors (such as GHG Emissions, energy efficiency, and e-mobility).

However, extreme weather, natural catastrophes, and man-made catastrophes have been perceived by risk experts to be much more impactful and probable in 2017 as compared to 2016. This is highly relevant to Asia-Pacific, as several countries in the region are highly susceptible to natural disasters and environmental degradation. Examples include frequent earthquakes in Japan, typhoons in Southeast Asia, and water stress in Bangladesh and India. Business executives also listed natural catastrophe and extreme weather events among their top risks for Japan, the Philippines and New Zealand in the EOS 2016.

Exhibit 3: Top 10 movers in likelihood-impact between 2016 and 2017



Note: Global Risks Perception Survey (745 respondents worldwide); Top 10 movers are defined as the 10 risks with the largest absolute changes in the impact-likelihood space between 2016 and 2017

Source: World Economic Forum, Global Risks Report 2017

Experts' perceptions on the likelihood of terrorist attacks in 2017 have worsened significantly from 2016. This is not surprising, given the heightened terrorist threat and associated media coverage in 2016. Experts suggest that the fall of Islamic State strongholds in the Middle East will likely prompt trained fighters to disseminate across the globe.

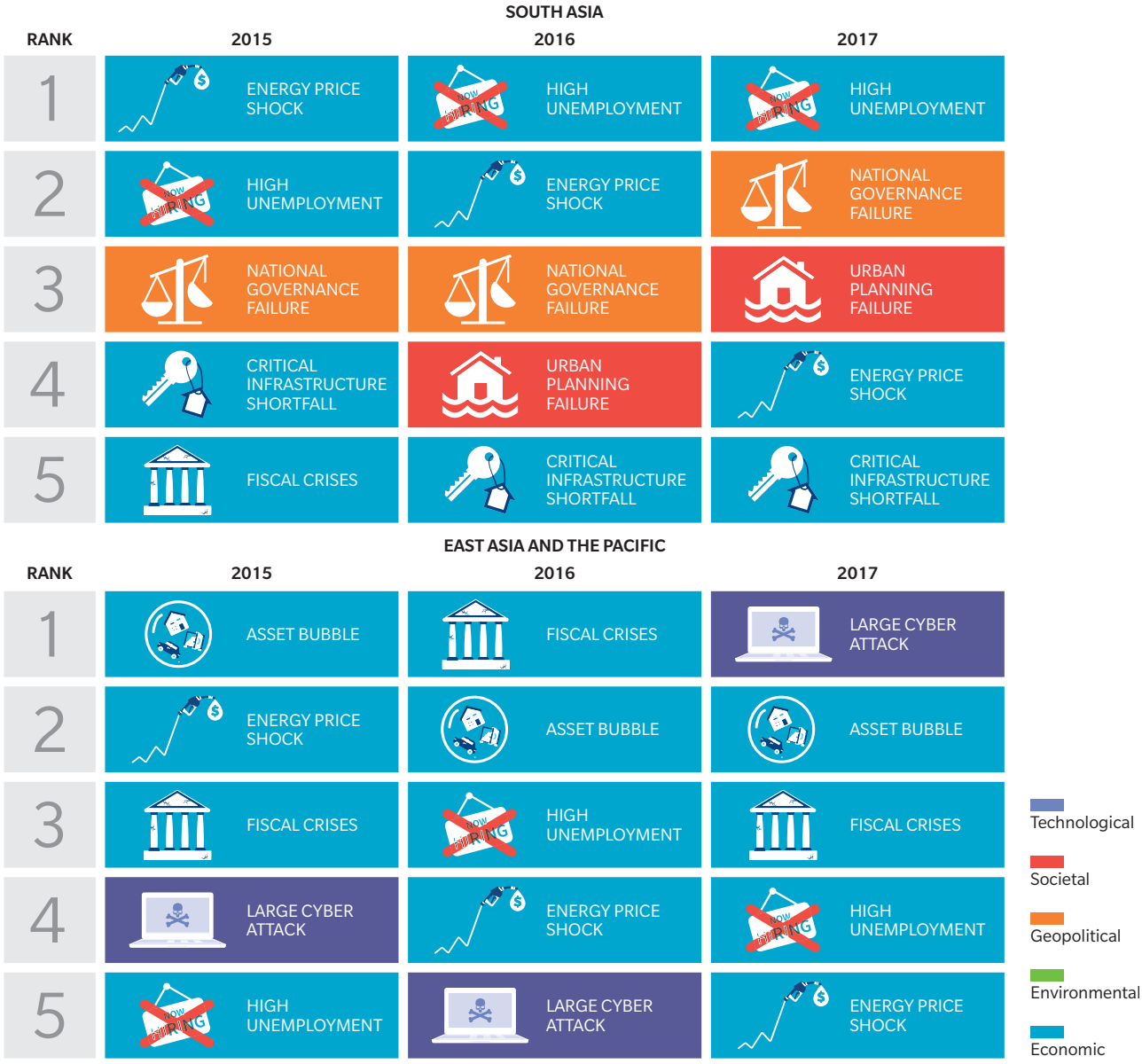
Additionally, cyber-attacks and data fraud/theft are perceived to be much more likely. Incidents of cyber-attacks have become much more frequent in Asia, where hacking and cyber security breaches have led to substantial financial cost.

Finally, rising economic inequality has been identified as the most important trend shaping the societal, economic and geopolitical landscape over the next decade . Risk experts believe that rising inequality will amplify societal instability, structural unemployment and governance failure nationally and globally.

ECONOMIC COMPLICATIONS CONTINUE TO WORRY ASIAN EXECUTIVES AMIDST GROWING CONCERNS OVER CYBER-ATTACKS AND NATIONAL GOVERNANCE FAILURE

Business leaders in Asia-Pacific are more focused on economic risks than risk professionals (Exhibit 4). This likely stems from the broader demands placed on business executives, and was no doubt compounded by a slowdown in economic growth and uncertain prospect for international trade due to rising protectionism. Many questioned the sustainability of Asia's growth miracle, especially given the rising number of trade protection policies globally. Among Asia's sub-regions, there is renewed concern over how large cyber-attacks can impact businesses in East Asia and the Pacific, while the risk of national governance failure has persisted from 2016 into 2017 for South Asian countries.

Exhibit 4: Executive Opinion Survey View of Top Risks in Asia-Pacific sub-regions (2015-2017)



Note: Results are based on 2,596 and 2,477 responses across Asia-Pacific in 2016 and 2017, respectively; respondents could choose up to five risks which they view as being most important for doing business in their country

Source: 2015-2017 Executive Opinion Survey, MMC analysis

There is little change in the components of the top economic risks identified by executives in Asia as high unemployment rate and energy price shocks have consistently appeared in the top five risks across both of Asia's sub-regions. Concerns over high unemployment rates – which was considered the most important risk across wider Asia in 2016 – have been particularly acute in South Asia coming into 2017 as job creation stagnation in India was projected earlier in the year.[5] At the same time, the global economic pivot to Asia, and more specifically to China, has heightened the impact of Chinese market volatility on other Asian economies, as reflected in the reoccurrence of asset bubbles as a top risk for the East Asia and the Pacific region for each of the last three years.

Along with ongoing worries over Asia's economic performance, there is also a growing concern over other geopolitical and technological risks among Asian executives. National governance failure has been present in the top five risks for South Asian countries across the years. According to Transparency International, Bangladesh, Nepal and Pakistan have consistently scored below 40 in the Corruption Perception Index, relegating them to the bottom half of the rankings for 176 countries.[6] The turbulent political wave of 2016 – characterized by the rise of strongman leaders such as President Rodrigo Duterte in the Philippines – has also caused businesses to worry more about rising authoritarianism as well as waning governmental oversight and accountability in the long run.

The threat of large cyber-attacks has historically occupied a high position in Asian executives' priorities and significantly increased in importance in 2017. Most notably, the WannaCry ransomware in May this year has severely disrupted businesses in major Asian economies, with China, India and Vietnam reported to be among the top 20 hardest hit countries.[7] Such high profile attacks have no doubt raised the alarm for many executives on businesses' cyber security infrastructure and capabilities, as well as on wider regulations and policies surrounding this topic.

The results from the EOS 2016-2017 also showed that business executives in East Asian countries such as Japan are also particularly concerned about heightened inter-state tensions, specifically with regards to North Korea. The most recent North Korean inter-continental ballistic missile and nuclear tests, coupled with the confrontational response from the US, have only served to heighten the perception of such interstate conflict risks. Separately, the ongoing Asian arms race and nuclear armament challenge also provide strong evidence of the complex international security scene in Asia. From a more global perspective, should President Donald Trump follow through with his campaign rhetoric of a less internationally involved US, China may be primed to play a major role in how Asia's international security scene will evolve. However, the lingering threat of a trade war means that China may have to deal with a more assertive Washington on both trade and regional security fronts.[8]

Two other risks need to be mentioned in this overview. Firstly, the risk of natural catastrophes continues to be a high profile threat to Asian countries. This is especially true for countries such as China and Japan which are more prone to, and have historically suffered great human and economic damages from, these events. Secondly, continuing growth in

5 Business Standard India 2017.

6 Taken from the Corruption Perception Index 2016, Transparency International. Access at: https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table.

7 The Straits Times 2017.

8 Pham 2017.

extremist activities in Southeast Asia has rightly alarmed executives in the region, notably those in Singapore, and increased concern over the threat of possible terrorist attacks.

In its inaugural Evolving Risk Concerns in Asia-Pacific report, Marsh & McLennan Companies Asia Pacific Risk Center's (APRC's) provided an in-depth analysis of the top five risks for wider Asia in 2015,[9] all of which have retained their relevance two years later. Recent publications from the APRC have also examined in detail the implications of specific risks, namely energy price shocks[10] and cyber-attacks[11]. As the discussion so far has shown, the latter has only increased in importance for executives.

Given that the high level view of executives has not changed significantly year-on-year, we will not be revisiting our analysis of these risks in detail in this publication. Instead, we focus on a series of six disruptive trends within the Asia-Pacific region that form the ecosystem in which executives have selected their top risk concerns. A key discussion point will be the strong inter-linkages between these trends. For example, continuing technological advancement in Asia-Pacific has the potential to drive up unemployment and inequality levels as a result of automation of lower-skill jobs, while also pulling down energy prices through the development of new technologies. Another example is how the rapid aging observed in many Asian societies can exacerbate fiscal crises, as surging demand for medical services drives up prices and strains social security systems. Other examples of similar connections will be referenced throughout this report.

9 Marsh & McLennan Companies Asia Pacific Risk Center Asia Pacific Risk Center 2016b.
10 Marsh & McLennan Companies Asia Pacific Risk Center Asia Pacific Risk Center 2017d.
11 Marsh & McLennan Companies Asia Pacific Risk Center Asia Pacific Risk Center 2017b.

1.2. KEY DISRUPTIVE TRENDS IN ASIA-PACIFIC

This section looks at the six key disruptive trends in Asia-Pacific (Exhibit 5). While these trends do exist independently, they are interrelated, each influencing and exacerbating the other.

Exhibit 5: Six key disruptive trends in Asia-Pacific

RISING ECONOMIC INEQUALITY

This year's GRPS identifies 'rising income and wealth disparity' as the most important trend in determining global developments over the next decade. Defined as the increasing socio-economic gap between the rich and the poor in a country or region,[12] rising economic inequality represents the adverse effects of globalization and liberal market capitalism. It signifies that the gains from economic growth have not been distributed equally. A recent IMF study pointed to decreasing labor share (the compensation of employees divided by national GDP) as a key driver of income inequality in Asia.[13] In turn, labor share has shown to be negatively correlated to financialization,[14] globalization and state welfare retrenchment.[15]

12 World Economic Forum 2017.

13 Jain-Chandra et al. 2016.

14 Financialization is defined by Palley as the "process whereby financial markets, financial institutions, and financial elites gain greater influence over economic policy and economic outcomes" (see Palley 2007).

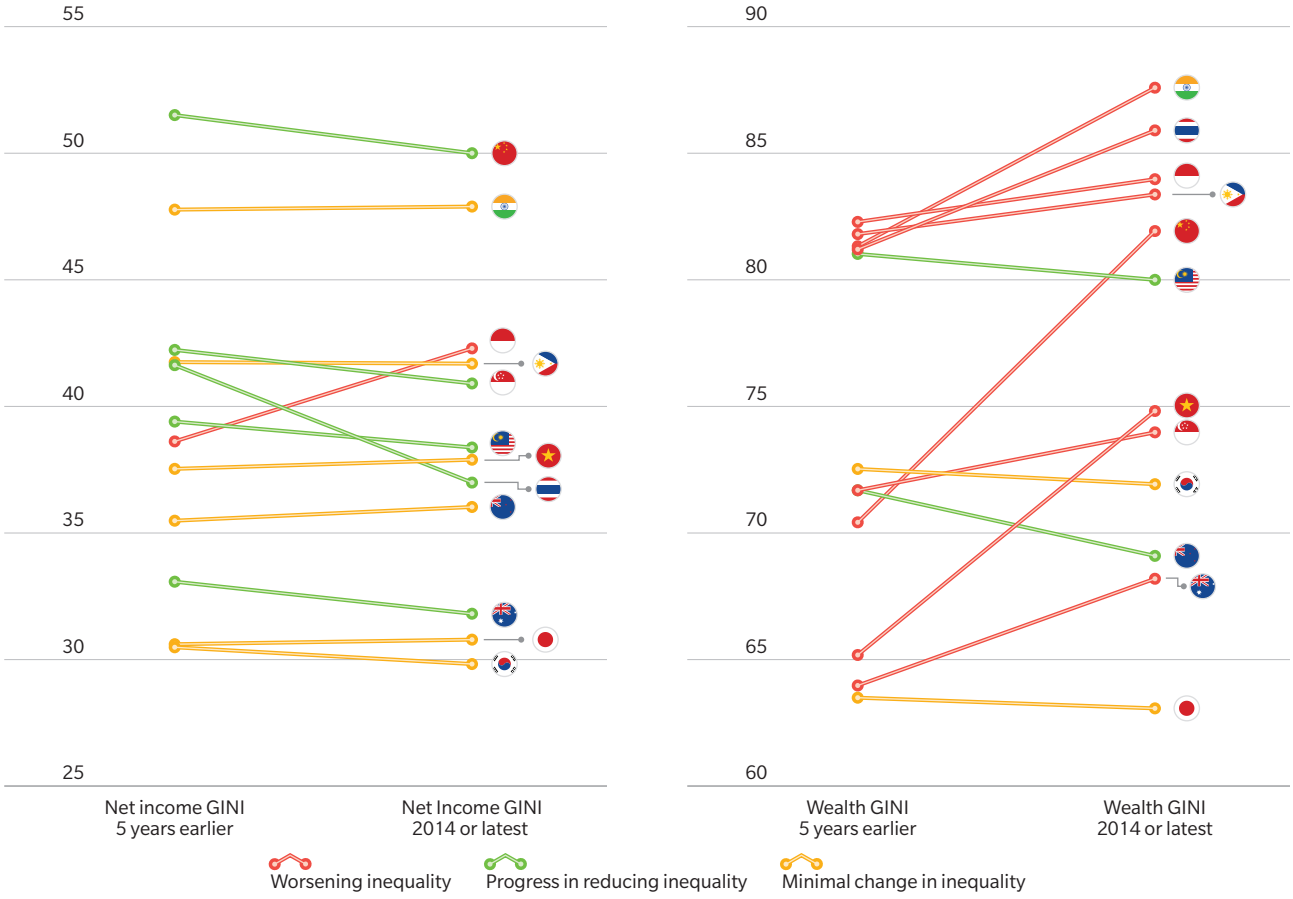
15 Stockhammer 2013.

Exhibit 6 illustrates the change in net income (income after government transfers) and wealth GINI coefficient in the most recent five years for selected Asian countries up to 2014 or the latest available year.[16] The worsening wealth inequality stands in stark contrast with improvements made in net income inequality and poverty rate reduction. While a recent World Bank report shows that the income of the bottom 40 percent is growing at a faster rate than the average income growth rate in Asia-Pacific,[17] more effort is needed to make the distribution of wealth more equitable.

Exhibit 6: Net income and wealth GINI coefficient for selected countries (Latest 5-year period)

NET INCOME INEQUALITY (GINI)
This shows the extent to which the net distribution of income (post-tax, post-transfers) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

WEALTH INEQUALITY (GINI)
This shows the differences in the distribution of wealth. Higher Gini coefficients signify greater inequality in wealth distribution, with 0 implying equality and 100 reflecting complete inequality.



Source: World Economic Forum, Inclusive Development Index 2017

16 Taken from the Inclusive Development Index 2017, World Economic Forum. Access at: http://reports.weforum.org/inclusive-growth-and-development-report-2017/scorecard/

17 World Bank Group 2017.

Wealth inequality is not only significantly higher than net income inequality for each country, but is also growing faster, especially in fast-developing countries such as China, India, and Vietnam. China registered the highest growth in wealth inequality with an 11.5 percentage point increase from 2012 to 2016; its richest 1 percent now own 43.8 percent of all wealth.[18] Another notable example is Thailand, where the net income inequality is reduced by 4.6 percentage points from 2009 to 2013. Yet its latest wealth inequality coefficient is at 85.9 and increasing. This means that while the incomes of the low and lower-middle class in Asia have improved, capital continues to flow disproportionately to the top. For example, certain wealth creation tools such as debt and property are only available to those able to take investment risks,[19] thus enabling those with more capital to further their cumulative advantage and widen the wealth gap.

Increasing economic inequality has serious consequences. Research has shown that economic inequality is generally associated with economic volatility and susceptibility to crisis, poorer health, lagging human capital development, and heightened social tensions.[20] These factors, in turn, hinder economic growth and increase the risk of political instability, which can translate into populist policies and strong aversions to growth-enhancing reforms.[21]

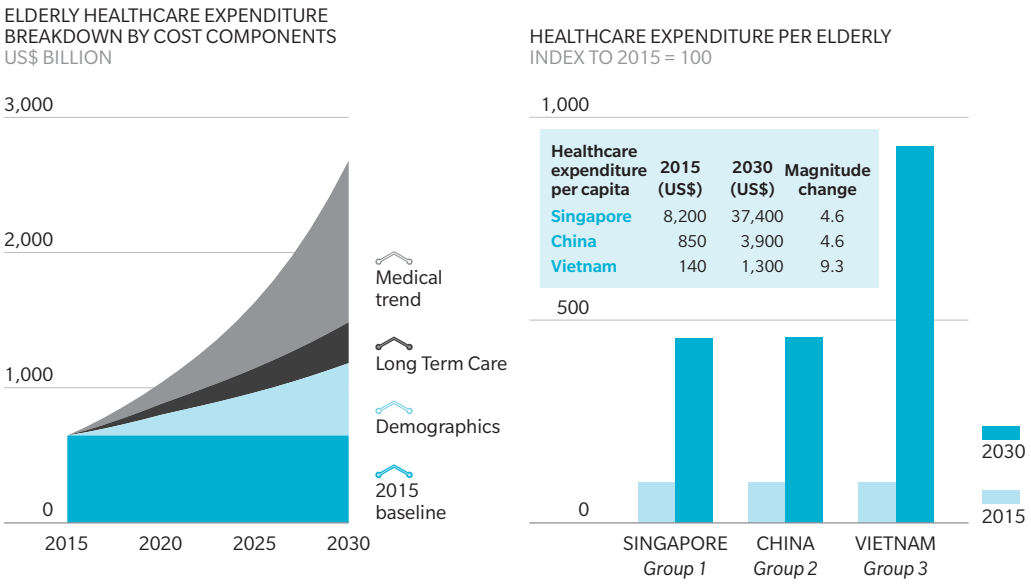
DEMOGRAPHIC PRESSURE

Asia's elderly population is expected to increase by 71 percent from now until 2030, compared to 55 percent in North America and 31 percent in Europe.[22] As it is the fastest-aging region globally, Asia will be faced with the fiscal challenge of managing increasing healthcare costs and maintaining productivity with an aging and potentially shrinking workforce – all while ensuring economic growth and the sustainability of social protection systems.

Healthcare costs: Total healthcare costs for the elderly in Asia-Pacific from 2015 to 2030 are estimated at $20 trillion (Exhibit 7). Medical trends show that costs have grown at an annual rate of 10 percent yearly across Asia, driven partly by improvements in access, increasing demand from an aging population, and the use of new and more expensive technologies and drugs.[23] With a significant proportion of healthcare costs paid out of pocket in Asia, increasing costs will place additional strain on individuals' savings, and ultimately costs could shift to governments.

18 Withnall 2016.
19 Biswas and Hartley 2015.
20 Pickett 2015, see also Stiglitz 2013.
21 Dabla-Norris et al. 2015.
22 Marsh & McLennan Companies Asia Pacific Risk Center 2016a.
23 Mercer Marsh Benefit Survey 2016.

Exhibit 7: Projected increase in elderly healthcare cost in Asia



Healthcare expenditure per capita	2015 (US$)	2030 (US$)	Magnitude change
Singapore	8,200	37,400	4.6
China	850	3,900	4.6
Vietnam	140	1,300	9.3

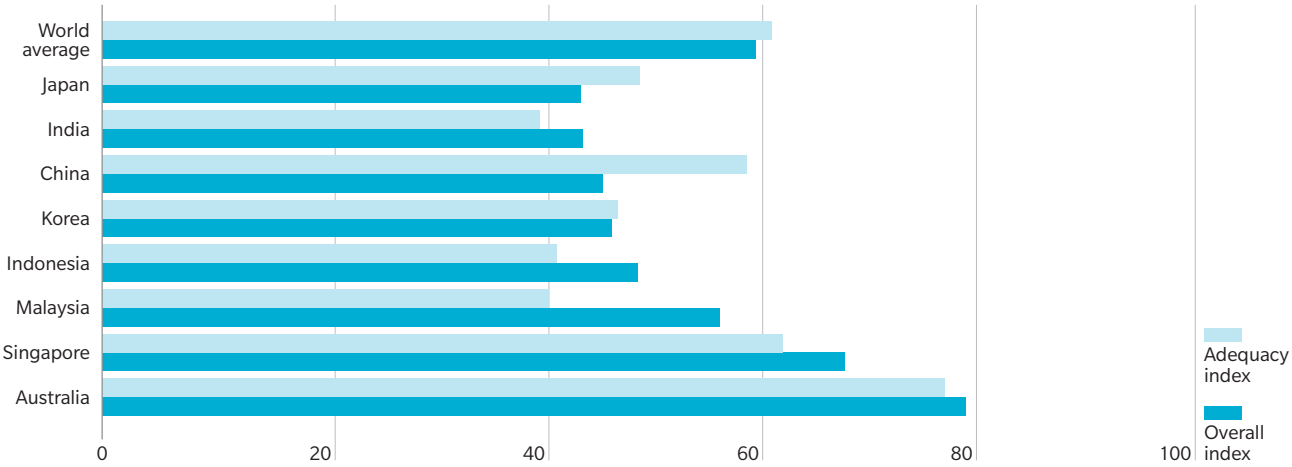
Source: APRC analysis

Workforce productivity: The working age population is shrinking in many countries, ranging from a 1 percent decrease in Malaysia to as much as 13 percent in Hong Kong, projected to occur over the next 15 years.[24] While labor shortages can be resolved with a more open immigration policy, governments will need to balance this against potential politico-economic consequences. Furthermore, an aging workforce is also generally associated with poorer health, leading to greater sickness absenteeism and impacting productivity. This adds another complication to the already serious issue of global productivity decline, particularly for mature economies.[25] For instance, a recent report has pointed out the stagnating productivity growth in Singapore and urged organizations to focus more on the issue.[26] Given the pace of population aging, productivity of considerations cannot go without accounting for an increasingly older workforce going forward.

Pensions: According to a recent report by Mercer, the adequacy and sustainability of many pension systems in Asia has eroded over the years due to falling interest rates, low expected returns, and lengthening lifespans.[27] Asian countries included in the Mercer Melbourne Global Pension Index, such as China, South Korea, Japan, India, Indonesia, and Malaysia scored below the world average in the overall index and the adequacy sub-index, suggesting major weaknesses in their pension systems (Exhibit 8).[28] The pressure on pension funds due to aging will also add to economic problems in several countries where risks of a fiscal crisis have already been flagged, such as Japan and South Korea.[29]

24 Marsh & McLennan Companies Asia Pacific Risk Center 2016a.
25 Pan and Ray 2016.
26 Oliver Wyman 2017.
27 Mercer 2017.
28 The index assesses each country's pension adequacy, sustainability and integrity.
29 Marsh & McLennan Companies Asia Pacific Risk Center 2016b.

Exhibit 8: Mercer Melbourne Global Pension Index for reported Asian countries



Source: APRC analysis

Compounding the pension crisis is the changing nature of employment due to technological advancements. The proliferation of online platforms, the ability to work from anywhere, and developments in automation have given rise to 'the gig economy', with more workers taking on part-time, temporary and freelance jobs. However, the gig workforce typically does not receive health benefits provided by "traditional" employers such as medical insurance, as workers are considered self-employed.[30] Such changes in models of employment highlight the need for policy makers to adjust social protection systems accordingly, to ensure they are covering those under alternative employment models.

INTERNATIONAL SECURITY CONCERNS

The scope of international security has expanded over the years to cover a variety of interconnected issues due to deepening globalization. While nuclear armament occupies the top spot for potential impact, and terrorism has been the biggest mover in the likelihood-impact space in the GRPS, ongoing development in global politics has added another layer of complexity to the international security scene. The rise of China and of other developing economies of the East is shaping a new, multi-polar world.

Nuclear armament: Disarmament in Russia and Western countries has been offset by nuclear proliferation in several Asian countries. China, Pakistan, India, and North Korea have all increased their warhead inventories over the past five years. Neighboring countries' apprehension grew when North Korea conducted Intercontinental Ballistic Missile tests in July 2017.[31] Elsewhere, in South Asia, ongoing tension between Pakistan and India escalated into violent confrontation in Kashmir. The nuclear policies of both countries continue to be a significant source of concern in international peacekeeping, as the states continue to test nuclear weapons with land, sea and air-based missile delivery systems.[32]

30 Tan and Lim 2017.
31 Lies and Tait 2017.
32 Kristensen and Norris 2017.

Terrorism threats: Terrorism experts at the Lowy Institute expect a further upsurge of attacks in Southeast Asia and across the globe as a result of the diffusion of foreign fighters away from the MENA region, as Islamic State gradually loses its foothold in the Middle East. These trained foreign fighters may continue to carry out attacks and/or preach terrorism ideologies after returning to their home countries.[33] Worryingly, Southeast Asia has displayed its own indications of escalating radicalization – exemplified in particular by the growing strength of Islamic extremism in the Marawi crisis in the Philippines.[34] The Australian minister for foreign affairs, Julie Bishop, earlier this year went so far as to express concerns of an impending "caliphate" coming from the southern Philippines.[35]

Colliding spheres of influence:[36] The geopolitical balance in Asia-Pacific has become more complicated with the rise of China as a global power. The Belt and Road Initiative is evidence of China extending its influence to other Asian economies. At the same time, the US' and Japan's stakes in the region remain high, while the fast-developing economies of India and the ASEAN countries will also be vying for a more influential voice in international politics. The current international scene in Asia can thus be aptly described as one of colliding spheres of influence, with each nation juggling its own interests while negotiating coalitions with others.

33 Nesser and Stenersen 2014.

34 Peel 2017.

35 Australia Associated Press 2017.

36 Wickett, Nilsson-Wright, and Summers 2015.

CASE STUDY

ASEAN: PROSPERITY AS A PUBLIC GOOD?

***Pushpanathan Sundram**, former Deputy Secretary-General of ASEAN for ASEAN Economic Community and Executive Chairman of the China-ASEAN Business Association*

It is an important time for the region's governments to put their individual interests on the backburner if ASEAN is to fully reap the benefits of deeper integration. The region is expecting strong economic growth, but the lack of political coordination could dampen its growth prospects.

Unlike the EU, ASEAN is a heterodox grouping of states with different forms of government, cultures and belief systems; and its members are all at varied levels of economic development. As such, it has been difficult for the bloc to establish a case for common aspirations of member states.

National versus regional interests

Member states' interests vary – for example, the developed countries want to remove all barriers to free trade, while the less developed ones are concerned about what will happen to their domestic industries when tariffs are removed and they are faced with foreign competition.

Nationalism (including protectionist sentiment) is rearing its head in some countries, and there is a real development-related issue in a few of the less-developed countries. But the outcome in both these cases is the same: attempts to put the national interest above all else.

The problem is quite complex, and we need to find ways to bring countries together. Liberalization through the "ASEAN minus X" formula is a good, viable way forward as it at least ensures that the ASEAN Economic Community (AEC) is headed in the right direction. The idea here is for countries that are ready to liberalize to move on with greater integration first, and allowing those nations that are not yet ready to liberalize, to join later.

In this way, ASEAN will not close the opportunity for countries that are not yet sure of liberalization or the right pace at which they should liberalize; but at the same time, the grouping cannot wait for everyone to be on board and agree to move forward. This approach may not seem ideal, but in the present circumstances, allows less-developed countries the opportunity to mitigate the risks that can come with economic liberalization and integration.

Coming Together, but Holding Back

The region also needs greater coordination between the various government agencies across the region, as well as between the agencies internally within countries. This is essential to provide institutional support to various integration initiatives.

Some related bottlenecks include a lack of digitization of systems across countries, the involvement of various ministries across different countries, and inconsistencies in document requirements. However, the lack of political will arguably lie at the root of these bottlenecks, because of which, these issues are not addressed with urgency.

One reason for this lack of political will is that the region's political leaders are caught in a constant tussle between ASEAN's wider aspirations and specific national objectives. This lack of political solidarity and focus on national sovereignty brings with it risks for business as it can hinder the expected growth in trade and investment expected from deeper economic integration. The protection of domestic enterprises through the imposition of non-tariff barriers to trade is but one example of this.

Empower the secretariat

One way to address these risks is to empower the ASEAN Secretariat, which is the only real regional institution. However, the Secretariat's mandate and powers are curtailed and limited – it only performs secretarial work and looks into some issues of compliance. The Secretariat does not have enforcement or even surveillance powers, and is hence dependent on information provided by member countries.

It is a weak Secretariat not because of itself, but because of what the member states have made it. ASEAN members need to strengthen this institution for the advancement of the AEC and to ensure that the region's ride to greater prosperity does not hit a roadblock, but it first requires recognizing prosperity as a public good.

COMPLEX ECONOMIC TRANSITIONS

The current complex global economic transitions today have been marked by the emergence of China, whose sharp GDP growth over the last three decades has propelled the country towards becoming the world's next economic superpower, surpassing the US. The ambitious Belt and Road Initiative serves as a signal of China's willingness to not only take on trade leadership in Asia, but also invest more in the national infrastructure of other countries.[37]

The increasingly close links between China and other Asian countries will mean that ongoing developments in China will have significant implications on other Asian economies. China's asset bubble continues to be a major source of worry for economists.[38] Concurrently, the country's economic transition from an investment-led to consumption-led growth model has led to a slowdown in growth, which has also affected growth in other economies in the region with close trade ties with China, such as Malaysia and Singapore, according to a recent IMF report.[39]

While China has taken the spotlight in conversations on global economic transitions, other countries in Asia have also been developing rapidly. India continues to show impressive growth, surpassing China in 2015 and 2016 according to recent data from the World Bank. Improvements in the country's health, primary education and infrastructure have greatly contributed to India's competitiveness. Nevertheless, the country still faces significant challenges ahead, including in financial market development, goods market efficiency and improving healthcare to match global standards.[40]

With the establishment of the ASEAN Economic Community (AEC) in 2015, the fast-developing countries of the bloc are also aiming to play a larger role in the global economy. However, even as ASEAN countries plan to integrate into a single market and production base, many difficulties still lie ahead, the abolition of non-tariff barriers, accommodating each country's unique national interests, and facilitating better coordination among members, for example.[41]

Another challenge for Asian countries is to adequately react to market movements in the US, China, and other major economies. There is not enough evidence to support the "decoupling hypothesis", which argues that Asia's growth is increasingly independent from economic shocks in major industrial countries.[42] As Asian economies become more closely linked to each other, and especially to China, they also become more integrated into the world economy, and remain susceptible to external shocks.

Finally, these developments have also brought about geopolitical consequences. Regional tensions have mounted in recent years as a result of colliding spheres of influence, while domestically there is a need to tackle persisting issues such as economic inequality, societal aging and ensuring effective governance.

As such, Asia-Pacific governments are constantly facing a choice between further integration into the global economy, or turning inwards to protect their national interests and addressing domestic problems. This, in turn, strains efforts toward regional cooperation, especially on critical areas such as climate change and environmental protection.

37 Dollar 2016.
38 China Daily 2017.
39 Dizioli et al. 2016.
40 Battista 2016.
41 Sundram 2016b, 2016a.
42 Park 2017.

CASE STUDY

THE GEOPOLITICAL IMPACT OF CHINA'S ECONOMIC DIPLOMACY

BRINK Editorial Staff

The prevailing conventional wisdom of a singularly powerful, hegemonic China is too simplistic; the interconnected geo-economics of today's world are woven from a set of complex and nuanced political realities surrounding the execution of China's economic diplomacy.

That was the uptake from a public forum in March, hosted by the Brookings Institution, in which a panel of Asia experts made the case that the story of Asia's future would be written by many Asian countries and not China alone.

At the event, titled The Geopolitical Impact of China's Economic Diplomacy, David Dollar, a senior fellow at Brookings' Thornton China Center, began by laying out the stakes. According to a recent Asian Development Bank report, developing countries in Asia need to invest roughly $26 trillion into infrastructure by 2030.

"In recent years, the rich countries as a group have not been doing very much to meet these needs", Dollar said.

China, meanwhile, is well-positioned to help developing countries meet those needs, Dollar said, adding that with some labor-intensive value chains moving out of China, and with Chinese construction companies not having enough business at home, this capital going out of the country "makes enormous economic sense".

"Not just a China story"

In light of the Belt and Road Initiative, China might appear to be the strongest candidate to help fund the region's infrastructure. However, China's leadership in this area was disputed by Masahiro Kawai, director-general of the Economic Research Institute for Northeast Asia.

Kawai argued that there are several such initiatives even among Northeast Asian countries. These include Mongolia's Steppe Road Initiative, Korea's Eurasia[n] Initiative, and Russia's Siberian transport system and Eurasian economic partnership initiative.

Although Kawai acknowledged the expectation that China would reshape the international economic system to be consistent with its interests, he pointed out that other, smaller countries were the ones pushing for change. China, instead, appeared to be pulling back in the interest of maintaining the status quo.

"China doesn't seem to be taking leadership by opening its economy and then embracing many other countries to consolidate a [free trade agreement] under [the Regional Comprehensive Economic Partnership]".

One example of this was the efforts of Australia, Japan and New Zealand to finalize large free trade agreements despite a withdrawal of support from China or India, the expected key players in the region.

Evan Feigenbaum, vice chairman of the Paulson Institute, reiterated this point, and suggested that Asian history could serve as a helpful guide for assessing the current geopolitical reality.

He said that while China's Belt and Road Initiative captured the imagination of many, connectivity was not something new to the region. "It's easy to forget that for most of its history Asia was an astonishingly interconnected place", he added.

Feigenbaum insisted current changes in the region were far more than just a China story or an infrastructure story. Instead, the region's new connectivity was indicative of Asia at large – not just China – becoming more Central Asian than Eurasian. These were the first signs of a reversion back to historical norms, and away from the "anomaly" of the past century – which had been instituted by Western countries.

The US on the brink of economic irrelevance

Kawai asked during his presentation whether China wants to challenge the existing system in a way that is consistent with its overall political economic and security interests, or whether it is executing trade policy in a way consistent with the existing economic system.

An underlying assumption of this question, and of the event's discussions at large, was that the US had retreated from Asia: this had the result of disempowering one set of economic elites, and subsequently empowering another.

The US and China have, until recently, complemented each other economically in the region. The real question about Asia's future, then, is whether China will fill the gap left by the US and other Western powers whose influence is waning.

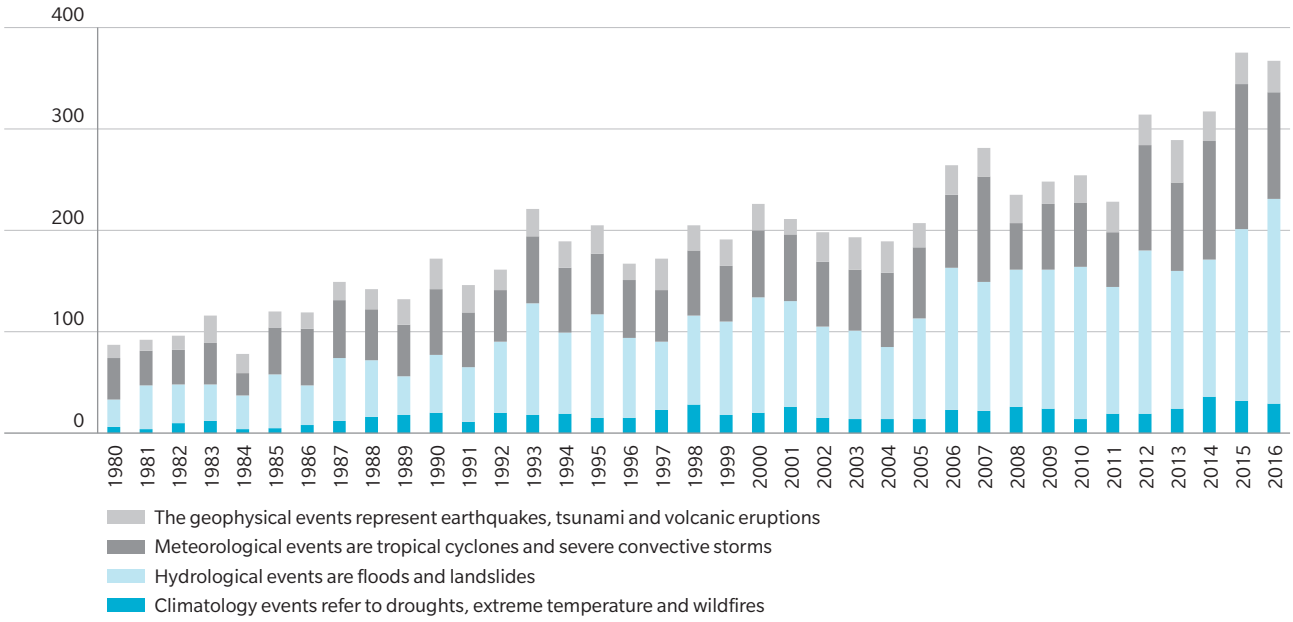
Kawai argued that there are several such initiatives even among Northeast Asian countries. These include Mongolia's Steppe Road Initiative, Korea's Eurasia[n] Initiative, and Russia's Siberian transport system and Eurasian economic partnership initiative.

THE GROWING IMPORTANCE OF ENVIRONMENTAL RISKS AND CLIMATE CHANGE

Increasingly extreme weather events and threats of climate change continue to severely affect the Asia-Pacific region despite recent improvements made in international efforts in managing global commons. As the region is home to 778 million urban residents and seven out of the world's top 10 most populated cities, the effects of environmental catastrophes are greatly amplified, making Asia-Pacific home to a "unique confluence of people and perils".[43]

According to Swiss Re Institute's sigma report, Asia-Pacific continued to be the most disaster prone region in 2016, accounting for 40 percent of the world's 191 natural disasters. The cumulative economic damage of these extreme weather events was estimated at $82 billion, while loss to life was estimated to have reached over 3,500 fatalities.[44] Devastating floods and cyclones have been a perennial feature of the Asian climate, with notable extreme events such as the 2011 Thai flood, the 2016 Indian flood,[45] Cyclone Nargis in Myanmar and Sri Lanka, and Typhoon Haiyan in the Philippines.[46] A historical examination of data from the Munich Re Disaster Database also shows that natural loss events in the region have increased steadily in the last four decades from 1980 to 2016 (Exhibit 9).

Exhibit 9: Number of natural loss events in Asia (1980-2016)



Source: Munich Re Disaster Database 2017

43 Graham 2017.
44 Swiss Re sigma 2017.
45 BBC 2016.
46 The International Disaster Database.

Extreme climate events also displaced 19.2 million people in 2015 globally, 84 percent of whom were located in Asia.[47] Such major displacements create numerous complications. First, displacement would likely mean a loss of livelihood for vulnerable and low income groups, who have limited capacity to adapt to the effects of extreme weather events. In the short run, this translates to a loss in income. In the long run, loss of livelihood and a stable stream of income impacts future pensions. This further compounds these groups' disadvantaged socio-economic position, thereby exacerbating existing inequality. Second, mass displacements that lead to forced cross-border migration have significant security implications, which may become a source of domestic and international tensions.[48]

An important element of climate change is how unregulated industrial activities have accelerated global warming. As home to many of the most polluted cities in the world,[49] Asia has clearly felt the consequences. The lion's share of the 800,000 premature deaths expected in 2050 will occur in Asia due to higher population and higher ground-level ozone concentration.[50] Today, approximately 4,000 people die daily from pollution-related heart, lung, and stroke problems in China alone,[51] while productivity is hindered as workers are unable to work due to poor health.

Apart from immediate environmental damage, industrial activities also increase the risk of extreme weather events and contributes to adverse long-term climate conditions. Recent research from Georgia Institute of Technology has shown that China's severe winter air pollution may have been worsened by global climate change. The research suggests that changes in the atmospheric circulation prompted by climate change has trapped pollution in China's major population and industrial centers.[52] Despite the effectiveness of emission control measures put in place by the Chinese government, the winter haze in Northeast China has persisted, and is likely to continue in the future.

Subsequently, there is urgent need to push for infrastructure development and government-private sector coordination in combating climate change events. As governments redouble their commitments and efforts to stem climate change and environmental risks, policies to facilitate the transition to a low-carbon economy will follow suit. Policy makers will likely focus on areas of carbon prices adjustment, renewable energy development and electro-mobility promotion. India, for instance, has announced its plan to electrify all vehicles in the country by 2032,[53] while China has already become a global trendsetter in such efforts.[54]

Finally, environmental risks can no longer remain as solely national agendas. High-profile incidents such as the Southeast Asian trans-boundary haze in 2015 highlight the international dimension of environmental disasters, both in terms of impact as well as the need for further international cooperation in environmental protection and building climate change resilience.

47 UNESCAP 2016.
48 Doherty 2017.
49 Asian Development Bank. 2015.
50 Love 2012.
51 Borenstein 2015.
52 Georgia Institute of Technology 2017.
53 Shah 2017a.
54 Zuev 2016.

FURTHER TECHNOLOGICAL ADVANCES

The scale, scope and complexity of ongoing technological advances have been unprecedented. This wave of technological change, rightly deserving the title the "Fourth Industrial Revolution" (4IR), "is fundamentally changing the way we live, work, and relate to each other".[55]

Technology has opened new opportunities to understand and solve many difficult problems through the rapid transformation of production, mobility, communication, energy, and other systems. For example, its application in healthcare can potentially improve the industry's efficiency and reverse the current trend of rising healthcare costs. As with the previous technological revolution, it may create new, higher value-added jobs that will shape a new, more efficient and prosperous economy.

At the same time, technological advancements also carry the risk of creating new problems and exacerbating existing ones. For example, while they may create more jobs in the long run, technological advancements will severely disrupt the current labor market. With automation replacing labor, lower-skilled workers – who also earn the least income – have seen a steady disappearance of their jobs. The International Labour Organization (ILO) has forecasted that millions of jobs in Southeast Asia will be lost to automation in the next two decades.[56] In fact, at the latest IMF Spring meeting in 2017, Raghuram Rajan – former chief economist of the IMF and former governor of the Reserve Bank of India – pinpointed technological advances as a major cause for the loss of manufacturing jobs, discontent with trade and the rise of populism.[57]

Growing cyber dependency due to increasing digital connection of people, things and organizations has given rise to frequent cyber-attacks, data fraud/theft, and compounds the effects of information infrastructure and network breakdown. Asian countries have fared relatively badly in dealing with these disruptions, particularly in the area of cyber security.

Thus, the collective challenge for individuals, businesses and policy makers is to harness the powerful potential of technological advancement for the betterment of society while safeguarding against its risks.

55 Schwab 2017.

56 Aravindan 2016.

57 Business Standard India 2017.

1.3. ASIA'S CONFLUENCE OF RISKS

It is important to stress the interconnectedness of the six key disruptive trends in Asia-Pacific, through which individual trends may be exacerbated by others. The complex relationships between risks associated to these trends can bring about unexpected consequences, as effects from a shock can be amplified and spread across the region.

Mirroring the insights from the 2017 GRR, where social instability is persistently positioned at the heart of a web of interconnected risks, the rising economic inequality trend in Asia-Pacific also stands at the intersection of several other trends. Extreme weather events and inadequacies in the pension system coupled with rising medical costs disproportionately affect the most vulnerable and widen the socio-economic gap. At the same time, advancement in automation threatens to displace many manufacturing jobs that have been the main livelihood of millions of lower-income Asians. Importantly, rising economic inequality underpins social instability, which can be observed both globally and in Asia.

Geopolitically, the rise of China as a potential new global economic leader – which has threatened to unseat erstwhile leaders such as the US and Japan, with other rapidly growing economies such as India at China's heel – has complicated international relations in Asia-Pacific. The ongoing tensions over the South China Sea, for instance, exemplify the ongoing global economic transition and how it can manifest in international security issues.[58] Subtler connections can also be made. Extreme weather events that lead to forced cross-border migration may become a source of international tension. Demography can also play a role in international security, where China with its rapidly aging population may lose its edge over younger countries in the ASEAN bloc that are eager to take advantage of their expected demographic dividend.[59]

Technological advancements continue to reshape our lives and our environment. Notwithstanding the effects of automation, matured information and communication technologies such as smart phones have already changed the nature of work. In the "gig economy", jobs are decoupled not only from a fixed time and space but also from social protection mechanisms. The connectivity enabled by these technologies has also created vulnerabilities for national and international security. Islamic terrorism has been able to leverage on sophisticated social media campaigns for recruitment in Southeast Asia, while developing countries in the region remain vulnerable to cyber-attacks.[60] Finally, the application of new technologies such as geoengineering carries risks of worsening rather than mitigating ongoing climate change.[61]

58 The Guardian 2017.
59 Wickett, Nilsson-Wright, and Summers 2015.
60 Ebbighausen 2016.
61 Carrington 2014.

As a result of their interconnectedness, the six key disruptive trends discussed in this report need to be closely monitored for potential knock-on effects should one major risk unfold. The 1997 Asian Financial Crisis serves as a valuable lesson for the region. As the effects of the Thai baht collapse traversed borders and severely impacted other Asian economies, the crisis also significantly altered security relations in East Asia.[62] Given that economic risks have been at the forefront of Asian executives' minds, it is worth asking what the far reaching effects of, for instance, an asset bubble burst would be to not just Asian countries' economic performance but also to the stability of their national governance and the overall regional trade and security scene.

Knock-on effects can also play out more gradually across different trends. Consider the slow but sure advance of automation. While it is easy to see how automation exacerbates inequality by replacing millions of lower-income workers with machines, broader socio-economic consequences also need to be considered. For instance, automation, coupled with rising wave of protectionism in more developed countries, threaten to limit the rapid economic growth of developing countries in Asia,[63] which have relied heavily on abundant cheap labor to drive their export-led growth. Although this would impact the Asia-Pacific region as a whole, different countries will have different capacities to respond. China is perhaps the only country in the region with a domestic market large enough for its products, such that it may not feel the effects of a trade slowdown to the same extent as other Asian economies. The difference in capacity adds another international relations and security dimension to an already complex web of developments.

Ultimately, Asia is facing a confluence of risks arising from the backdrop of a set of ongoing interconnected trends. In the following case study, South Korea, confronting a confluence of different risks, serves as a microcosm of what the region will likely be facing. As the author of the case study has argued, overcoming these adversities will require the coming together of the government, businesses and people. The next section of this report is dedicated to examining disruptive trends in Asia-Pacific from a business perspective, and what the imperatives are for companies looking ahead.

62 Park and Lee 1999.

63 Norton 2016.

CASE STUDY

SOUTH KOREA'S PERFECT STORM OF RISK

***David D. Kim**, Executive vice-president of Marsh Korea*

The Choi Soon-Sil presidential crisis, which started as a minor political scandal, ultimately engulfed Korea into a state of upheaval – revealing deep fractures across social, political and economic lines – and culminated in the impeachment and subsequent removal of President Park Geun-hye, the first time this has happened in the country.

The impeachment, following on the heels of the Brexit vote and the surprise result of the US presidential election in 2016, has created a volatile cocktail of risks for the country.

Risk outlook

Korea has seen fundamental "risk fault lines" accumulate over the past 30 years. For Korea, as in other developed countries, the process has evolved from rapid initial economic success, to slowing growth, to growing inequality, to political mistrust and polarization, to social upheaval and finally to policy stagnation.

As a result, Korea is faced with a series of challenges:

Slowing economic growth and increasing youth unemployment. Youth unemployment in Korea reached a record high 8.2 percent in November last year, the highest in terms of comparable data since 1999.

Demographics. Among OECD members, Korea has the fastest-aging society. A Korean worker's average age, for example, is expected to be 50 in 2045, the highest in the world at that time. The problem is exacerbated as government social and healthcare-related spending is constrained owing to high fiscal deficit.

Chaebol dominance, growing inequality and related tensions. Chaebols continue to dominate the Korean economic landscape. As economic inequality in the country has increased, public sentiment towards them has deteriorated and led to an "economic democracy" movement, calling for corporate governance reform that restricts their influence.

Political polarization and mistrust. A combination of the above-listed factors – including the presidential impeachment – has led to deep social polarization.

Headwinds to exports. Growing fears around trade protectionism globally and other headwinds to exports emanating from subdued global economic growth, also pose a risk for Korea's economy.

Geopolitical risk. Given recent developments around North Korea and continued missile tests, security risks in the region have heightened.

What can Korea do?

Given the magnitude and complexity of this risk outlook, there is an urgent need for Korean policymakers to take certain steps.

First, there is a need for deeper and broader understanding of these issues, how they are connected and what the historical background is. Following that, there is a need for risk identification and risk management. This can be done through the development of a formal, apolitical and non-partisan advisory or consultative body comprising academia, think-tanks, policy research institutes, policymakers, corporates and civil society representatives. Such a body should study major headwinds both in Korea and globally; and it can act as a "referee" or a "framework provider", driving policy discussions within a set of guiding principles, such that the policies articulated are meaningful.

Second, policymakers need to acknowledge that quick fixes for one problem could quite easily exacerbate another. One example is the debate around increased social welfare spending versus the need for fiscal discipline against the backdrop of increasing government debt levels.

And third, there needs to be a broader call for all stakeholders in Korea to come together once again, as they did so successfully following the Korean War, to meet these challenges. Progress on the two above-mentioned points would then assist in stakeholders coming to the table with a better understanding of headwinds, of the "trade-offs" involved, of the need for sacrifice and compromise, and an acknowledgement that targets need to be readjusted.

Given the scale of the risks, this is a tricky time for Korea. Given all that Korea has managed to achieve economically, politically and socially during the past 50 years, the country can – and should – once again dig deep to face adversity and demonstrate its ability to overcome it, but that will require the coming together of the government, conglomerates and the people.

2. FOUR IMPERATIVES FOR ASIA-PACIFIC BUSINESSES

2016 was a year of growing global political and economic disturbances. Businesses operating in the Asia-Pacific region will need to cope with the after-effects of recent political events, while best anticipating future shocks and building resilience against them. In this section we present the four business imperatives for businesses in Asia-Pacific, stemming from the previously discussed six disruptive trends. These include:

1. Anticipating disruptions from rising economic inequality
2. Preparing for the impacts of political developments to international trade
3. Building climate resilience
4. Accommodating technological changes

2.1. ANTICIPATING DISRUPTIONS FROM RISING ECONOMIC INEQUALITY

The challenge from rising economic inequality to businesses is considerable, even though its relevance might not be apparent at first glance. While inequality is a recurrent topic at the highest level of policy making and academia, it is seldom discussed in the business context. This needs to change urgently. Although inequality does not have a direct effect on businesses, its indirect effects – through slowed economic growth and heightened social tensions – can be highly disruptive.

The difficult challenges brought about by rising economic inequality – including slowed economic growth and heightened social tension marked by deteriorating labor relations – reflect its status as the most important trend for the next decade.

Recent OECD research has found a negative correlation between inequality and economic growth, where a rise of inequality by 3 Gini points would drag economic growth down by 0.35 percentage points annually.[64] The inequality gap between lower income households and the rest of the population is the main factor impacting growth. More importantly, the research noted that this effect applies not only to the poorest income decile, but the bottom four deciles of income distribution. This suggests that policies which only focus on poverty alleviation will not have a significant effect on limiting the dampening effects of economic inequality.

These findings are particularly pertinent to Asian economies, where most of those in the middle income bracket are still living on very meager incomes, despite the popular rhetoric of "the rising Asian middle class".[65] As this middle class is the main driver of demand and consumption growth, the lagging of lower income groups that constitute the bulk of the middle class in Asia will have an adverse effect on businesses.

64 OECD 2014.
65 West 2016.

CASE STUDY

THE ASIAN MIDDLE CLASS: A MYTH?

***John West**, Executive Director of Asian Century Institute*

Asian lives have improved enormously in the past few decades, but despite the enthusiasm surrounding Asia's emerging middle class, its human and social development remains stunted; today, middle class Asia is still a myth.

There is no universal agreement on a definition of "middle class" and it remains a fuzzy concept at best. Many economists think in terms of how much someone consumes or earns in income. Sociologists tend to reason in terms of education, occupation in a white-collar job or other status.

The Asian Development Bank once defined the Asian middle class as those living on $2 to $20 a day. It concluded that majority of Asia's middle class lived on $2-$4 a day, and was part of the "lower middle class." Many Chinese just laughed, for no one could live on $2 or even $4 a day in a Chinese city today. Shanghai and Beijing are among the world's most expensive cities.

The $10 a day threshold is now increasingly accepted as the beginning of the middle class in emerging economies. At the same time, income or consumption of $10 a day would not be considered middle class in any advanced Western country.

Using the $10 a day benchmark, some 650 million Asians could be considered middle class. This sounds like a big and good market for businessmen. But this represents, at best, 15 percent of Asia's population.

In China – most talked about for its emerging middle class – only 20 percent of the population live on more than $10 a day.

It is true that strong economic growth has enabled millions of Asians to emerge from extreme poverty. Based on the World Bank poverty line ($3.10 per day of income), 36 percent of people from emerging Asia is now living in poverty, a dramatic improvement on the 1981 figure of 90 percent.

But the reality of Asian life is that most Asians who have escaped poverty are now caught between poverty and middle class. Half of all Asians are still living in a vulnerable kind of economic no-man's land that rests between $3.10 and $10 a day. At such low levels of income, people are at a high risk of falling back into poverty in the event of a natural disaster, a sudden hike in food prices, or a personal/family problem such as unemployment or illness.

Moreover, about two-thirds of Asians are vulnerable because they work in the "informal sector", without contracts or rights. Minimum wage laws, collective bargaining, and health and safety standards are almost unheard of in the informal economy.

Furthermore, many Asians who earn incomes of between $3.10 and $10 a day may also suffer from other deprivations such as a lack of access to clean drinking water, education, infant and maternal mortality or basic healthcare facilities.

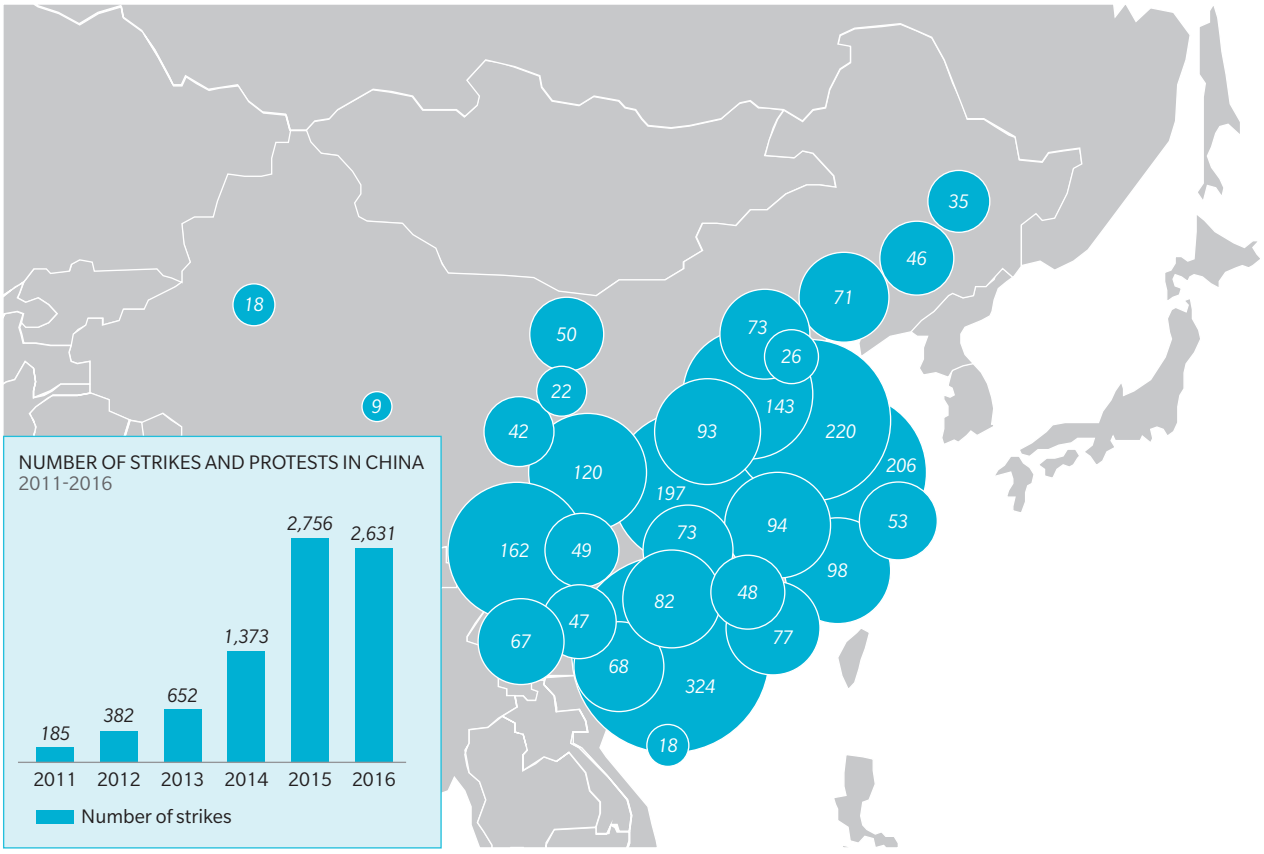
One of the most egregious deprivations many Asians suffer is the lack of "improved sanitation": access to clean, safe and hygienic toilets, which 1.7 billion or 42 percent of the region's population still lacks. Close to half of Asia's "toilet-poor" population lives in India today; more Indians have access to a cell phone than a toilet!

Compounding troubles in Asia is the damage brought by natural disasters. Taking account of natural disasters would add about 400 million or more people to Asia's poverty ranks.

The arrival of a middle class society would be a great achievement in terms of realizing an Asian Century, and bringing social and political stability to the region. It could also provide new business opportunities, as many Asian economies are switching from export- to domestic demand-driven growth. But there is so much that Asian governments need to do, not only in terms of economic reform, but also for social and political modernization. At best, it will take several decades to move the myth of the middle class into reality.

Another effect of rising economic inequality acutely felt by businesses is heightening social tensions across Asia, most notably in China. The China Labor Bulletin,[66] a workers' right group based in Hong Kong, has recorded a surge in the number of worker strikes and protests across China from 2011 to 2016 (Exhibit 10). While this number peaked in 2015 with 2,776 incidents, the trend shows little signs of reversing, with 2,663 incidents recorded in 2016. Workers have increasingly organized against unpaid wages, low compensation and significant job cuts, and in some cases frustration has manifested into violence and damage to property.[67] Similar protests have been reported in neighboring Vietnam.[68] These interruptions are disruptive to not only businesses that are directly involved or affiliated, but also unrelated businesses that are physically located in the vicinity.

Exhibit 10: Rising number of strikes in China (2011-2016)



Source: China Labor Bulletin 2017

The rising frequency of these incidents, coupled with ongoing trends of labor automation and population aging, which are expected to exacerbate economic inequality, highlights the urgent need for businesses to consider economic inequality a serious threat. As illustrated in Section 1.2, advances in the field of artificial intelligence and robotics will result in the disappearance of lower-skill jobs and the replacement of many workers in fields such as manufacturing or textiles. At the same time, the demographic pressure observed in Asian societies will lead to mounting medical costs and a decline in the sustainability of pension systems. In countries where healthcare expenditures are largely out-of-pocket, the weakening of these social security structures means that lower-income groups will be the hardest hit.

The outlook for economic inequality is grim, as it is likely to be exacerbated by other disruptive trends, notably further labor automation and Asia's rapidly aging population.

66 Interactive Strike Map can be accessed at http://maps.clb.org.hk/strikes/en#.

67 Griffiths 2016.

68 Thanh Nien Daily 2016.

BUSINESS IMPLICATIONS

Businesses should quickly get acquainted with the issue of inequality if they have not already, and contribute in their capacity to the common cause of reducing economic inequality. At the same time, business should expect adjustments in public policies to address economic inequality and adapt accordingly.

IMPROVING LABOR RELATIONS

At the bare minimum, this means ensuring workers' basic needs are met, which entails fair compensation, safe working conditions, and essential benefits such as healthcare insurance. Labor relations improvement is urgently needed, especially in lower-skill industries where basic requirements such as timely pay and appropriate leave are still lacking, evident from the proliferation of strikes and protests. One way to ensure that these are kept at a minimum is to have employee representatives on company boards and remuneration committees,[69] and to develop industry-wide standards on the issue.

INVESTING IN FUTURE JOBS

Companies should invest in skill upgrading for their workforce, as many occupations will likely be handled by machines in the near future. With the current speed of technological advancement, this will not only apply to lower-skill industries such as manufacturing, where replacement processes have already begun to unfold, but also to some knowledge jobs such as compliance.[70] By investing in education, businesses can significantly improve the earnings of those in the lower-income bracket, as well as ensure their employability and job security. This will enable a robust growth of the middle class and consequentially an expansion of companies' market base, which is particularly relevant in the context of Asia. A good example is how Toyota committed funding for a number of initiatives, including career advisory, recognition of prior learning, and training, in response to the end of a Toyota car manufacturing operation in Australia.[71]

A potential avenue for investing in workforce education would be to team up with the government in public-private partnerships (PPP) to reform education systems for market needs and ensure the future of jobs. One example in Asia is the National Skill Development Corporation (NSDC), a PPP in India that aims to provide gap funding for companies and organizations that provide skills training. Liaising between skill trainers and businesses, the NSDC ensures that future employees are equipped with the skills in demand by businesses.[72]

69 Pickett 2015.

70 Kirby and Davenport 2016.

71 Circelli et al. 2015.

72 Taken from World Economic Forum's 2012 report: 'Talent Mobility Good Practices: Collaboration at the Core of Driving Economic Growth' (in collaboration with Mercer).

ENCOURAGING CORPORATE SOCIAL RESPONSIBILITY (CSR) INITIATIVES

In their capacity, businesses' CSR arms can undertake initiatives that improve the living standard of lower income groups by making goods and services more affordable, or creating more opportunity for employment, thereby stretching the purchasing power of these groups. Additionally, companies can provide access to services that boost income mobility, such as enabling investments in education for children from lower income groups.[73] Such initiatives are in line with the goals of improving labor relations and investing in future jobs. They can be considered the next step where firms are not only ensuring their own sustainable development, but also contributing to the sustainable development of society as a whole.

ANTICIPATING POLICY ADJUSTMENTS

Governments fully understand the negative effect of rising inequality on economic growth and social stability, and are particularly incentivized to address this issue through regulations and policies. In recent years, governments in the Asia-Pacific region have issued various regulations and policies in their efforts to reduce inequality. While they will likely target labor-related policies, pension and social security is another major area needing reform, as Asian governments will also seek to address the challenge posed by their rapidly aging populations.

New policies can aim to increase the labor force participation rate, which indirectly affects equality measures by improving the income level of seniors and alleviating the financial burden on the younger generation.[74] Subsequently, businesses will have to address a potentially older workforce. Talent management will be of particular importance, as companies will want to retain both the energy of younger recruits and harness the rich experience of more senior staffs.

Mercer's Global Talent Trends Study has identified several important recommendations for future human capital management (Exhibit 11). Its Talent Strategy Road Map emphasizes the use of data analytics in workforce planning and effective organizational design. Firms are advised to consider the following:

- Expected stress at work (in the future) has prompted employees to consider health as one of the key factors in deciding to stay or to leave. At the same time, the demographic pressure in Asia will translate into an older workforce with higher tendencies for health problems. Subsequently, health programs and benefits, as well as flexible work arrangements, have become a differentiator
- A focus on tomorrow's skill-sets as well as investing in re-skilling programs, particularly in preparation for an older workforce. Companies in rapidly aging societies such as Singapore have begun to plan and implement these programs. For example, ComfortDelGro, a Singapore-based transport company has put in place a structured training process for older workers, covering both technical and non-technical skills. The company has also arranged management courses and counseling services, in addition to redesigning jobs to ensure its older workforce remains productive[75]

73 Govindarajan and Ramamurti 2015.

74 For example, China loosened its one-child policy and plans to raise the national retirement age in 2017 (see Chen and Li 2016). Similarly, the Australian government plans to raise the retirement age to 70 by 2035 (see Chomik 2014).

75 Tripartite Alliance for Fair Employment Practice 2010.

- Having a clear career path and empowering employees for their own career success will also be crucial. An example of good practice is GLOBIS Corporation, an education provider in Japan. The company has established a self-declaration system, in which employees are empowered to plan their own career path with constructive inputs from peers and managers in an open environment[76]

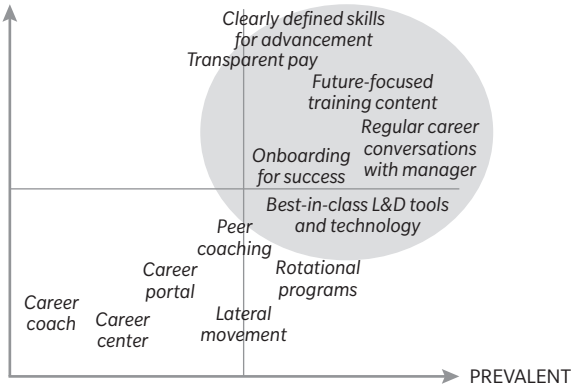
Exhibit 11: Key areas of talent management

EMPLOYEES ARE SEEKING WAYS TO "**MAKE WORK WORK**" FOR THEIR INDIVIDUAL CIRCUMSTANCES

EMPLOYEE PRIORITIES IN ASIA

HEALTH	WEALTH	CAREER
63%	**22%**	**15%**

CAREER SUPPORT MOST SOUGHT BY EMPLOYEES IN ASIA



MOST IN-DEMAND SKILLS IN ASIA FOR 2017

- **GLOBAL MINDSET**
- **DESIGN THINKING**
- **PREDICTIVE ANALYTICS**
- **DIGITAL LEADERSHIP**
- **INCLUSIVE LEADERSHIP**
- **CHANGE MANAGEMENT**

OUTSIDE TALENT MIGHT OFFER THE BEST OPPORTUNITY TO ADDRESS THE SKILLS GAP

HR believes managers are well-equipped to manage contingent workers today

MANAGING TALENT IN A DISRUPTED WORLD (ASIA)

1 in 4 C-suite executives are confident in their organization's ability to reskill displaced workers

46% are confident in their ability to redeploy talent internally

51% are confident in their ability to fill newly vacant positions with the right external talent

TODAY, ONLY 27% OF COMPANIES IN ASIA ARE CONFIDENT IN THEIR SET UP TO PROVIDE OUTPLACEMENT SERVICES TO DISPLACED WORKERS

Source: Mercer Global Talent Trends Study 2017

Policy adjustments will also aim to improve pension and social protection systems, and address income inequality. For example, Vietnam started to provide unemployment insurance in 2009,[77] and Indonesia launched a new national pension scheme in July 2015. Such reforms could directly affect businesses' cost base by increasing required employer contributions.

Accordingly, businesses should assess how much their exposure will increase as a result of new policies and whether it makes economic sense to transfer the risks associated with their exposure to insurance companies. Online platforms, such as the Mercer Pension Risk Exchange, can aid in this process as they match the supply and demand of these annuity plans between businesses and insurers.[78]

76 Taken from World Economic Forum's 2012 report: 'Talent Mobility Good Practices: Collaboration at the Core of Driving Economic Growth' (in collaboration with Mercer).

77 UNESCAP 2015.

78 Mercer 2017.

2.2. PREPARING FOR THE IMPACTS OF POLITICAL DEVELOPMENTS ON INTERNATIONAL TRADE

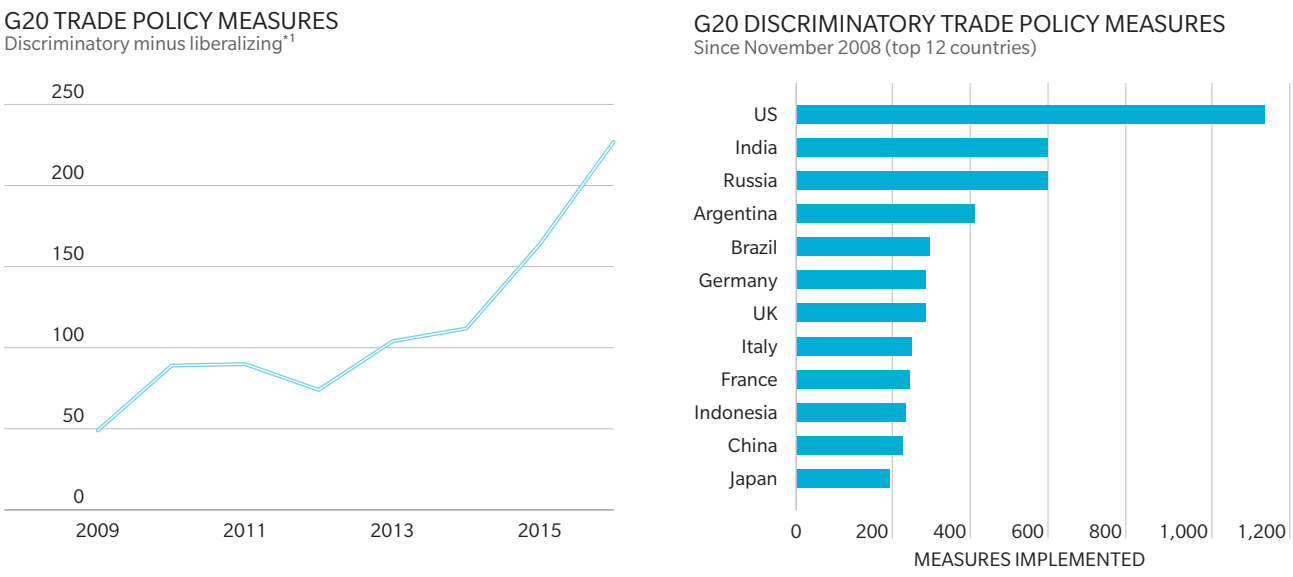
International trade requires accounting for the risks involved in doing business across political boundaries. Developments in major economies' domestic politics, as well as changes in the international geopolitical scene greatly influence countries' trade policies, and can result in challenges for international businesses.

THE RISE OF PROTECTIONISM

The US' withdrawal from the Trans-Pacific Partnership (TPP) can be seen as a clear signal that global protectionism is on the rise. Championed by former President Barack Obama, the 12-nation multilateral trade deal was set to further strengthen multilateral trade across the Asia and the Americas. Research from the Aspen Institute indicates that Vietnam and Malaysia will have the most to lose from President Donald Trump's executive order – as their potential GDP gains from the TPP by 2025 are estimated at 10.5 percent and 5.6 percent respectively.[79]

However, a closer examination of world trade status since the onset of the Global Financial Crisis (GFC) in 2008 shows that protectionism has been on the rise since 2012 among the G20 bloc (Exhibit 12). This is evident in the increase in discriminatory trade policy measures in leading economies. For example, from 2008 to 2016, the US implemented over 1,000 discriminatory trade policy measures, followed by India and Russia, with both implementing nearly 600 similar policies each. Trade-impeding measures have also increased at a much faster pace than measures to liberalize trade. Given the recent slowdown in trade growth, aggravated by an increase in trade protection globally, the future of trade faces significant challenges.

Exhibit 12: Protectionism on the rise globally in the past decade



1. The GTA reporting period is until 19th August, to align with publication date of annual report
Source: Global Trade Alert, MMC analysis

79 Lewis 2015.

Rising protectionist measures are closely tied to developments in politics, and are underpinned by the recent wave of anti-globalization sentiments. The GFC has created deep divides between the economic elites and the rest, with the former heavily distrusted. Globalization and economic liberalization, the mainstays of the US establishment's policies, have since come under fire. Joseph Stiglitz, author of Globalization and its Discontent, has pointed out that it is not globalization per se, but how globalization is managed that has sparked resistance.[80] Unfortunately, the continuing lack of appropriate policies to address the adverse effects of globalization (most notably rising economic inequality) has given rise to a new and stronger wave of discontent.[81] This has been the backdrop from which populism and protectionism has gained ground, much to the detriment of the global economy.

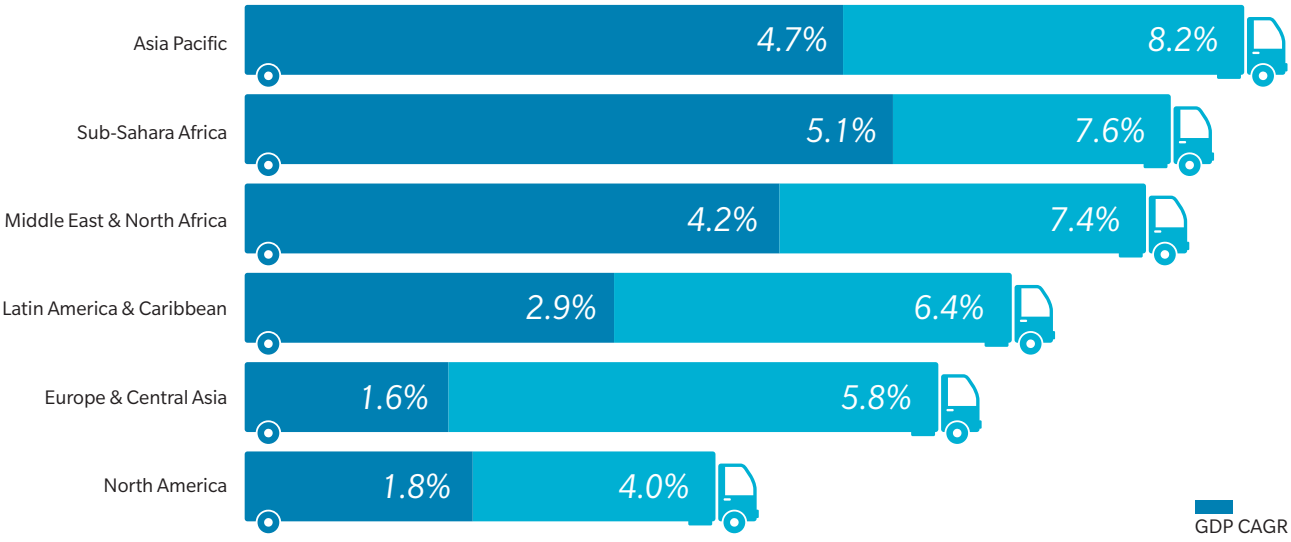
THE FUTURE OF TRADE IN ASIA

The Asia-Pacific region is home to some of the world's most trade-open economies that have benefited greatly from globalization over the past two decades. Many continue to rely heavily on the export of goods and services as the primary economic driver (Exhibit 13). However, Asia-Pacific trade volumes may take a hit in 2017, should President Trump's administration pursue the protectionist trade policies that formed the backbone of his campaign rhetoric.

The recent wave of anti-globalization sentiments, as evidenced by the rise of protectionism, presents a serious challenge to Asian economies that have enjoyed sustained export-led growth.

The US's top trading partners in the region, namely China, Japan, South Korea, Hong Kong and India (Exhibit 14), will likely see their trade flow affected by policy changes. But other Asia-Pacific economies also rely heavily on trade with the US. In particular, Singapore and Vietnam may be heavily impacted by any potential tension in US-China trade policies, as Singapore handles crossflows between China and the US and Vietnam relies heavily on US import demand.

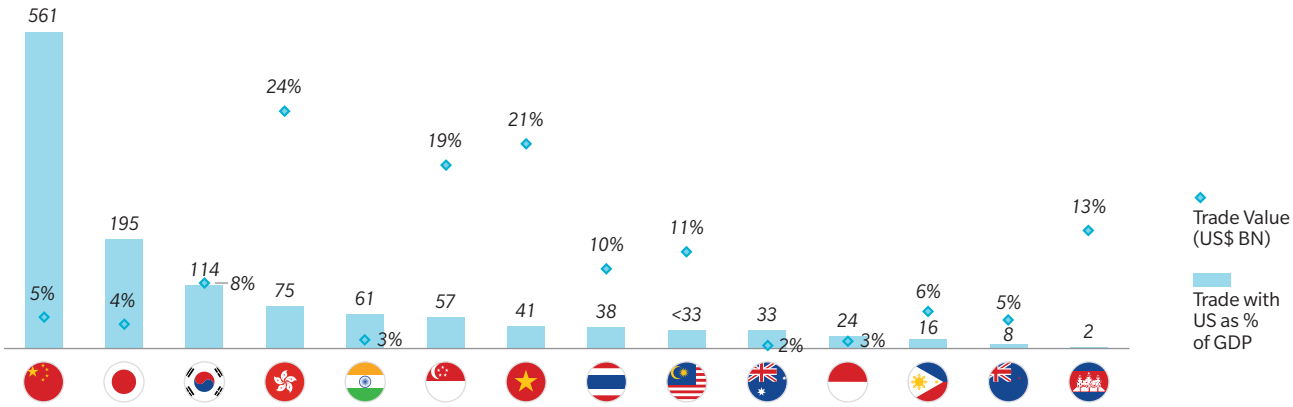
Exhibit 13: Export growth and annual GDP growth by region (2000-2015)



Source: Data from The World Bank and the World Trade Organization, MMC analysis

80 Stiglitz 2002.
81 Stiglitz 2016.

Exhibit 14: Trade value with the US, absolute and as a percent of GDP (2015)



Note: Trade value is the combined value of merchandise imports and exports, and does not include trade in commercial services
Source: World Bank Comtrade database, MMC analysis

It remains unclear how trade for Asia-Pacific countries will shape up, but there are encouraging signs. The Regional Comprehensive Economic Partnership (RCEP), led by China, is poised to become the next major multilateral Free Trade Agreement (FTA) to be discussed. Deepening trade relations in the ASEAN bloc through the development of the AEC is another project that the bloc's fast-developing nations have taken up. Recently, there have also been talks of reigniting the TPP in the form of a TPP-1, led by Japan in the absence of the US.[82] In the long run, if they come to pass, the new TPP-1 and the RCEP can complement each other and enable Asia to capitalize on its growing consumer market.

However, the regional and global integration project for Asia-Pacific economies may have to overcome significant hurdles going forward. The first obstacle is to continue navigating the current global economic uncertainties, as Asia is unlikely to completely decouple from the world economy in the near future.[83]

The second challenge for Asian governments is to adapt to the changing international security context. Globally, this means navigating between different major spheres of influence, namely those of the US, China, Japan, and other growing economies such as India. Particularly for the ASEAN integration project, deftly managing the state relationship with the US and China will be important as their competition for regional influence can divide the bloc.[84] This highlights the difficult task for Asian economies when it comes to striking a balance between international cooperation on the one hand, and protecting national interests on the other. Unified political will among members of the bloc is required to overcome existing barriers such as the lack of basic infrastructure and weak institutional alignments, and will help push towards the goal of economic integration.[85]

Persisting uncertainties in the global economy and the continuing need for countries to navigate the complex geopolitical landscape prevents a clear outlook for future global and regional trade.

82 CNBC 2017.
83 Park 2017.
84 Lee Kuan Yew School of Public Policy 2017.
85 Sundram 2016b, 2016a.

LOOKING AHEAD: DECLINING TRADE AND ECONOMIC DEVELOPMENT IN ASIA

A key question to ask is "How will the historically export-led Asian economies react to potentially declining trade and plan their macroeconomic development accordingly?" While it is likely that revenue from trade for these countries will decline if protectionism continues along its current trajectory, it is not necessary that economic growth in Asia will come to a halt.

In the following case study, we present two experts' opinions on how rising protectionism will impact the macroeconomic development of Asia-Pacific countries in the future. The first author sets the scene by providing a brief review of the decline of globalization, and highlights the end of industrialization and trade for export-led Asian economies as an effective means of economic convergence. Responding to the problem, the second author presents an alternative perspective as he questions the benefits of FTAs and the effects of protectionism, and argues for the importance of state industrial policy in national development, now more than ever.

CASE STUDY

THE GLOBALIZATION OF ANTI-GLOBALIZATION, AND IMPLICATIONS FOR ASIA

***Glenn Maguire**, Asia Pacific Economic Specialist*

The decline in world merchandise goods trade as a percent of GDP, cross border lending and FDI, and the increase in protectionist measures together will have profound implications for cross border global flows. And any reversal of these multi-decade dynamics is likely to be most apparent in Asia – the Mekong Subregion in particular.

The most tangible economic evidence of the decline of globalization is that global trade is no longer driving global growth to the extent it has historically. 2016 – and possibly 2017 – look set to join that small set of aberrant years where the ratio between trade growth and world GDP growth is less than 1:1, according to latest forecasts.

Further, the free flow of financial capital across borders also appears to have mirrored this pattern. According to latest forecasts, the world's largest companies look set to invest 10-15 percent less in their overseas operations in 2016, effectively trimming FDI by around $250 billion.

China and the Mekong Subregion

Given the prevalent sentiment globally and domestic growth concerns, China's recent policies and focus have included a dynamic of "localization" in order to ensure employment stability. This has had an immediate knock-on effect to the ASEAN and the Mekong Subregion as China has shortened value chains and is now vertically-integrating or domiciling labor-intensive components of production onshore rather than offshore.

When China commenced rebalancing its economy away from investment and exports to a more consumption- and services-led growth model in 2011-12, many hoped that this would usher a further wave of globalization, more fully embedding other ASEAN economies in global value chains.

That outcome now seems less certain and the consequences of this are potentially profound.

The globalization end-point, if we are indeed at it, would suggest that using industrialization and trade as a mechanism for economic convergence stops with China (or indeed China's coastal provinces). Those economies that have only taken the first tentative steps to industrialization could find their progress disrupted – perhaps even halted – resulting in a need to engineer more imaginative growth mechanisms.

The result could be a more dichotomous Asia.

** The piece may not reflect the views of the author's current employer*

CASE STUDY

THE NEED FOR STATE INDUSTRIAL POLICY IN DEVELOPING ASIA

***Ha-Joon Chang**, Reader, Political Economy of Development at University of Cambridge*

The role of active industrial policy in national development is highly debated. While the conventional view is that the state should stay out of it and let the market take its course, another school of thought believes the state has an active role to play in economic development through policies such as infant industry protection, export promotion and improvements in productivity.

Ha-Joon Chang, one of the strongest proponents of this school of thought, believes that industrial policy is even more important for Asian economies today, given the global economic slowdown. Trade is near-stagnant, and "everyone wants a share of the pie, which is not growing that much, and that is why you need more active industrial policy rather than less," in order to remain competitive.

In every era, "the fastest growing-economies were the ones that practiced forms of protectionism and had a strong industrial policy," he says, "be it Britain between the mid-18th and the mid-19th century; the US and Germany from the late 19th to the early 20th century; or Japan, Taiwan and South Korea in the late 20th century; to China today."

This is because without active industrial policy, economic growth has a limit – developing countries need to move up the value chain, but free market approaches have not proven to be "very effective" in helping countries achieve this.

In recent years, the region has seen a proliferation of free trade agreements (FTAs), but Chang cautions developing countries about the impact of FTAs. He says that while FTAs between countries at similar levels of development bring benefits overall, FTAs between developing countries and developed countries are bad for developing countries in the long run, "as they cannot develop their infant industries because they cannot use industrial policy". Without infant industry protection, home-grown industries in developing countries are often not able to withstand competition from foreign competitors.

Another issue confronting developing countries is that FTAs require them to undertake reforms that almost always relate to the scrapping of different kinds of subsidies, the opening up of capital and financial markets and a roll-back of the state from any kind of interventionism – this limits the policy tools at the disposal of developing countries.

While Chang does not believe that developing countries don't need reforms, "we need to understand what reforms they really need as opposed to blanket opening up of the economy."

He believes that strong industrial policy should be a priority for developing Asia. While the exact tools may have changed over time, the principle of infant industry protection continues to remain valid, and countries still need to find ways to upgrade their economies through "a judicious mixture of government intervention and private sector incentives", he opines.

These are excerpts from an interview with Ha-Joon Chang on BRINK Asia.

BUSINESS IMPLICATIONS

Asian businesses will have to prepare for the continuing rise of protectionist policies. These policies will also need to be placed in the context of growing international security concerns in the region, particularly the threat of terrorism and complex international relations. As such, international businesses will face new, policy-driven and security-related economic challenges (Exhibit 15). While addressing protectionism is an immediate imperative, businesses will also have to look beyond protectionist policies and assess wider political risks to ensure resilience in the long run.

Exhibit 15: Policy-driven and security-related economic challenges facing international firms

	Business degradation	Transactional discrimination	Strategic challenges
Challenge	• Asset damage • **Business operations interruption** • Supply chain and logistics disruption • Product/services boycott • Market decline (e.g. tourism) • Personnel safety threats	• **Tariff hikes** • Taxation increases • Contract repudiation • **Construction permit denial** • **Operating license denial or revocation** • Import/export license denial or revocation	• Delays in enabling legislation or regulations • Indigenization measures (local ownership/content) • **Asset requisition, confiscation, or nationalization** • Currency inconvertibility • Forced abandonment • Economic sanctions
Likely Primary Cause	• Terrorism and insurgency • Civil disturbance	• Protectionism (national/local) • Corruption and other governance failures	• National-level protectionism • War or coup d'état

Source: MMC analysis

PRE-EMPTIVE ACTIONS TOWARDS PROTECTIONIST POLICIES

Several courses of action can be taken to prepare for the impact of protectionism:[86]

- Assess the likelihood and impact of access to resources, production, distribution, and bottom line due to potential trade flow and financing reductions
- Review and update business interruption and supply chain contingency plans and policies to ensure minimal disruption if supplies or suppliers become unavailable
- Evaluate the likelihood and impact of increased customer defaults due to policy changes and take mitigating actions
- Review terms and limits of political risk insurance policy

Given the uncertainty surrounding the trade direction that the US and others might take, businesses should look to other major economies, as well as other non-traditional trading partners, for clear signs of trade expansion. For instance, China has made clear its plans to move toward trade leadership with the Belt and Road Initiative – a blueprint to expand China's influence throughout Asia-Pacific, Europe and the Middle East and North Africa. China has also led the creation of the Asian Infrastructure Investment Bank (AIIB), a development lending institution, to showcase its commitment to lead the region both commercially and strategically.

86 Kornblau 2016.

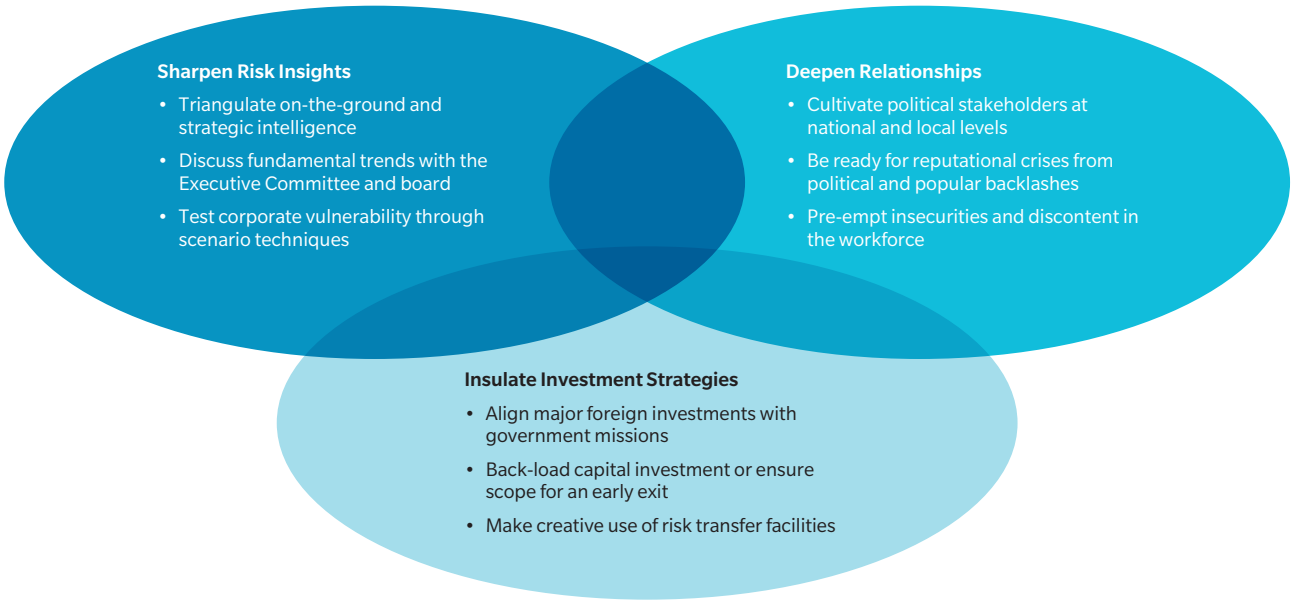
While the potential abandonment of the TPP may be detrimental to a few Asian trading partners of the US, it has created more opportunities for South-South trade. Although this can be an outcome of from China's initiatives to take the lead in regional integration, it can also come from deeper integration among developing countries in the ASEAN. Businesses in ASEAN member countries should take advantage of the establishment of the AEC and deepen trade with other fast-developing members of the bloc.

Separately, managing exchange rate fluctuations should also be a key consideration for Asian economies. Depreciation of the US dollar will decrease the dollar value of imports into the US, driving up the bottom line for local businesses. The opposite holds true for exporters based in the Asia-Pacific region.

POLITICAL RISK MANAGEMENT

Resilience Amid Disorder: Steering a Path Through Social and Political Unrest,[87] a recent publication by the Marsh & McLennan Companies Global Risk Center, outlined three potential approaches to managing political risk for companies – sharpen risk insights, insulate investment, and deepen relationships (Exhibit 16).

Exhibit 16: Pragmatic approaches to political Risk Management for companies



Source: MMC analysis

87 Marsh & McLennan Companies Global Risk Center 2016a.

1. New Lens to Sharpen Geopolitical Risks Insights

An important step in effectively managing political risk is to keep it as a high level priority that is frequently discussed at top level management. The next step is to adopt a more comprehensive view of political risks. This can be done by regularly gathering expert opinions on the possibility and scope of alternative outcomes, and additional insights on what to look out for in the current geopolitical scene.

Business leaders need to realize that political risks are no longer bound by borders focused in developing markets.[88] Especially given the nature of trade, there is little reason for businesses to believe that political risks in one country will not manifest in disruptions in another geographical area. As the international relations landscape in Asia has become increasingly complicated, Asian business leaders must consider geopolitical dynamics seriously and factor in these risks in their operations.

Consequentially:

- Business leaders should understand the short- and long-term risk profile of all relevant countries – including countries where a business currently operates in, plans to operate in, and has supply chain relationships with.[89] Moreover, to generate a comprehensive view of risk, businesses need to assess geopolitical risk at the individual counterparty level as well as the level of overarching concentration risk
- To better protect themselves from further shocks, businesses can assess immediate, short-term risks by assessing exposure to upcoming political events, conducting stress tests of supply chains or through deeper cross-border analyses when considering new opportunities
- To this end, scenario planning that analyzes a broader range of outcomes given recent political experiences can be utilized to test the resilience of business operations, and to devise contingency measures to mitigate any unexpected developments. According to the 2017 Risk Survey conducted by the Association for Financial Professionals, the treasury and finance function in US businesses has taken steps to assess and mitigate the impact of political risks across the board. Maintaining adequate liquidity, assessing currency exposure, and ensuring a sound balance sheet are the top three actions taken[90]

2. Insulating Investment Strategies and Risk Transfer

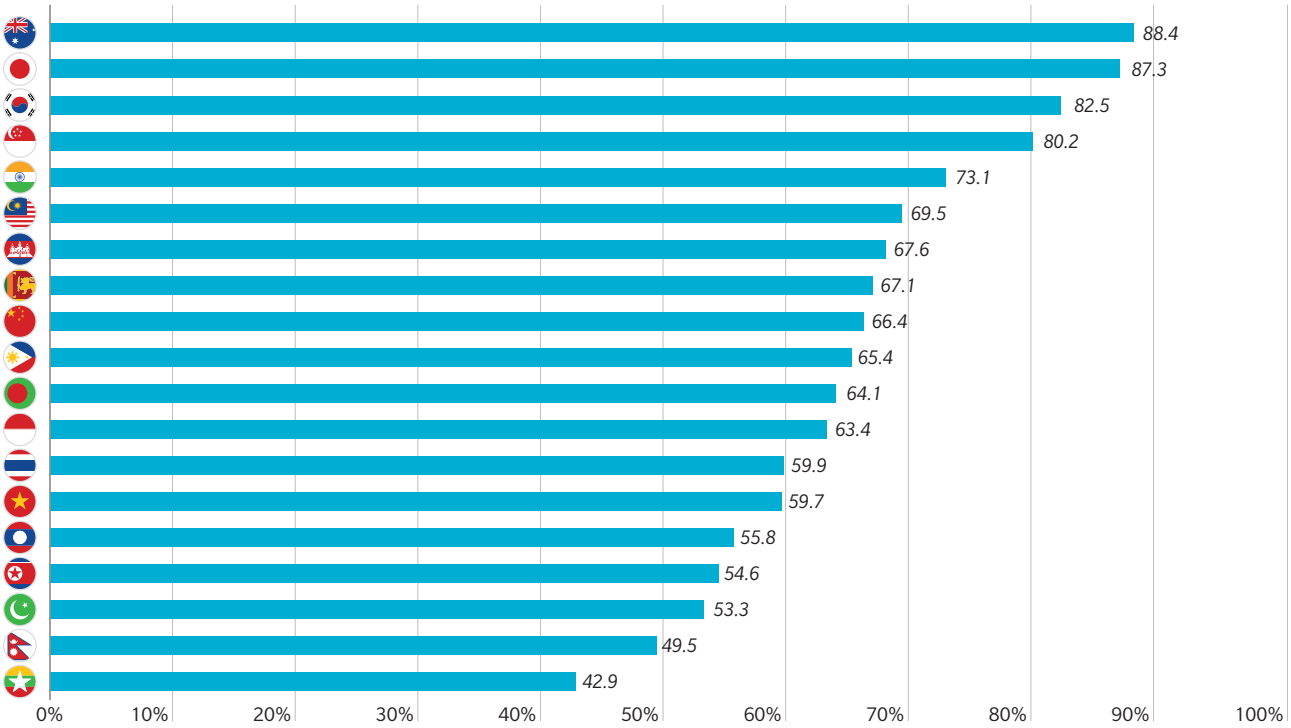
Once the organization has a well-informed view of political risks, business leaders can start building resilience measures for their operations and develop contingency plans. Part of this process is to minimize exposure by aligning their investment decisions with government agendas, and adjusting their investment volumes with the country's political risk level. In doing the latter, business leaders can refer to country-level political risk indicators such as the Marsh/BMI Political Risk Index, which is updated twice a year by Marsh with risk scores and commentary from BMI research (Exhibit 17). Particularly, when businesses are considering investing in countries with high political risk, they should have clear contingency plans.

88 Freely, E. 2017.

89 Section 2.3 provides an example of supply chain disruptions for General Motors in the US as a result of an earthquake in Japan.

90 Association for Financial Professionals 2017.

Exhibit 17: Marsh/BMI Political Risk Index (2017)



Source: Marsh/BMI Research 2017

However, regardless of the precautions taken and appropriate risk management processes being put in place, it is difficult for companies to completely insulate themselves against political risks. In preparation for unlikely scenarios, business leaders should consider:

- Flexible resource allocation, making it easier to exit a market in the medium term, should economic and political developments become adverse
- Risk transfer by purchasing Political Risk Insurance, to pass on the residual risk that cannot be diverted through strategic initiatives and mitigation strategies. This is particularly suitable for companies considering large investments with a long-term payback horizon. Typical coverage includes protection from political violence, expropriation, currency inconvertibility, non-payment, contract frustration and forced abandonment or divesture (Exhibit 18)

Exhibit 18: Introduction to Political Risk Insurance

UNDERSTANDING POLITICAL RISK INSURANCE

WHAT IS POLITICAL RISK? } An act of or inaction by a foreign government or macroeconomic problems that interfere with an investment or contracts which can result in financial loss for companies

WHAT DOES POLITICAL RISK INSURANCE COVER?

Confiscation/ Expropriation/ Nationalization

Political violence

Currency inconvertibility/ Non-transfer

Deprivation and embargo

Forced abandonment and divestiture

Breach of contract/ Arbitration award default

Denial or obstruction of justice/ Obstruction

WHY DO CORPORATIONS BUY POLITICAL RISK INSURANCE?

- Broad ranging Balance Sheet Protection
- Protection of physical assets in emerging markets
- Risk transfer of catastrophic events
- Improve lending arrangements for parent company
- Stabilize emerging risk especially during a change in Host government
- Can provide cover across a single country or portfolio of countries

DOES POLITICAL RISK INSURANCE PAY OUT?

INCIDENT TYPE	EXPOSURE	REGION	CLAIMS PAYMENT	BACKGROUND
Expropriation	Equity investment in two geothermal power projects	ASEAN	US$290 million	Project postponed during the Asian Financial Crisis and so the investor filed for arbitration against the state owned electricity firm. Arbitration resulted in favor of investors, but state-owned firm refused to pay.
Non-payment	Non-payment of a sovereign obligation – debt lending to the state shipping company	ASEAN	US$300 million private market	The international banking market arranged a large syndication to finance a state-owned shipbuilding firm in ASEAN. The firm almost collapsed because it had over-diversified and failed to manage its cashflow and debt.
Forced abandonment	Equity investment in gold mine	Pacific	A$70 million	Mining was suspended and staff evacuated after political unrest broke out. The mine was occupied by hundreds of protestors and was abandoned.

Source: Marsh Political Risk Insurance

3. Deepening Relationships

Fostering relationships and a reputation at higher levels while cultivating multiple stakeholders at the national and local levels will help business leaders stay attuned to ongoing political conversations, and safeguard against any potential targeted campaign against the organization.

In the context of Asia-Pacific, navigating the complex web of government stakeholders in various emerging economies can be difficult, and would mean staying abreast of different cultural norms in various localities. For example, the concept of 'guanxi' – or relationships – has been an essential part of doing business in China, and is seen as a means to expand business opportunities and improve access to both human resources and infrastructure. As such, efforts to build lasting strategic alliances can potentially result in substantial returns.

Finally, being attentive to the needs of the local workforce and engaging with it is also part of relationship deepening. Companies need to try and meet a diverse set of expectations from employees while anticipating the reasons for their discontent and insecurities.

2.3. BUILDING CLIMATE RESILIENCE

World leaders have made strong progress in the management of global commons – the oceans, atmosphere, and climate system, reflecting firm commitments to responding to climate change. However, the pace of response may not be sufficient to keep the expected damage under control. The Intended Nationally Determined Contributions[91] submitted by each country, if implemented, are expected to only limit the increase in global temperatures to around 3.5°C, well above the 2°C target objective of the 2015 Paris Agreement.[92]

Environmental risks such as extreme weather events and associated societal risks such as water crises, food crises and involuntary migration emerged as the most prominent risk in this year's GRPS results. Notably, risk experts consider this cluster of climate change risks as high-impact as well as high-likelihood risks, having strong inter-linkages with other geopolitical and societal risks. Additionally, man-made environmental disasters have also moved up the ranks both in terms of impact and likelihood.

CLIMATE RISKS AND IMPACTS IN THE ASIA-PACIFIC

Extreme weather events threaten businesses in terms of immediate loss of property and human lives, and in terms of prolonged disruptions to business operations.

A focus on Asia during the period 2010-2016 also shows that many such events have been occurring in densely populated and coastal areas, amplifying the impacts on human loss. The rapid pace of urbanization in Asia has exacerbated this effect, and can also potentially drive up human and economic losses. Natural disasters have also been hitting key maritime trade infrastructure such as ports and terminals, impacting distribution channels and disrupting trade and global supply chains. As many of these environmental risks go uninsured, there are few ways to recuperate from the economic loss caused by catastrophic events to governments, businesses and people.[93]

The impacts of environmental disasters through life and economic loss, as well as major business disruptions, present a significant challenge for Asian societies.

Furthermore, not only can disruptions occur during extreme events but they can also take place as a result of the combined effects of natural climate cycles such as El Nino and La Nina. The latest El Nino cycle has already caused a serious water crisis in Asia. Cities – notably those in the Philippines such as Manila, Cebu and Davao – are likely to experience severe water shortage by 2025.[94] Increase in global temperatures may exacerbate the speed and magnitude of the problem.

Likewise, rising heat stress, as a result of the expected increase in extreme heat days, is projected to cause productivity loss of up to 25 percent from current levels in countries across Southeast Asia.[95]

91 Target climate change contributions submitted by each country under the Paris Agreement. INDC documents should include emissions reduction targets, approach, and adoption timeframe.

92 United Nations 2015.

93 Graham 2017.

94 Mercurio 2017.

95 Reuters 2015.

Exhibit 19 summarizes some of the substantial immediate losses to key industries due to weather-related events.

Exhibit 19: Asian industry losses due to extreme weather events

MANUFACTURING
Production loss from the 2011 Thai flood

A major Japanese car manufacturer:
240,000[96]
cars, more than loss to tsunami

A major hard disk drive manufacturer:
45%[96]
shipment loss, resulting in a...
US$300 million[97]
drop in export to China from September to November 2011

INSURANCE[98]

Up to **50%**
projected loss due to weather events undervalued by insurers

0.5% pa
projected decline in insurers' capital adequacy from 2016 to 2060

TOURISM[99]

US$34 million
loss in income from the Alishan National Forest Restoration area from the 2009 Morakot Typhoon in Taiwan

90%
of Ayutthaya, a UNESCO World Heritage site, was destroyed or damaged by the 2010 Thai flood

AGRICULTURE[100]
Production loss in Yangtze river basin from the 2017 heavy rainfall and flood

US$5.9 billion
overall economic loss across three provinces: Hunan, Jiangxi and Guangxi

1,561,110 ha
of total crops affected area

Source: Marsh Political Risk Insurance

96 Haraguchi and Lall 2014.
97 Abe 2014.
98 Luke 2015.
99 Su and Hall 2015.
100 Guy Carpenter 2017.

In the long run, the increasing likelihood and impact of environmental risks, together with governments' and regulatory bodies' response to such risks may give rise to several trends that present both risks and opportunities for businesses. These trends largely belong to four major areas, namely Technology, Resources, Impact and Policy (TRIP). Taken as a whole, these trends directly and indirectly impact businesses across all sectors (Exhibit 20).

Exhibit 20: Direct and indirect impact of climate change on business strategies and operations

Trends	Technology	Resources	Impact	Policy
Definition	• The rate of progress and investment in the technology supporting a low-carbon economy • Transformation/disruption of existing sectors, or development of new sectors	• Impacts of chronic weather patterns and related physical change on resource availability and how resources can be used • Agriculture, Energy and Water are key resources	• Impacts of acute weather risks such as property damage and business interruption	• Regulation meant to reduce the risk of further man-made or "anthropogenic" climate change and associated regulations around resources
Example	Tighter regulations on Greenhouse Gas (GHG) and CO^2 emissions leading to devalued or unsaleable stranded carbon producing assets and associated fossil fuel related businesses. Pressure throughout supply chains, as well as in the transportation, energy, construction sectors to reduce the emissions of these gases.[101]			T R I **P**
	Pressures for companies to engage stakeholders on the social license to operate and use local resources.[102]			T **R** I P
	Reduced agriculture yield due to increasingly unpredictable weather patterns and food commodity price increases, which requires swift responses from the agriculture sector to ensure food security through effective farming.[103]			T **R** **I** P
	Further developments in electro-vehicles (personal cars, commercial vehicles, scooters), which will in turn lead to corresponding changes in mobility infrastructure. India's recent push to introduce more low cost e-vehicles for the mass market provide new opportunities for manufacturers.[104]			**T** R I **P**
	Further investments will be directed to energy technologies to improve the efficiency of resource use and greater reliance on renewable energy to meet the 2 degree Celsius target in the Paris Agreement. For example, China's heavy investment in wind power in 2016 is a positive signal for infrastructure projects in this space. However, the cost of finance remains a significant problem, which the private sector will need to overcome through creative means, such as cooperating with international parties for debt subsidies, or through cash flow securitization.[105]			**T** **R** I **P**

Source: Adapted from Investing in a Time of Climate Change, Mercer 2015

101 Fischer 2015; Chiveralls et al. 2017.
102 The Coca-Cola Company 2017.
103 Hughes et al. 2015.
104 Shah 2017.
105 Tweed 2016; Brink Asia Editorial Staff 2017; Affleck 2017.

ENVIRONMENTAL IMPLICATIONS FOR INFRASTRUCTURE IN ASIA

The Asian Development Bank estimates that an investment of up to $26 trillion is required in infrastructure in developing Asia by 2030. Environmental considerations will play a large role in determining how this demand is met, with the bulk of the investment required in power and transportation projects.

National commitments to cut greenhouse gas emissions, put in place in the 2015 Paris Agreement, play a key role in government decision-making with regard to new infrastructure. Increasingly, countries are looking to move away from carbon-intensive sources of power as political and financial incentives have started increasingly aligning with environmental ones.

Infrastructure resilience and sustainability are key topics for the region, given how exposed the region is to extreme weather events. There are many knock-on implications for infrastructure investment and daily operations. According to a joint publication by the World Energy Council and partners including MMC, increasing the resilience of energy infrastructure to extreme weather events is a must.[106]

Governments alone cannot supply the quantity of financing that is required for the region's infrastructure, and as such the private sector will have to significantly increase its role if investment targets are to be met. There are a number of challenges associated with this move however, and these are explained in more detail in APRC's Closing the Financing Gap – Infrastructure Project Bankability in Asia report.[107]

106 World Energy Council 2016.

107 Marsh & McLennan Companies Asia Pacific Risk Center 2017a.

CASE STUDY

SOUTHEAST ASIA'S HAZE: FROM RISKS TO OPPORTUNITIES

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It's known simply as "The Haze": a thick, eye-watering, nose-running, cough-inducing, health and climate hazard emanating from the burning of land and forest fires in Indonesia.

Today the Haze is one of the largest sources of pollution and carbon emissions in the Asia-Pacific region, and despite increased pressure on polluters, a solution remains elusive.

In 2014 Singapore and parts of Malaysia witnessed record levels of haze. In 2015, the region saw one of the worst episodes in history as forest and peatland fires devoured some 2.6 million hectares of land in Indonesia, leading to a number of fatalities.

The 2015 haze crisis also severely disrupted economic activity and Indonesia's economic losses alone were estimated at $16 billion.

Pulpwood and palm oil plantation companies that continue to use fire to clear forest land for new planting – a practice outlawed in Indonesia – face growing risks. Those risks now extend to their buyers or financiers as well. Further steps in law and soft regulation are expected to increase legal, reputational and credit risks.

Increasing regulatory pressure

Indonesia has intensified law enforcement against the use of fire for land clearing. In July 2016, President Joko Widodo (Jokowi) ordered authorities to re-investigate 15 companies that escaped prosecution due to lack of evidence after being suspected of causing 2015's forest fires in Riau.

The following month, a Jakarta district court imposed fines totaling 1.07 trillion rupiah ($81.7 million) for violating the burning ban – the largest reported fine to-date linked to the fires. The Indonesian government similarly sued five other companies for fire-related violations.

Further enforcement action came with Singapore's Transboundary Haze Pollution Act (THPA) in 2014. The THPA attributes liability to entities that conduct or condone an act – even occurring outside Singapore – that causes or contributes to haze pollution. The Act was triggered during the 2015 haze crisis.

Companies face legal and reputational risks even if their supply chains are associated with farmers who use fires. Moreover, damage to branding and image may also lead some buyers to terminate business transactions.

Singapore has increased enforcement efforts too. An exclusive distributor for a major pulp and paper company had its green label temporarily suspended, for example. Several major supermarkets swiftly removed the company's products from their shelves. Officials continue to question the company and other companies' representatives in the course of THPA investigations.

Some producers have been cut off by major buyers such as Unilever. Indonesia's Bank Mandiri announced that it will stop approving any credit proposals to finance the development of new oil palm plantations on peatlands.

Moving Ahead

Until now, banks in Southeast Asia typically evaluated creditworthiness solely on financial grounds. It is only recently that the financial sector in Indonesia, Malaysia and Singapore has started assessing clients' social and environmental impacts as well.

Indonesia has identified peatland conservation as its key strategy to prevent fires. In January 2016, President Jokowi established the Peatland Restoration Agency (BRG), which is assigned to coordinate and facilitate peatland restoration, particularly in the worst affected provinces.

While pressure is growing on errant companies, sustainability can bring opportunities to others. The BRG, for example, is inviting selected companies to manage and restore peatlands in their concessions.

Larger companies can also actively engage with and impart good agricultural practices to small-scale farmers in their supply chain and those surrounding their land concessions. This can increase productivity, raise yields and yet reduce deforestation and the risk of fires.

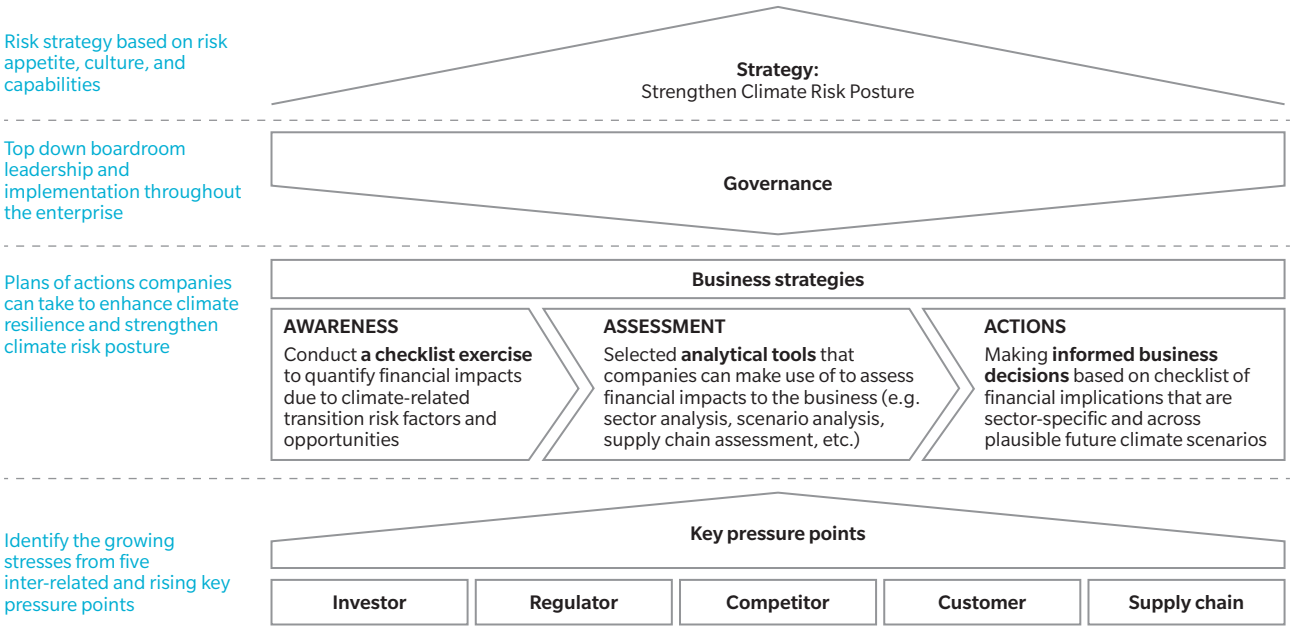
The haze that comes at the peak of the dry season ebbs when the rains arrive. But as regulations tighten and pressures from financial institutions and the supply chain increase, it will be more than the weather that dictates what companies can and cannot do.

BUSINESS IMPLICATIONS

A Framework for Developing Business' Climate Resilience

Meeting the various challenges posed by climate change will require carefully-crafted business strategies arising from a heightened awareness of climate change, and a holistic assessment of its potential impacts. A two-pronged framework can help achieve this (Exhibit 21).

Exhibit 21: Framework for developing businesses' climate resilience



Source: MMC analysis

From the top, leaders will need to set an overarching direction for their organizations to strengthen their climate risk posture. Firms should be nimble enough to hedge against negative impacts of climate change and take advantage of opportunities arising from the trends as previously listed. To this end, businesses' management philosophy will need to change. Climate resilience cannot remain a silo under a firm's CSR arm, but should be a key focus throughout every step of the value chain.

Correspondingly, from the bottom-up, firms will need to realize the increasing pressure from key actors, namely investors, competitors, regulators, consumers and suppliers, on businesses' ability to respond to climate change

- A growing number of **investors** are incentivized to invest in companies expected to adapt well to evolving climate risk conditions. This means that, businesses with robust climate risk management frameworks, or those with plans to participate in strategically important sectors such as renewable energy or green bonds, will possess an edge over **competitors**
- **Regulators** are likely to tighten regulations on carbon emissions, carbon assets and other industrial activities that may lead to climate change. The strengthening and enforcement of environmental protection policies should also be expected, such as the setting of higher standards for energy efficiency across a range of industrial and consumer equipment

- **Consumers'** rising expectations for sustainable products present new opportunities for companies to incorporate climate change awareness and resilience into their brand and business models. At the same time, the heightened awareness of customers towards sustainability will pressure companies to increasingly consider associated reputational risks
- There is also a need for businesses to work with **suppliers** to improve the resilience of the entire supply chain, such as through the setting of increased standards for energy efficiency across a range of industrial and consumer equipment

Together, these pressure points constitute the strategic risks, operational risks and reputational risks for businesses concerning climate change.

STRATEGIC RISKS

Company executives will need to consider how to integrate climate resilience into their strategy and portfolio of offerings.[108] The goal is to align the business with stakeholders' evolving perspectives on climate change, and to capture growth in the face of shifting regulatory demands, capital markets, and changing shareholders' values.

A major trend underpinning businesses' strategic risks is the ongoing emphasis from governments on implementing commitments under the Paris Agreement. For example, there has been accelerated growth in renewable investments in the Asia-Pacific region, with the standout contribution coming from China. Investments in renewables in China ballooned from $3 billion in 2004 to more than $100 billion in 2015, contributing more than a third of the world's total renewables investment in 2015.[109] In all, the Asia-Pacific region (driven by China, and also India) alone invested more than half of the global investments in renewables in 2015.

Investors are following suit. One example is the recent joint acquisition of Chevron's geothermal assets by Ayala Group's energy unit along with another group of companies in a deal that was valued at about $3 billion.[110] Reflecting investors' enthusiasm, the issuance of Chinese green bonds has increased from almost zero to RMB 238 billion ($36.2 billion) in 2016.[111]

Companies that fail to adapt strategically to these developments may find themselves trailing their competitors. This can play out on several levels:

- Technology developments have enabled the increasingly efficient use of resources by reducing the water and energy waste in day-to-day operations. For businesses, slow adoption of these technologies can mean missed opportunities to reduce operation costs, and a chance to develop better, more competitive offerings in the market.
- Businesses that are unable to demonstrate their readiness to respond to climate change will not only risk suffering substantial disruptions from extreme weather events, but also will appear less attractive to investors.
- Businesses that do not consider the effects of climate change on shifts in investment appetite risk holding on to non-performing or devalued carbon and carbon-producing assets.

108 Marsh & McLennan Companies Global Risk Center 2016a.

109 Luxton 2016.

110 Dela Cruz 2016.

111 Climate Bonds Initiative and China Central Depository & Clearing Company 2017.

REPUTATIONAL RISKS

The impact on reputational risk increases in significance as public perception shifts and 'green' companies are viewed in more favorable light, and vice versa. For example, a recent international study by Unilever showed that a third of consumers prefer products from brands that are believed to be doing social or environmental good.[112]

As global attention on environmental management grows, there is increasing scrutiny from both the wider public and governments. The advent of social media and the growing demand for transparency, as well as responses to perceived or actual environmental non-compliance is swift, vocal and very public. The importance of considering reputational risks related to environmental issues was exemplified by the public backlash against Asia Pulp and Paper, an Indonesian company with an alleged role in the 2015 Haze. The outcry has led to temporary removal of the company's products from the shelves of several grocery store chains in Singapore.[113]

Not only can reputational damage hurt a company's revenue line through a shift in consumers' preferences, it can also affect long term operations and competitiveness. Given the current intensive competition for talent, companies may find that their environment and climate commitments are increasingly important in attracting and retaining professional talents with whom these issues resonate strongly.

OPERATIONAL RISKS

A combination of historical vulnerabilities and increasingly deteriorating environmental conditions has and will continue to drive increases in the cost of managing operational risks due to climate change. Therefore, it is important for business leaders to understand and manage them.

Businesses will also need to prepare for supply chain disruptions that follow extreme weather events. Production loss due to extreme weather events can be staggering. Toyota, for example, lost 240,000 cars due to the 2011 Thai flood.[114] In the same event, Western Digital lost 45 percent of its quarterly shipment, which contributed to more than a $300 million drop in hard drive exports to China from September to November 2011.[115]

The regional and global interconnected nature of supply chains further aggravates the effects of these disasters. While an environmental hazard may only occur in one location, the effects are often felt globally throughout the entire production chain. For example, when Kumamoto, a manufacturing hub for automobile parts, was hit by a major earthquake in 2016, production was not only halted locally. As Japanese manufacturers such as Honda and Nissan saw their production disrupted, US manufacturers General Motors also had to close its North American assembly plants owing to disruption in the supply of parts from Kumamoto, exemplifying the ripple effects of this disruption.[116]

112 Unilever 2017.
113 Channel News Asia 2015.
114 Haraguchi and Lall 2014.
115 Abe 2014.
116 Guy Carpenter 2016.

Similarly, companies relying on China for components will need to be aware of regional environmental risks. For example, any major disruption to manufacturing activity in concentration hubs that are prone to extreme weather events such as Guangdong (electronics parts), Zhejiang (textile), and Taizhou City (motorcycle- and bicycle-related manufacturing) can affect the production chain in China and beyond.[117]

BUILDING CLIMATE RESILIENCE: RECOMMENDED ACTIONS

Companies can take a number of actions to address the many strategic, reputational and operational risks they face with regards to climate change (Exhibit 22). These action points are designed to mirror the two-pronged approach laid out at the beginning of this report. While addressing strategic and reputational risks, businesses will need to consolidate their climate risk posture from the top down by integrating sustainability across the business. Ensuring strict compliance with environmental protection regulations further reinforce the company's position at a lower level. Finally, by taking steps to guard against operational risks, businesses can directly address stakeholders' concerns.[118]

Exhibit 22: Recommended actions for mitigating climate risks facing businesses

RISKS	RECOMMENDED ACTIONS
Strategic Risks	• Embed climate risk considerations into the company's Enterprise Risk Management (ERM) programs • Translate sustainability into a common language of risk to bridge the gap between sustainability and finance and ERM programs[118]
Reputational Risks	• Companies should encourage a culture of compliance and the use of regular audits to ensure environmental standards are met
Operational Risks	• Assess assets and supply chain for vulnerability to extreme weather impacts • Undertake scenario analysis • Devise systemic contingency plans • Invest in more efficient ways of using resources

117 Berkeley Sourcing Group 2016.

118 Nottingham 2016.

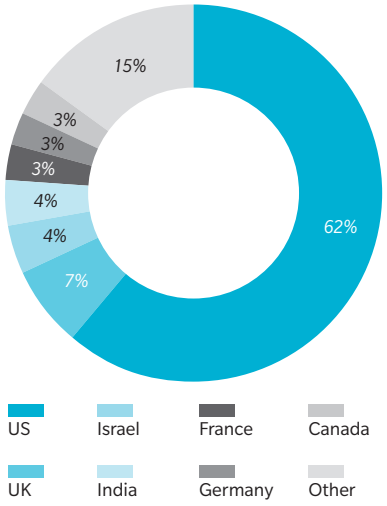
2.4. ACCOMMODATING TECHNOLOGICAL CHANGE

The 2017 GRR has dedicated a special section to emerging technologies, with a focus on the potential adverse effects of these technological developments not being properly governed. In this section, we build on the GRR and provide our views on how technological advances have been progressing in the Asia-Pacific region, as well as a discussion of six risks associated with technological advancement that businesses should be mindful of.

ASIA-PACIFIC IS QUICKLY CATCHING UP IN TECHNOLOGICAL INNOVATION

In the emerging technologies sector currently, Asia still lags behind the US, which leads in both the number of artificial intelligence (AI) companies and the amount of venture capital funding available.[119] Notably, with nearly 62 percent of all AI deals in 2016 went to start-ups in the US (Exhibit 23).

Exhibit 23: Artificial Intelligence global deal share (2016)



Source: CB Insights

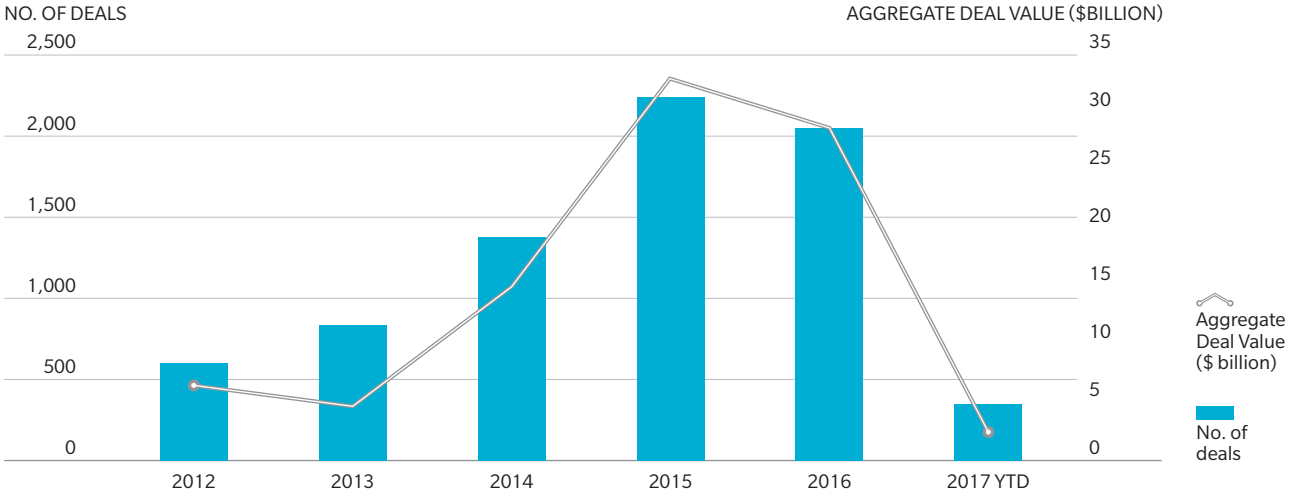
However, Asia-Pacific is quickly catching up on the technological innovation front. AI research has proliferated in Asia, particularly in China, Japan, South Korea and Singapore.[120] According to a recent report by UBS, the AI-related workforce in China and India combined will significantly surpass that of the US by 2025. The report also put the expected economic value to be created by AI in Asia by 2030 at between $1.8 trillion and $3 trillion a year.[121]

Asian governments are also allocating significant resources to facilitating innovation in the field. The Singapore government, for example, initiated AI.SG in a bid to pool resources from government agencies, universities as well as industries and start-ups to push AI research, development, and application in Singapore.[122] Government support has partly helped some Asian companies, such as Baidu,[123] to become major players on the global stage not only in AI but also in terms of technological innovation in general.

119 CB Insights 2017.
120 Lo 2017.
121 Gantori 2017.
122 Tegos 2017.
123 Abkowitz 2016.

Reflecting the increasing attention on the technological sector, technological investment in Asia has registered remarkable growth. Since 2012, venture capital deals in Asia have almost tripled, peaking at 2,238 financings worth $32.8 billion in 2015 (Exhibit 24). Over this period, there have been more than 7,400 deals worth an aggregate $92 billion in the technology sector, accounting for 56 percent of all venture capital transactions in the region, according to Preqin Venture Capital.[124] This growth has been led by China, followed by India and Singapore.

Exhibit 24: Asian Venture Capital Deals*1 in the IT Sector (2012-March 2017)



*1 Figures exclude add-ons, grants, mergers, secondary stock purchases and venture debt

Source: Preqin Venture Capital online

Amidst the heavy emphasis on innovation, it is easy to forget that Asia is also a major site for technological adoption. The speed and breadth with which information and communication technologies have spread, exemplified by the region's mobile device penetration rate of more than 90 percent, is clear evidence of the region's ability to adopt new technologies.[125] In fact, some business executives consider China and India more mature for AI adoption than advanced economies such as the US, Germany, and France.[126]

Asia-Pacific is catching up with the US in technological innovation, and is a major site of technological adaptation.

The Asia-Pacific region possesses several characteristics that will strongly enable technological adoption and innovations going forward:

- **The availability of abundant data from a large population:** The Asia-Pacific region accounts for 54 percent of active social media accounts and 51 percent of the world's internet users[127] – in fact, China alone has more than 700 million internet users.[128] This region will attract business resources not only because it provides a large target market for the latest high-tech gadgets, but it also provides abundant data needed for technology-related research and development.
- **Fewer incumbent systems:** The fewer legacy systems in Asian developing economies, together with their young and aspiring human capital have enabled these economies to leapfrog in their adoption of technological innovations.

124 Rajanathan and Ling 2017.
125 Asian Development Bank 2014.
126 Infosys 2017.
127 Kemp 2017.
128 Millward 2017.

- **High intellectual capital standards:** Three Asian countries – China, Japan and South Korea – are among the top five globally in terms of patent applications.[129] In addition, Japan ranked second on corporate innovation, trailing only the US.[130,131] Encouraged by local governments, companies are increasingly turning to Asia to set up innovation centers. As of October 2016, 29 percent of all innovation centers globally were located in the region.[132]

Going forward, developing infrastructure and raising awareness will be crucial for Asia-Pacific to capitalize on its strengths and continue technological growth.

Despite this promising outlook, Asia-Pacific is also facing significant challenges with respect to technological development. First, while the lack of incumbent systems has enabled Asian economies to quickly adopt new technologies, it also means that countries in the region have little readily-built infrastructure, and poor awareness of associated risks. For example, as Asia becomes more connected to the Internet, its lack of infrastructure and awareness of cyber security measures has caused substantial losses due to hacks and data frauds.[133]

Another major problem is the uneven spread between information and communication technologies on the one hand, and other essential services such as banking, on the other. More specifically, many people in Southeast Asia are still unbanked,[134] which could hinder the mass adoption of related services such as e-payments. This represents a sizable untapped market that businesses can take part in, but may not be able to yet, possibly due to existing cultural and economic barriers to entries.

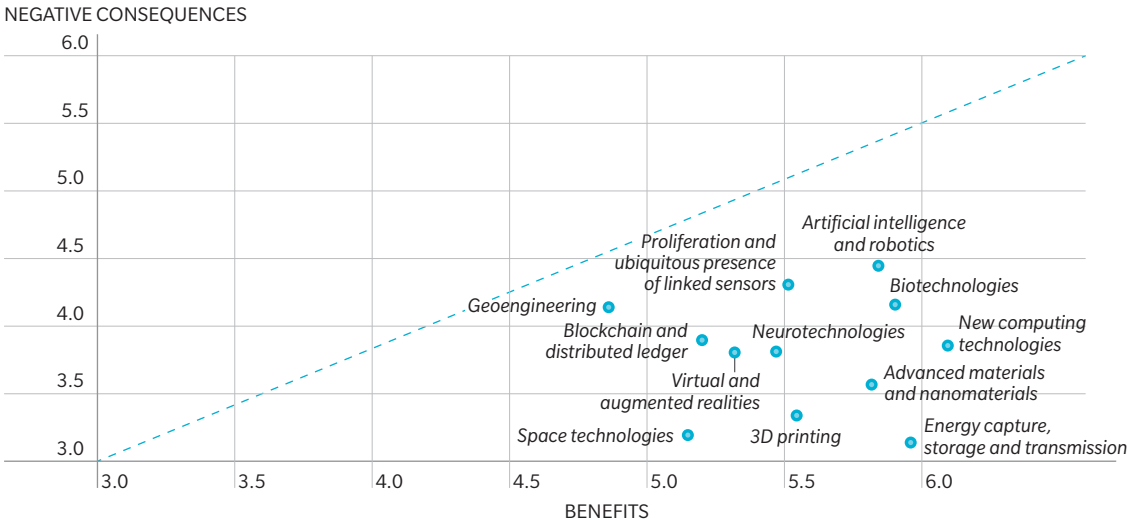
BUSINESS IMPLICATIONS

Companies operating in Asia-Pacific will need to be nimble to take advantage of the technological wave in the region, and further develop their own technological capacity. Exhibit 25 shows the 2017 GRPS response to the potential benefits and negative consequences of selected technologies. Risk experts in the survey agree that benefits from technological advancement generally outweigh potential negative impacts. Developments in areas such as 3D printing as well as energy capture, storage and transmission, for example, greatly benefit businesses and should quickly be adopted.

At the same time, companies must be cautious about how other technologies such as AI and robotics will change the way business is conducted, and how advancement in these areas can create new disruptive risks (Exhibit 26). As such, businesses should anticipate and prepare for such risks. The rest of this section discusses some major risks in detail, and how businesses are responding to them.

129 World Intellectual Property Organization (WIPO) database.
130 The ranking assesses patent application, success rate and influence.
131 Tani 2017.
132 Yeung 2016.
133 Marsh & McLennan Companies Asia Pacific Risk Center 2017b.
134 Vichitkulwongsa 2016.

Exhibit 25: Benefits and Negative Consequences Associated with Emerging Technologies



Note: Global Risks Perception Survey (745 respondents worldwide); respondents are asked to rate the benefits and negative consequences of each emerging technology on a 7-point scale

Source: World Economic Forum, Global Risks Report 2017

Exhibit 26: Risks Associated with Emerging Technologies

Risk	Description	Examples
Technological failure	Program failures leading to negative outcomes, either by accident or as a result of malicious attack	• Microsoft chatterbox started to post offensive tweets after malicious users took advantage of its learning capabilities[132] • In May 2016, thieves in Japan made off with $12.7 million using counterfeited credit cards for approximately 14,000 transactions[133]
Power shifts	Traditional players or industries whose revenue stream and market share is at risk as a result of new entrants/technology	• Uber taking market share from taxi companies • AirBnB taking market share from hotels • Banks and Bankcard association (i.e. UnionPay) lost US$23 billion in potential transaction fees to Alipay and Tenpay in 2015[134]
Job market disruption	Effect of technology, such as automation and AI, replacing tasks originally performed by human	• Kalibrr is a cloud-based platform based in Philippines that has disrupted the old recruitment system by assessing applications and matching them to the right jobs, only for a small fee[135]
Uncertain liabilities	Difficulty in understanding and/or quantify new liabilities that have emerged from technological advancement	• Unknown future of auto insurance premium calculations once automated vehicles are commercialized, as riskiness of driver becomes less important – estimated that almost $160 billion of premium could evaporate in coming decades[136] • Questions of who should be liable for robo-advisors when fiduciary duties or other securities laws are violated – programmers or wealth managers?
Data privacy and security	Rise in privacy and security concerns with increasing data quantity and interconnectedness	• The Central Bank of Bangladesh was hacked and US$81 million was transferred to the Philippines[137] • 3.2 million debit cards belonging to various Indian banks were compromised resulting in the loss of Rs 1.3 million in fraudulent transactions[138]

Source: BBC, Wired Magazine, Forbes, Guardian, Reuters

135 The Guardian 2016.
136 Phippen 2016.
137 Kapron 2016.
138 Balea 2015.
139 Scism 2016.
140 Gopalakrishnan and Mogato 2016.
141 Shukla and Bhakta.

TECHNOLOGICAL FAILURE

A system is only as good as the data it learns from, and because humans are imperfect, the data fed to machines are also imperfect. As such, businesses should be particularly cautious when developing and deploying AI. The Microsoft chatterbox example in Exhibit 26 points to the importance of 'fences' in guarding AI against learning failure. Developers should be incentivized to identify all potential program loopholes and conduct intensive tests prior to release to ensure that the AI cannot be reprogrammed or hacked.

Business leaders should also encourage communication among developers to brainstorm and anticipate all the possible outcomes that a solitary developer may not expect or intend. As Elon Musk noted in a hypothetical example – "an artificially intelligent hedge fund designed to maximize the value of its portfolio could be incentivized to short consumer stocks, buy long on defense stocks and then start a war".[142]

Finally, businesses should develop an effective and fast post-incidence response plan in situations where damage cannot be avoided.

POWER SHIFTS

Power shifts as a result of technological advancement often happen quickly and have widespread effects. Uber, for example, took less than five years since its launch to expand to most major cities around the world. Yet, direct application of technologies is not the only factor that matters in power shifts. Consider Go-Jek, a direct competitor of Uber in the Asia-Pacific region: by specifically targeting the huge population to Indonesians who use bike-hailing services extensively, Go-Jek has successfully combined technological application and local knowledge in developing its business.[143] Accordingly:

- Business leaders should assess the impending impact of all potential market disruptions – both direct and indirect. One example is the potential impacts on automobile insurance revenue over the next 5-10 years, as car manufacturers begin to release commercially-viable autonomous vehicles.
- Analysis of potential disruption due to technological advancements and a deep understanding of the local market is indispensable, especially in a region as diverse as Asia-Pacific.
- Traditional players can compete with new entrants by increasing investment in technology or partnering with non-traditional players. The selection requires an assessment of the business' existing resources and capabilities. For example, BMW announced its partnership with Baidu in 2015, to take advantage of Baidu's AI expertise and access to the Chinese market.[144]

142 Solon 2016.
143 Haswidi 2017.
144 CB Insights 2016.

JOB MARKET DISRUPTION

In a survey conducted by the Massachusetts Institute of Technology, "70 percent of [HR executives] feel that AI and robotics will lead to substantial job losses in Asia over the next five years".[145] Global investment research house BCA Research suggests that disruption will not be limited to low-skill jobs: white-collar tasks such as credit score calculation, report translation, and portfolio management are all at risk of automation as more recent advancements in AI relate to pattern recognition and solving complex algorithms.[146]

A case can also be made for how advances in AI development will create jobs instead of taking them away. It has been argued that while AI development has the potential to displace a multitude of jobs (even at the highest cognitive level, such as diagnostic readings of medical scans), it can also create more jobs. For example, the number of jobs related to the technology itself, such as maintenance, programming or oversight is expected to increase. Furthermore, technological advances can lead to a surge in demand for specific sectors. For example, the e-commerce boom has encouraged people to consume more and as a consequence, has created more jobs in the retail sector to meet swelling demand.[147]

In response, businesses should follow the progress of automation technology and its applications closely to familiarize themselves with projected developments in the job market. While the extent to which automation will create more jobs in other sectors is still unclear, training and re-skilling nonetheless will remain crucial to ensure smooth transitions for workers. These programs need to be a fundamental part of the restructuring package, well-timed, tailored to employees' need, and take into consideration local market conditions.[148] Training and re-skilling can take two potential directions:

Re-allocation: In areas with anticipated talent shortages, such as IT and digital strategy, early engagement is encouraged. In job functions expecting high rates of replacement, businesses should consider workforce engagement or re-allocation to minimize disruption. For example, at Infosys, between 8,000 and 9,000 jobs were been automated at the company over the past year, but almost all affected employees were trained in advance and given more advanced roles within the company.[149]

Diversification: The difference in effectiveness from two re-training programs from Mitsubishi and MG Rover in England showcase the importance of diversification in re-training efforts. In Mitsubishi's case, the plan for the growing defense and mining industries to absorb retrenched workers – who were trained accordingly – was unsuccessful. In contrast, the MG Rover training program, which contained a diversification component, worked better, and 90 percent of workers had found full-time jobs after one year, mostly in the service sector.[150]

145 MIT Technology Review 2016.
146 Elliott 2017.
147 The Economist 2016.
148 Circelli et al. 2015.
149 Opray 2017.
150 Circelli et al. 2015.

UNCERTAIN LIABILITIES

New technologies bring about new liabilities that we cannot fully understand or quantify. To explain this point further, we can look at the case of autonomous vehicles (AVs).

While the application of the technology is in a testing phase, there is little doubt that AVs will become a reality relatively soon. In Asia, the Singapore government has already taken steps to amend regulations to provide for the flexibility needed to determine the feasibility of such emerging technology.[151] As a result, Singapore became the first country to launch a self-driving taxi service with six cars in 2016 with nuTonomy, an autonomous vehicle start-up. Doug Parker, nuTonomy's chief operating officer aims to have a fully self-driving taxi fleet by 2018, potentially reducing the number of cars on Singapore's roads by two-thirds.[152]

The commercialization of AVs has far-reaching implications for both car manufacturers and car insurers. An important question to ask (as with other technologies outside of AVs) is: "In the event of an accident, who will be liable, and what will it mean for insurers?"

- For car and telematics devices manufacturers,[153] as well as related data analytics service providers, this can be seen as a clear transfer of liability from the driver (whose human errors have traditionally been the cause for accidents) to their companies.
- Since software and telecommunication providers will also play a crucial role in AV development by providing connectivity to telematics devices, these companies will also see liability shifting to them. The interconnectedness of AVs, however, will mean that the risks associated are no longer defined solely as transportation issues, but are also effectively seen as cyber risks.[154]

What are the implications for car insurers? While many have pointed to the potential drop in insurance premiums, Zurich Insurance's experience of insuring its first driverless car customer in Singapore has highlighted that the challenges may arise from the shifting of responsibility from the driver to manufacturers.[155] Oliver Vale, the Head of Professional Indemnity, Asia, for Zurich Global Corporate in Asia-Pacific believes that insurers will face major challenges in adapting to legal changes and to cyber security challenges.

Other experts have also noted that with the proliferation of advanced driver assistance systems, insurers are already facing significant challenges in the form of declining premiums, changing pricing models, collecting more detailed and timely data, redefining the concept of 'fault', as well as reaching out across industries to cooperate with car makers to adjust.[156] As insurers' customers will likely increasingly be manufacturers, and as premiums will decrease significantly, it will be necessary for insurers to shift their focus from price and capacity to resiliency and risk management.[157]

151 Cheong, 2017.
152 Liang, Durbin, 2017.
153 Silver 2017.
154 Abdullah 2016.
155 Zurich 2017.
156 Boilard and Khayatt 2017.
157 Souter 2015.

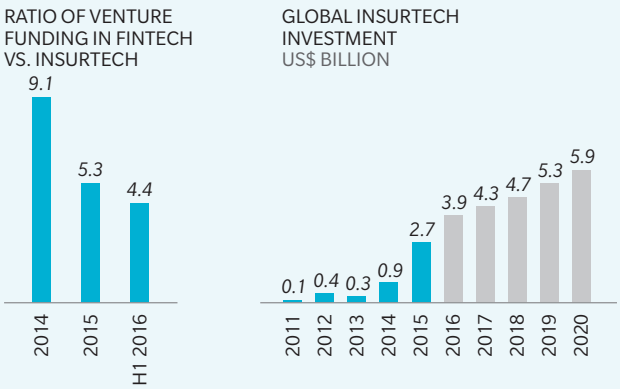
CASE STUDY

INSURTECH: WHAT, WHERE, WHY?

***Angat Sandhu**, Partner at Oliver Wyman's Financial Services Practice*
***Tetiana Maier**, Engagement Manager at Oliver Wyman*

For the uninitiated, InsurTech refers to the phenomenon of start-ups that are innovating using technology to fundamentally improve the existing insurance business model. At first glance, InsurTech appears to be a poor cousin of Fintech, which is much more prominent and has garnered much attention globally.

While the insurance industry globally is still coming to terms with the implications of InsurTech, a closer look at the numbers suggests that it is already rapidly closing the gap to Fintech, and significant growth is expected.



Why now?

The insurance industry has many characteristics that start-ups and venture capital firms look for:

- Lack of customer centricity. Very few interactions with customers every year.
- Failure to embrace change. The industry prides itself on many hundred-year-old traditions and has not embraced change. Till recently, benign macroeconomic environments and investment income covered for declining underlying profitability and therefore a strong need for change was not felt.
- Inefficient. Relatedly, the industry is still reliant on manual processes, has clunky systems and often paper-based underwriting.

While high regulatory burden has detracted investors and remains a challenge, it is at least seen as surmountable, given the size of the opportunity by improving efficiency.

Where are InsurTechs Most Active?

Geographies. 60 percent of all InsurTech deals in 2016 were in the US and it remains the global center for innovation in the industry; and it followed by the UK and Germany. But arguably the most successful InsurTech of all, Zhong An, is based in China, and only a few years after operation has an $8 billion valuation. The InsurTech ecosystem across the rest of Asia is still relatively immature but activity and interest is picking up across Singapore, Hong Kong, Mumbai and Sydney.

Sectors. More than 60 percent of deals have been in the general insurance sector, with 30 percent focusing on multi-line business and only about 10 percent focusing primarily on life insurance.

Value-chain. Given the challenges and complexity of running an insurance business, most start-ups focus on a few parts of the value chain and have partnered with insurers and reinsurers. There are many exceptions to this, but barring Zhong An, most of these players are still young and their success is too early to gauge.

A majority of the focus of InsurTechs to date has been on three areas across the value chain, namely improved customer experience, more efficient distribution, and data analytics. As the industry matures, we expect greater focus on innovative product development, claims management and improved risk selection too.

Implications for Incumbents

The industry has been slow to react and those that have responded have done so in three main ways:

Establishing corporate venture funds. This is in-effect a mechanism for incumbents to hedge their bets by scanning a number of potential start-ups that could disrupt the industry and taking small shares in them.

Directly partnering with InsurTechs. Players are looking to learn the customer experience, technology and analytics components from start-ups, who in turn are seeking technical knowledge, compliance support and importantly, access to the customer.

Establishing innovation labs. These are efforts by players to innovate more organically, often by giving InsurTechs 'office space', providing mentorship and small amounts of seed funding.

There is no doubt that insurance will continue to have a material role to play in protecting individuals and corporations from unexpected events. But the investments over the past couple of years have also made it clear that InsurTechs will be a serious force for incumbents to deal with.

DATA PRIVACY AND CYBERSECURITY

Data privacy and cybersecurity are among the top concerns for Asian executives.[158] According to APRC's latest report on cyber risk, Asia is more susceptible to cyber-attacks. The region is more likely to be targeted in hacking incidents and cyber security breaches, which has already resulted in an estimated $81 billion loss in business revenue.[159]

Asia-Pacific has also been the victim of several recent high profile cyberattacks that resulted in massive data loss over the past two years. Unsurprisingly, the most recent ransomware attack incurred significant cost in services and production disruptions as well as data recovery cost across many countries in the region.[160] Experts point to the lack of transparency requirements and a strong cyber regulatory environment, low investment on information security, and long detection times as the main causes for the region's susceptibility to attacks.[161,162]

According to the Beazley-Singapore Business Federation Survey conducted in November 2016, cybersecurity has become one of the biggest concerns for local SMEs in Singapore, but no more than 40 percent perceive they are adequately protected.[163] However, the 2016 Marsh Excellence in Risk Management Survey indicates that 77 percent of organizations expect to increase investment in cyber risk management over the next two years.[164]

A key roadblock faced by businesses is the quantification of cyber risk. A recent survey shows that 68 percent of large and medium-sized European companies have not quantified the financial impacts of cyberattacks.[165] Cyber risk can be difficult to quantify as key concerns differ by industry—for example, a utility company may be more concerned about power outage, while insurers are more concerned about customer data loss.

Companies should first identify the most important assets and the greatest vulnerabilities. This should be followed by modelling direct revenue, liability, and brand loss scenarios using business, operational, and technical data.[166] The model developed should be able to help firm management quantify expected and worst case losses over a one- to three-year period. This information can then be used to prioritize which cybersecurity capabilities to enhance and how much additional protection is needed through insurance investments.

158 World Economic Forum 2016.
159 Marsh & McLennan Companies Asia Pacific Risk Center 2017b.
160 The Straits Times 2017.
161 Piff 2017.
162 Marsh & McLennan Companies Asia Pacific Risk Center 2017b.
163 Beazley-SBF survey 2016.
164 Fuhrman 2016.
165 Marsh & McLennan Companies Global Risk Center 2016b.
166 Marsh & McLennan Companies Global Risk Center 2016c.

CONCLUSION

In the second edition of the Evolving Risk Concerns in Asia-Pacific, we have proposed a set of imperatives for businesses in the region.

1. Anticipating disruptions from rising economic inequality
2. Preparing for the impacts of political developments to international trade
3. Building climate risk resilience
4. Accommodating technological changes

These imperatives are set within the changing global risk landscape, where we see the increasing importance of environment-related risks, terrorism and cybersecurity. The global political landscape continues to be an uncertain one and this has shaped a reality where business executives find it increasingly difficult to distil global complexities down to implications for their own organizations. As such, the aim of the 2017 Evolving Risks Concerns in Asia has been to explain the challenges, outlook, and implications for businesses operating within the risk environment in the Asia-Pacific. We believe these issues will remain relevant not only for 2017 and 2018 but much further beyond. To aid business leaders in assessing their companies' risk and to implement appropriate measures, we have also introduced a list of guiding questions tailored to specific departments (Appendix A).

We believe that due to the unpredictable nature of the trends underlying them, **(I) trade risk in an era of rising protectionism**, and **(II) the changing nature of work due to technological impacts** will be two of the most pertinent risk trends for businesses going forward. These topics will be explored in more detail in subsequent MMC APRC publications.

Finally, while we have mainly examined risks through the lens of businesses throughout the report, governments and policymakers would also do well to observe and prepare for ongoing disruptive trends. Doing so is a crucial step in ensuring effective risk management, which will help drive resilience not only at the individual company level but also on the industry and national levels. It is our hope that this report can serve as a useful roadmap for both governments and businesses, propelling them towards change, concrete action and greater resilience.

APPENDIX A. GUIDING QUESTIONS ON ORGANIZATIONAL PREPAREDNESS FOR FUTURE DISRUPTIVE TRENDS IN ASIA-PACIFIC, BY SPECIFIC DEPARTMENTS

STRATEGY/BUSINESS DEVELOPMENT

- Do you have a coordinated strategy across control functions to tackle existing and emerging threats and opportunities arising from technological advances?
- Are your company's overseas investments/projects aligned with local government agendas to minimize your exposure?
- Do your investments in new countries include built in early exit options (to be exercised if the new market does not develop as expected)?
- Do you have a clear view of the extent to which company's revenue and profit are at risk from increasing protectionist trade policies (with defined strategy to minimize this value-at-risk)?
- Have you set your strategy to manage your response to disruptive industry players e.g. Fast adopter? Acquisitions? R&D investment?

CONTROL FUNCTIONS (RISK, COMPLIANCE, AUDIT, BCM)

- Does your company have a corporate risk register that is updated annually to reflect the top emerging risks relevant to your business?
- Are potential reputational risks your firm is exposed to fully considered, with agreed response responsibilities and processes defined?
- Has your organization embedded climate change considerations into your Enterprise Risk Management framework?
- Do you ensure appropriate use of creative risk transfer solutions, including insurance mechanisms?
- Are defined business continuity plans in places to support response and recovery from unexpected disturbances?
- Have you defined a proper structure and process for additional parametric disclosures (e.g. climate risks) in financial earnings?
- Have you signed up your strategy and risk departments to external news sources that provide information about a range of emerging risks e.g. BRINK Asia?

LEGAL

- How do you address and manage new liabilities (e.g. D&Os, litigations) that arise from disruptive technologies (autonomous vehicles, data breach, cyber incidents, AI, etc.)?
- Do you have resources dedicated to proactively anticipating policy adjustments which will impact the organization's operations in the countries you operate in (i.e. mandatory data breach disclosure clauses, ESG criterion for pension/investment funds)?
- Have you invested in capabilities to track, understand and report on signs of expansion of trade protectionism in relevant markets to the organization?

SUPPLY CHAIN MANAGEMENT

- Do you have a geographic portfolio review plan to assess supply chain resilience with respect to natural disasters and other extreme weather effects?
- Do you have a clear view of the financial and non-financial impacts of environmental degradation and catastrophes?
- Do you work with suppliers or partners to drive innovation and resource efficiency to enhance supply chain resilience?

WORKFORCE MANAGEMENT

- Are the correct processes in place to ensure your organization's pay is competitive, employment regulations and standards are met and that you are kept fully abreast of changes?
- Do your organization's benefits and policies address the growing need to ensure engagement of the older worker?
- Given that we have increasingly diverse workforces with multi-generations working side by side, does your organization adequately address the skills gap and ensure the development of the workforce?
- In addition to CSR initiatives to assist the lower income groups, does your organization review its compensation schedule to ensure inequity does not exist between classification of employees?
- What does the future talent model look like across control functions, legal, finance etc. in light of the increasingly important role of technology? Are you able to attract data scientists and cyber security experts?

FINANCE

- To what extent do you consider different possible future events (e.g. regulatory, political, environmental, societal, and economic changes) as part of scenario planning and investment portfolio stress-testing to ensure finance resilience?
- Do you review potential 'green' investments to determine whether they are eligible for government support e.g. grants or lower interest rate loans?
- Do you regularly update your foreign exchange hedging policy to reflect the changing international landscape?

INFORMATION TECHNOLOGY

- Does your organization regularly update its view of potential cyber risk exposures, with associated defined risk mitigation strategies for each? Can you put a $ value on your cyber exposure?
- What steps have you taken to assess and manage cyber exposures and vulnerabilities pose by your business partners, consultants, or third party vendors?
- Have you identified and assessed which emerging technologies (or cyber loss scenarios) present the greatest potential impact to your department?
- Are our IT systems sufficiently robust to conduct a greater volume of business digitally?

APPENDIX B. EVOLVING RISK LANDSCAPE FROM 2008 TO 2017

Source: World economic forum, global risks report 2017.

APPENDIX C. WEF SURVEYS

GLOBAL RISKS PERCEPTION SURVEY (GRPS) OVERVIEW

The Global Risks Perception Survey is the main instrument used to assess global risks in the GRR. The 2016 survey was conducted between early September and mid-October 2016, bringing together diverse perspectives from risk experts around the world from business, academia, civil society and government. Every year, risk experts are asked about the perceived impact and likelihood of risks over a 10-year time horizon. Almost 750 risk experts participated in the 2016 survey.

EXECUTIVE OPINION SURVEY (EOS) OVERVIEW

The EOS survey is conducted annually and provides risk perceptions, but from a different angle—recognizing risk management priorities from decision-makers themselves. Respondents are asked to choose up to five risks which they view as being most important for doing business in their country. Approximately 13,300 and 12,400 responses were collected for EOS 2016 and 2017, respectively.

Results for EOS 2017 are available only for selected countries and region presented in this report.

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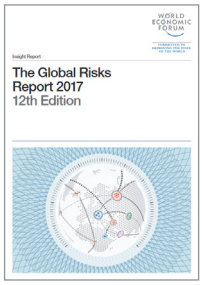

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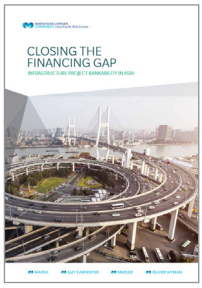

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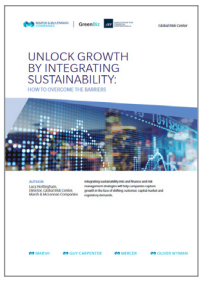

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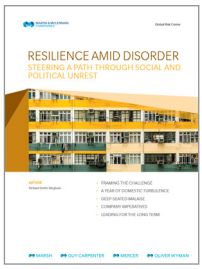

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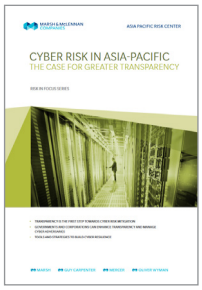

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