

No Ordinary Disruption: The Forces Reshaping Asia

Special report for The Singapore Summit
September 2015

Authored by:
Fraser Thompson
Oliver Tonby
Kevin Sneader
Jonathan Woetzel

McKinsey Global Institute

In the 25 years since its founding, the McKinsey Global Institute (MGI) has sought to develop a deeper understanding of the evolving global economy. As the business and economics research arm of McKinsey & Company, MGI aims to provide leaders in the commercial, public, and social sectors with the facts and insights on which to base management and policy decisions.

MGI research combines the disciplines of economics and management, employing the analytical tools of economics with the insights of business leaders. Our “micro-to-macro” methodology examines microeconomic industry trends to better understand the broad macroeconomic forces affecting business strategy and public policy. MGI’s in-depth reports have covered more than 20 countries and 30 industries. Current research focuses on six themes: productivity and growth, natural resources, labor markets, the evolution of global financial markets, the economic impact of technology and innovation, and urbanization.

Recent reports have assessed global flows; the economies of Brazil, Mexico, Nigeria, and Japan; China’s digital transformation; India’s path from poverty to empowerment; affordable housing; the effects of global debt; the economics of tackling obesity; and prospects for global GDP growth over the next 50 years.

MGI is led by three McKinsey & Company directors: Richard Dobbs, James Manyika, and Jonathan Woetzel. Michael Chui, Susan Lund, and Jaana Remes serve as MGI partners. Project teams are led by the MGI partners and a group of senior fellows, and include consultants from McKinsey & Company’s offices around the world. These teams draw on McKinsey & Company’s global network of partners and industry and management experts. In addition, leading economists, including Nobel laureates, act as research advisers.

The partners of McKinsey & Company fund MGI’s research; it is not commissioned by any business, government, or other institution. For further information about MGI and to download reports, please visit www.mckinsey.com/mgi.

McKinsey & Company in Southeast Asia

Across six offices in Southeast Asia, McKinsey works with leading government institutions and enterprises in all major sectors to translate the region’s rich opportunities into transformative economic and social impact. With a team of more than 300 global and local professionals, McKinsey has served clients across the public, private, and social sectors in the region to address their most important challenges as Southeast Asia becomes an increasingly integrated regional market. McKinsey in Southeast Asia is led by McKinsey Director Oliver Tonby.

Preface

This report was produced by the McKinsey Global Institute (MGI), the business and economics research arm of McKinsey & Company and the McKinsey Innovation Campus (MIC) in Singapore. It builds on the recent MGI book *No ordinary disruption: The four global forces breaking all the trends*. It takes a deeper look at how these forces will play out specifically in Asia, what they will mean for businesses operating in the region, and the challenges and opportunities they will present to governments. As with all MGI research, this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution.

We would like to thank the organizers of The Singapore Summit for the opportunity to share this research. We welcome your comments at MGI@mckinsey.com.

Fraser Thompson

Advisor, McKinsey Global Institute
Singapore

Oliver Tonby

Managing Partner, Southeast Asia, McKinsey & Company
Singapore

Kevin Sneader

Asia Chairman, McKinsey & Company
Hong Kong

Jonathan Woetzel

Director, McKinsey Global Institute
Shanghai

September 2015

Asia's urban population

In 2025, as many as **2.5 billion** people

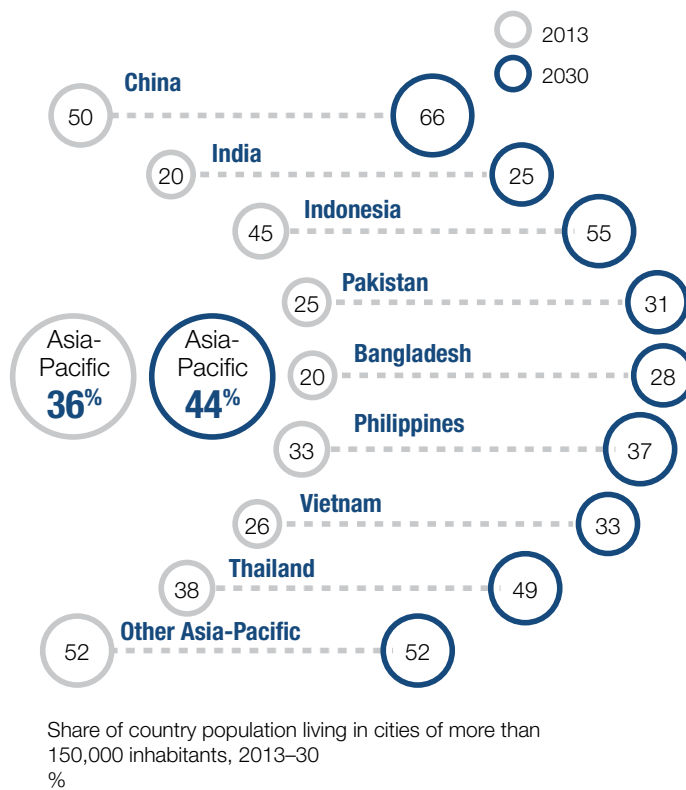


more than half of the world's urban population – could live in the burgeoning cities of Asia



More than **550 million** people

are expected to move to the cities in Asia Pacific by 2030 and bring the urban share to roughly 44 percent of the population and over 85 percent of GDP



\$7 trillion
In Southeast Asia, demand for infrastructure and real estate will require cumulative investment by 2030

Future engines of growth

Cities of population sizes ranging from 150,000 to ten million in the Asia-Pacific currently generate 17 percent of global GDP

account for up to **26%** of global growth by 2030

Asia-Pacific's consuming class

Asia-Pacific's consuming class will increase from 552 million households today to

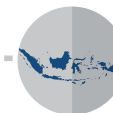
1.2 billion households by 2030



China
332 million households



India
173 million households



Indonesia
42 million households

No Ordinary Disruption: The Forces Reshaping Asia

Since the start of this century, the world has been changing radically—with the Asia-Pacific region at the heart of the transformation.¹ The collision of four powerful global forces means that we are now living in an era of near-constant discontinuity. All at once, emerging economies are rapidly industrializing, populations are aging, new technologies are coming into use, and a growing web of interconnectedness is transforming geopolitics, the competitive landscape, and sustainability concerns.

Not one of these disruptions, on its own, is a surprise. The unique challenge is that they are happening at the same time—and on a huge scale, creating second-, third-, and even fourth-order effects that are scarcely possible to anticipate. As they collide, they are producing change so significant that much of the management intuition that has served us in the past will become irrelevant. This is no ordinary disruption.

This report briefly describes these four global forces and their most pressing implications for operating successfully in 21st-century Asia.

Four global forces and their impact on Asia

Beyond Tokyo, Shanghai and Mumbai: The age of urbanization

Some historical perspective is helpful for understanding one of the most profound changes sweeping across the continent. Asia dominated the world economy for centuries. Between 1AD and 1700, China and India, the two most populous countries in the world, together accounted for 60 percent of global GDP.

This centuries-long equilibrium changed with the Industrial Revolution that took root in the United Kingdom before spreading across continental Europe and then the United States. When people moved from farming to work in a city, their output doubled, and this effect kept repeating as each generation came of age. Children grew up richer, better educated, and with higher aspirations than their parents. Industrialization shifted the weight of the world economy westward—and by the 1950s, the world's economic center of gravity ended up somewhere in the North Atlantic. India and China, which had once created 60 percent of the world's wealth, now only generated 10 percent.

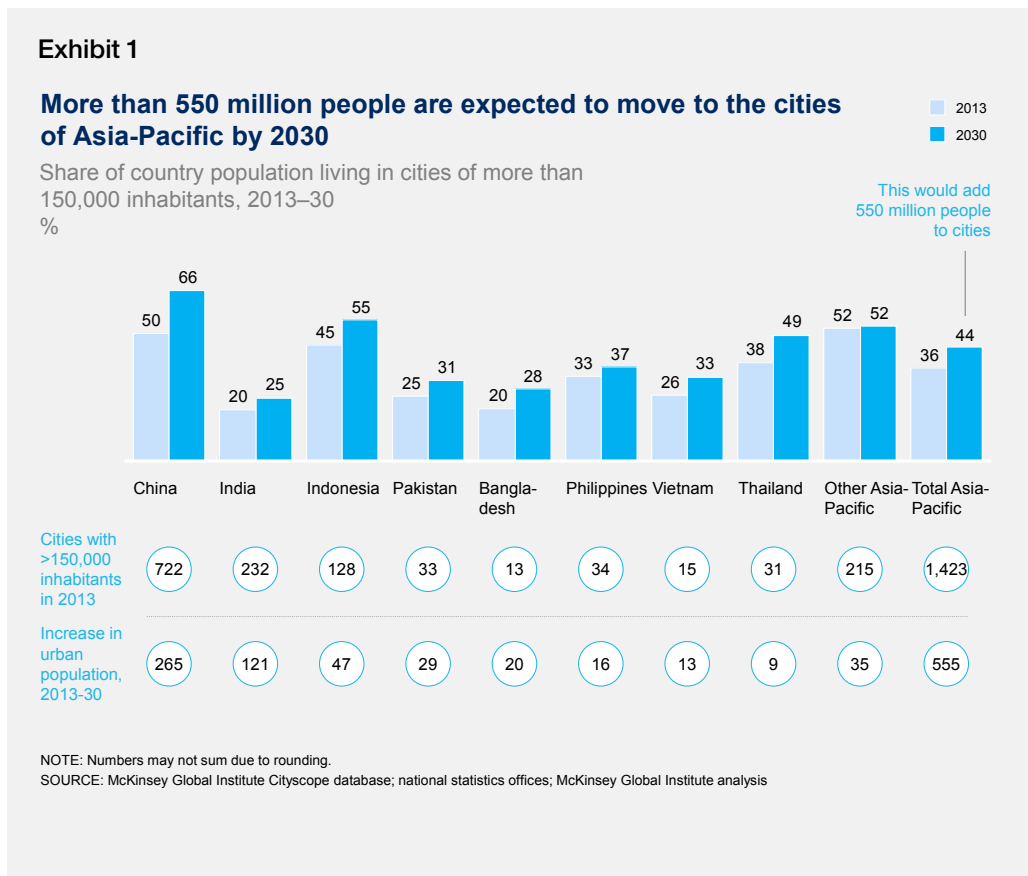
The economic pendulum began to swing back to the East in the second half of the 20th century as Japan developed new industrial muscle. But what we have observed over the past ten years has been quite spectacular. The world's economic center of gravity has shifted at an unprecedented pace with to the remarkable rise of China, India, and other emerging economies. Britain took 150 years to double output per person; as China and India industrialized, they have achieved this feat in only 12 and 16 years, respectively. This acceleration has happened roughly ten times faster than the one triggered by Britain's Industrial Revolution and on 300 times the scale—creating an economic force that is 3,000 times as big.

In 2025, as many as 2.5 billion people—more than half of the world's urban population—could live in Asia's burgeoning cities. This trend has enormous economic implications,

¹ In this report, we define Asia-Pacific to include East Asia (e.g., China, Japan, and South Korea), Southeast Asia (e.g., Singapore, Malaysia, and Indonesia), South Asia (e.g., India and Bangladesh), and Oceania (e.g., Australia, New Zealand, and Papua New Guinea).

since urbanization and productivity have moved in tandem for centuries. Today, the income of the average urban resident is roughly triple that of the average rural citizen of China and India. Across Asia-Pacific, just over one-third of the population lives in cities that account for roughly three-quarters of the region's GDP.

This expansion shows no sign of slowing. By 2030, we expect that these cities will attract more than an additional 555 million people and bring the urban share to roughly 44 percent of the population and over 85 percent of GDP (Exhibit 1).



Keeping pace with this growth and creating cities with a high quality of life will demand a rapid rise in infrastructure investment. In Southeast Asia alone, demand for infrastructure and real estate will require cumulative investment of \$7 trillion by 2030—an amount that is roughly double Germany's current GDP.²

Asia's growth has historically been dominated by megacities with populations of 10 million or more. But small and medium-sized cities with populations ranging from 150,000 to 10 million will be the region's future engines of growth. Cities of this size in the Asia-Pacific region currently generate 17 percent of global GDP, and they could account for up to 26 percent of global growth through 2030.

² *Southeast Asia at the crossroads: Three paths to prosperity*, McKinsey Global Institute, November 2014.

Urbanization will drive a huge expansion in the region's "consuming class"—that is, people with sufficient disposable income to make discretionary, as well as basic, purchases. We project that Asia-Pacific's consuming class will increase from 552 million households today to 1.2 billion households by 2030. Much of this growth will occur in China, where 332 million households are expected to join the consuming class, as well as in India (173 million households) and in Indonesia (42 million households). China is already the world's largest consumer in a number of product categories, including luxury goods. It buys 60 percent of the soybeans exported globally and recently became the largest global consumer of red wine, ahead of France and Italy.

This growth represents a tremendous opportunity for consumer-facing companies. But operating successfully in Asia-Pacific requires navigating a fragmented wholesale and retail environment. New players will need to manage distributors effectively and take a city-level, rather than a national view of markets. It will be critical to gather intelligence on smaller cities that many Western multinationals are likely to overlook. Consider the Chinese city of Tianjin. Although it is not on the radar of most Western companies, its GDP was around \$130 billion (roughly on par with Stockholm's) in 2012. By 2025, Tianjin will have an estimated GDP of \$625 billion—approximately matching all of Sweden.

The tip of the iceberg: Accelerating technological change

From the printing press to the steam engine and the Internet, technology has always been a powerful force for change, disrupting the way we do things and creating new economic value. The difference today is the sheer ubiquity of technology in our lives, the pace of new innovation, and the scale of adoption.

It took more than 50 years for half the homes in the United States to install a telephone; in a little more than five years, the same percentage acquired smart phones. It took radio 38 years to attract an audience of 50 million people; Facebook did so in 12 months and Twitter in nine. WeChat, the mobile text and voice messaging communication service developed by China's Tencent, added 400 million users in two years. Two to three billion more people could go online in the coming decade alone.

Processing power and connectivity are only part of the story. Digitization and big data are fuelling new business models, from e-commerce platforms like Alibaba to car-hailing apps like Uber. They are also levelling the playing field, enabling emerging-market companies and small businesses alike to challenge larger industry incumbents from advanced economies.

With the notable exceptions of Japan, Singapore, and South Korea, however, much of Asia is starting from a relatively low base in terms of its digital infrastructure, the adoption of digital technologies and innovation. But this is beginning to change. Between 2008 and 2013, the number of Internet users in Southeast Asia grew at a brisk 16 percent annually.³

McKinsey and MGI research has shown that access to the Internet is a powerful growth driver. A 2011 analysis of the economic impact of the Internet in 13 of the world's largest economies found that the Internet had generated 21 percent of GDP growth over the

³ *World development indicators*, World Bank, 2014.

previous five years.⁴ A subsequent 2012 report on 30 “aspiring countries” (including Malaysia, Taiwan, and Vietnam) found that Internet penetration had increased by 25 percent annually over the previous five years. The research found that the Internet, on average, generated 1.9 percent of GDP in these aspiring economies, still far below the average 3.4 percent share in developed economies--but with considerable scope for future growth.⁵

To capture the growth and productivity gains of the digital revolution, Asia-Pacific needs to put the necessary infrastructure in place. Most countries across the region have low penetration of landline phones and fixed-line broadband Internet. However, there is an opportunity to leapfrog these stages altogether in favor of the mobile Internet. Urban residents in most countries can already access a growing number of free wi-fi hot spots, although coverage and speeds are inconsistent. Many “mobile-first” markets across the region may take a very different path of Internet evolution than more developed regions have experienced. Already the region is producing an explosive proliferation of apps – SMART money and GCASH, for example, offer Filipinos banking services such as international remittances on their mobile devices.

The mobile Internet has applications for large and small businesses alike to increase workforce productivity. It also opens new avenues for extending the delivery of many services to underserved locations. It is a particularly useful vehicle for overcoming geographical barriers and allowing rural populations to access products and services that were beyond their reach until recently. Mobile banking and mobile payments are expanding financial inclusion, for example, and e-commerce is fueling consumption in regions with little brick-and-mortar retail. Similarly, telemedicine can expand access to health care in remote areas, and online coursework delivered on tablets or smartphones can improve the quality of education and teacher training across the region.

The continued proliferation of mobile Internet will set the stage for four other disruptive digital technologies: big data, the Internet of Things, automation of knowledge work, and cloud technology. These technologies have applications in almost every sector and are poised to create substantial economic growth and societal change in Asia during the next decade.⁶

Technology is likely to cause some disruption in the labor market as supply chains and assembly lines are automated, e-commerce supplants traditional stores, and next-generation construction methods are adopted. By 2030, some 6 to 8 percent of the total non-farm labor force in ASEAN alone—or 12 million to 17 million workers—could

⁴ These included the G8 nations and the BRIC countries, plus Sweden and South Korea. *Internet matters: The Net's sweeping impact on jobs, growth, and prosperity* McKinsey Global Institute, May 2011.

⁵ *Online and upcoming: The Internet's impact on aspiring countries*, McKinsey & Company High Tech Practice, January 2012.

⁶ *Disruptive technologies: Advances that will transform life, business, and the global economy*, McKinsey Global Institute, May 2013.

be displaced by technology.⁷ Governments will have to ensure that they have access to support and retraining. Education systems will need to emphasize the skills required in a more digital economy, focusing broadly on digital literacy and English proficiency while also cultivating enough deep analytical talent.

Additionally, technology could act as an enabler and also bring new solutions to address labor market concerns. Online talent platforms are marketplaces and tools that can connect individuals to the right work opportunities. Recent MGI research has suggested that these platforms could raise global GDP by up to \$2.7 trillion and increase employment by 72 million full-time-equivalent positions by 2025 by making job markets more efficient and transparent.⁸ By 2025, this shift could boost annual GDP by anywhere from 1.5 to 1.9 percent across most Asia-Pacific economies. The Philippines stands to reap the largest benefits, at 2.7 percent of GDP, while Indonesia could add 2.2 percent. These platforms could also increase employment by a combined total of more than 30 million jobs by 2025.

Getting old isn't what is used to be: Responding to the challenges of an aging world

The world is going greyer. Today there are three countries in which one-fifth of the population has passed age 65: Germany, Italy, and Japan. Thirteen countries will fit this profile by 2020, and 34 by 2030.⁹ For the first time in human history, the planet's population could plateau. In some countries, one-third of the workforce could retire in the next decade. Without a boost in productivity, a smaller workforce will constrain consumption and slow the overall rate of economic growth by up to 40 percent over the next 50 years.¹⁰

Aging has been evident in developed economies for some time. Japan and Russia have even seen their populations decline over the past few years. But China, Singapore, and Thailand are now beginning to experience this trend, which will eventually sweep across Latin America as well.

Many Asian countries are currently experiencing a combination of an aging workforce and sharply falling fertility rates, as more prosperous populations are choosing to have fewer children. In Thailand, for instance, the fertility rate has fallen from 5 in the 1970s to 1.4 today.

The ramifications are enormous. China's labor force peaked in 2012, and the nation has one of the world's highest labor-force participation rates at 70 percent. But as the population ages, the rate is expected to drop to 67 percent by 2030. The share of Chinese aged 55 or older is likely to rise from 26 percent to 43 percent over this period. While the demographics are still favorable—for now—in many other Asian countries, the economic momentum derived from rising numbers of young people entering the workforce will eventually fade.

⁷ This analysis focuses primarily on the impact of technologies including the mobile Internet, big data, the Internet of Things, the automation of knowledge work, and cloud technology. It also includes some non-digital technologies that could have a significant impact on jobs (for example, next-generation construction methods such as prefabrication).

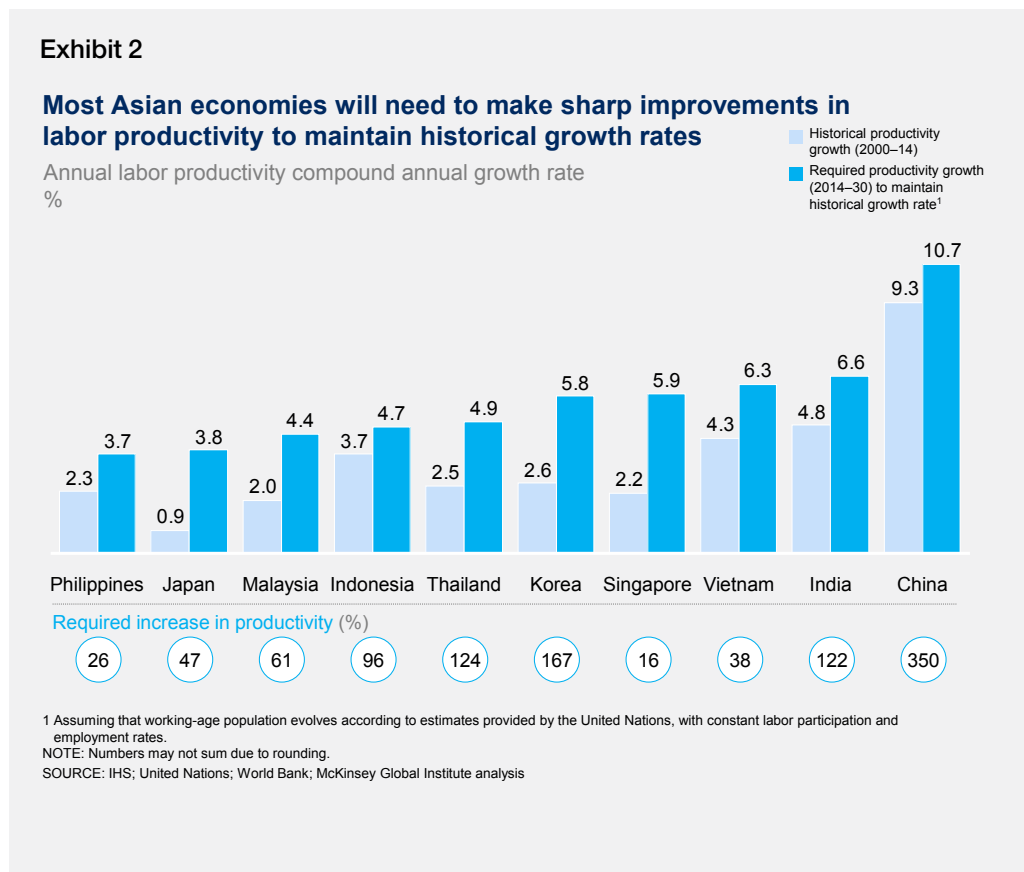
⁸ *A labor market that works: Connecting talent with opportunity in the digital age*, McKinsey Global Institute, June 2015.

⁹ Sarah O'Connor, "World will have 13 super-aged nations by 2020," *Financial Times*, August 6, 2014. Projections made in 2014 by Moody's.

¹⁰ *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

Boosting participation among women, young people, and older workers is one way to counteract the loss of the current demographic dividend. Companies cannot afford to lose the valuable skills and experience of senior workers in a sudden wave of retirement. They will need to develop progressive policies that increase the attractiveness of work for seniors, including initiatives to promote health and well-being, training and career development programs to maintain skills, and schemes that offer flexible hours and working from home. They might also consider on-site child care for women with young children.

But increasing participation through such means will not be enough to counteract the demographic drag.¹¹ The only realistic option is boosting productivity. Globally, even if productivity growth maintains the strong 1.8 percent annual rate of the past 50 years, the rate of GDP growth would decline by more than 40 percent over the next 50 years because of demographics. To fully compensate for slower employment growth, productivity growth would need to accelerate by 80 percent, to 3.3 percent a year.¹² Many Asian countries, including Japan, South Korea, Singapore, and Malaysia, will need to more than double their historical pace of productivity gains to sustain growth (Exhibit 2).



¹¹ See *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015. This research finds that boosting participation could double employment growth in 20 countries studied from 0.3 percent today to 0.6 percent. But even 0.6 percent employment growth would be only about one-third of growth observed in the past 50 years.

¹² Ibid.

Trade, people, finance, and data: Greater global connections

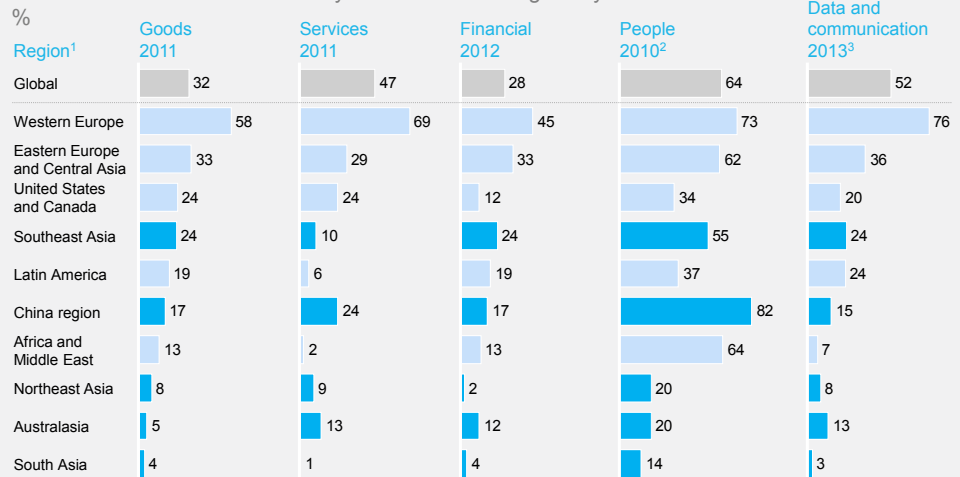
The world is increasingly connected through trade and through cross-border flows of capital, people, and information. In the past 30 years, global trade flows grew ten-fold, far outpacing world GDP growth. Instead of a series of lines connecting major trading hubs in Europe and North America, the global trading system has expanded into a complex, intricate, sprawling web. The links forged by technology have ushered in a dynamic--and volatile--new phase of globalization.

In 2012, the flows of goods, services, and finance across the world's borders totaled \$26 trillion, or 36 percent of global GDP. That is 1.5 times as large as they were in 1990, relative to GDP. If technology continues its rapid-fire advances and emerging economies continue to rise, these global flows could nearly triple by 2025. MGI research estimates that global flows have contributed between 15 percent and 25 percent of global growth each year. It also finds that the most interconnected countries reap 40 percent more economic benefits than the least connected ones. This is consistent with economic theory: interconnectedness fosters growth via productivity gains from specialization, scale, competition, and innovation.¹³

Exhibit 3

Asia-Pacific generally has less intraregional flows than in Europe or North America

Share of cross-border flow activity that occurs intraregionally



¹ Northeast Asia includes Japan and South Korea; Southeast Asia includes 21 countries such as Singapore, Indonesia, and the Philippines; South Asia includes 8 countries such as India, Pakistan and Bangladesh; China region includes China, Hong Kong, Taiwan and Macao.

² Measured by number of travelers.

³ Measured by internet bandwidth.

SOURCE: World Development Indicators, World Bank; Comtrade; IMF Balance of Payments; World Trade Organization; Telegeography; McKinsey Global Institute analysis

¹³ *Global flows in a digital age: How trade, finance, people and data connect the world economy*, McKinsey Global Institute, April 2014.

The Asia-Pacific region has an opportunity to translate this global phenomenon into regional growth. Today it ranks lower than Europe or North America in the MGI Connectedness Index, which measures five major types of global flows: good, services, finance, people, and data and communications (Exhibit 3). Germany, Hong Kong, and the United States are the three most connected countries. South Korea and Japan rank 20th and 21st, respectively, out of 85 countries despite lagging in immigration and cross-border Internet traffic. China ranks 25th overall (up from 30th position in 1995) with strong readings on exports and capital inflows, but limited people and data flows.

This suggests considerable opportunity to deepen and broaden international connections and thereby reap greater economic benefits. A number of major trade deals and economic agreements including the ASEAN Economic Community (AEC), the Regional Comprehensive Economic Partnership (RCEP), and the Trans-Pacific Partnership (TPP) have the potential to create deeper linkages between countries in Asia-Pacific and the rest of the world.

The four global forces will transform geopolitics, the competitive landscape, and the availability of resources

Three implications of these forces will be of particular importance to Asia: volatility both in geopolitics and macroeconomics, new patterns and intensity in the competitive landscape, and scarcity of resources.

A new age of macroeconomic and geopolitical volatility

An increasingly interconnected and rapidly-changing world means that leaders have to rethink their responses not only to its opportunities but also to its volatility. Disruptions can travel around the world much faster than ever before. In a recent MGI survey, global executives singled out macroeconomic and geopolitical instability as the biggest risks to their growth (Exhibit 4). Issues ranging from the disputes in the South China Sea to volatility in economic growth in several Asia-Pacific countries are presenting a set of new potential challenges for businesses operating across the region.

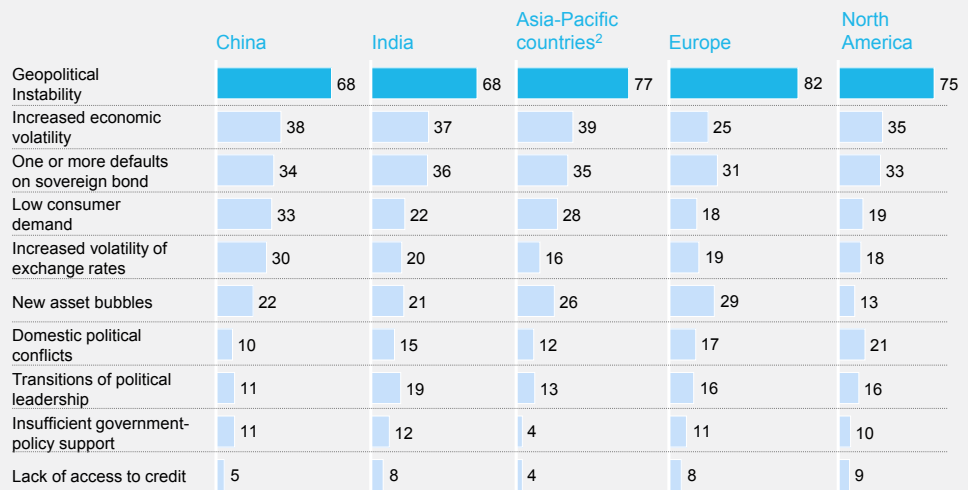
Questions to ask yourself to stay ahead:

- Can you confidently name three to five geopolitical and economic events that pose the biggest risks or opportunities to your business? Are they different than one year or three years ago?
- Are you clear about the first-, second-, and even third-order impacts that these geopolitical and economic forces could have on your business?
- Is your management team truly aligned on an action plan to respond to these events?
- Have you identified leading indicators to monitor trigger points and agreed at which points you will reassess your strategy?
- How confident are you that your regular planning processes include a realistic assessment of the geopolitical and economic environment?

Exhibit 4

Executives operating in Asia consider geopolitical instability to be the biggest potential risk to global economic growth

What risks to economic growth will be present in the global economy over the next 12 months?¹



¹ Represents the % of respondents that voted for a particular risk.

² Includes Australia, Hong Kong, Japan, New Zealand, Philippines, Singapore, South Korea, Taiwan.
Total respondents = 2,283 (multiple responses)

SOURCE: McKinsey's Global Economics Intelligence analysis; McKinsey Quarterly Global Executive Survey Results March 2015

The new competitive landscape

The major forces disrupting the world economy are combining with global corporate competition. The rise of emerging markets is creating a new wave of powerful companies, and, as global interconnections broaden and expand, these companies are going global on the back of strong positions in their home markets. Couple this with new digital technologies that can level the playing field between established industry and startups from around the world, and you have a completely different competitive environment.

Today, most emerging-market companies have yet to develop the kind of global footprint that multinationals from advanced economies have built. In 2010, advanced economies accounted for two-thirds of global GDP and almost three-quarters of large companies (defined as having sales of more than \$1 billion).

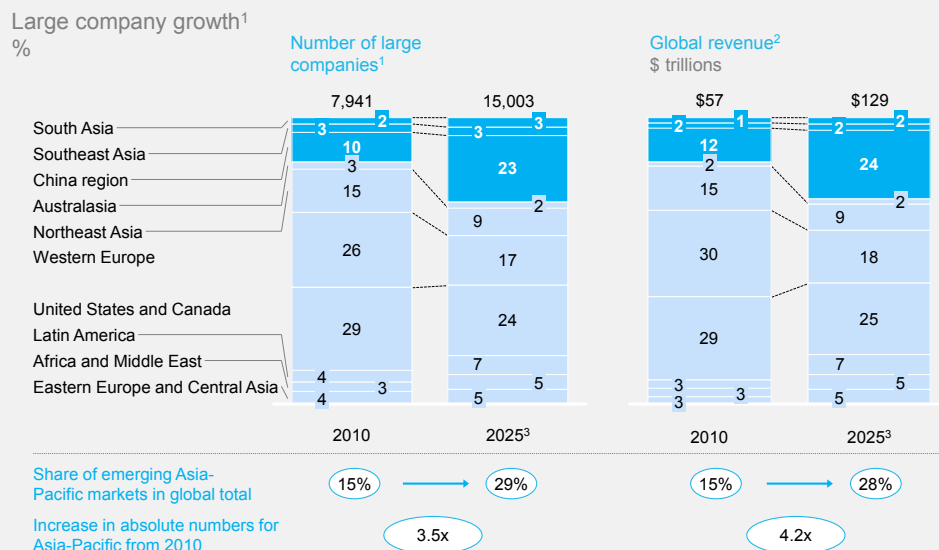
But the next 10 to 15 years are likely to topple the long-established dominance of Western multinationals. Based on an analysis of GDP forecasts and historical ratios of company prevalence to GDP, MGI expects an additional 7,000 companies to cross the \$1 billion revenue threshold by 2025--and a clear majority of the newcomers will likely be from emerging markets in Asia-Pacific. The number of large companies based in emerging Asia-Pacific is set to more than triple, and their share is expected to increase from 15 percent of the global total today to almost 30 percent by 2025 (Exhibit 5).¹⁴

¹⁴ *Urban world: The shifting global business landscape*, McKinsey Global Institute, October 2013.

Exhibit 5

By 2025, the number of large companies coming from emerging markets in Asia will more than triple

Emerging regions in Asia-Pacific



1 Companies with over \$1 billion revenue.
 2 Global revenue of large companies mapped to the global headquarters location.
 3 Projections for 2025 are based on city GDP forecasts.
 SOURCE: MGI CompanyScope; McKinsey Global Institute analysis

This new breed of corporate competitor is likely to be formidable. The home markets that incubated them are more diverse than the world's mature markets, and these companies have learned to compete for customers at very different income levels. Because they have had to adapt to constraints in physical and social infrastructure and to differing regulatory environments and enforcement practices, many of them have high levels of ingenuity. Emerging-market players tend to have bolder growth strategies than many businesses from developed economies. An analysis of 340 companies showed that emerging-market companies had a 50 percent lower dividend payout rate and 60 percent higher annual growth in fixed assets.¹⁵

Emerging-market companies can also be very large compared with their competitors in the United States and Western Europe, and this kind of scale could provide a competitive advantage. Bharti Airtel, the largest telecom company in India, has more than 300 million customers around the world compared with some 110 million for Verizon, the biggest carrier in the United States. Today, Chinese multinational Lenovo is the second-largest personal computer seller in the world. India's Tata Corporation is now the largest private-sector employer in the United Kingdom.

Xiaomi, a Chinese smartphone maker launched in 2010, is a classic example of a company thriving due to the rapid growth in its domestic market. Xiaomi has built a larger share of

¹⁵ Richard Dobbs, James Manyika, and Jonathan Woetzel, *No ordinary disruption: The four global forces breaking all the trends*, Public Affairs, 2015.

value of the Chinese market than Apple maintains in the United States, and it did so in less than three years. Chinese smartphone sales are growing 108 percent a year, twice the global growth rate, and Xiaomi now accounts for one-third of global sales of smartphones.¹⁶ There is every reason to anticipate that brands built in emerging economies could become household names across the world.

In parallel, digital technologies and new online platforms are radically changing the balance of power between large, established companies, and new, more nimble players that are unencumbered by legacy systems. Yet McKinsey has found that many Asia-Pacific companies are not well prepared to capitalize on this digital revolution. A McKinsey survey of executives in the ASEAN region found that only about a quarter of respondents listed disruptive technologies as a top management priority.¹⁷

To better understand the readiness of companies to compete in an age of disruptive technologies, McKinsey has developed a “Digital Quotient” assessment highlighting significant differences between digital leaders and average firms in culture, strategy, capabilities, and organization.¹⁸ For example, 64 percent of digital leaders have fully integrated digital initiatives in their strategic planning process, versus only 33 percent for the average organization. Moreover, while strong skills are crucial, companies can to some degree compensate for missing ones by infusing their traditional cultures with agility and vision. Fifty-seven percent of digital leaders have a high tolerance for bold initiatives, versus just 25 percent of average organizations.¹⁹ There is more than one way to build a winning culture in the new digital economy, but what really matters are the behaviors of the management team.²⁰

Questions to ask yourself to stay ahead:

- Can you name three to five technologies that pose the biggest risks or opportunities to your business? Are they different than one year or three years ago?
- Have you fully integrated digital initiatives into your strategic planning process?
- Does your company culture allow your team to undertake bold technology initiatives?
- Which emerging market companies are set to change your industry landscape? Are you prepared?

Opportunities and risks in a resource-constrained world

The rise of cities and the urban consumer class in the Asia-Pacific region is accelerating

¹⁶ Ibid.

¹⁷ *Southeast Asia at the crossroads: Three paths to prosperity*, McKinsey Global Institute, November 2014.

¹⁸ McKinsey’s Digital Quotient (DQ™) tool is a benchmarking capability that assesses an organization’s digital strengths and weaknesses. Based on extensive research, DQ has identified the 18 management practices across four areas—culture, strategy, capabilities, and organization—that have the greatest impact on the future financial performance of a company undergoing digital transformation.

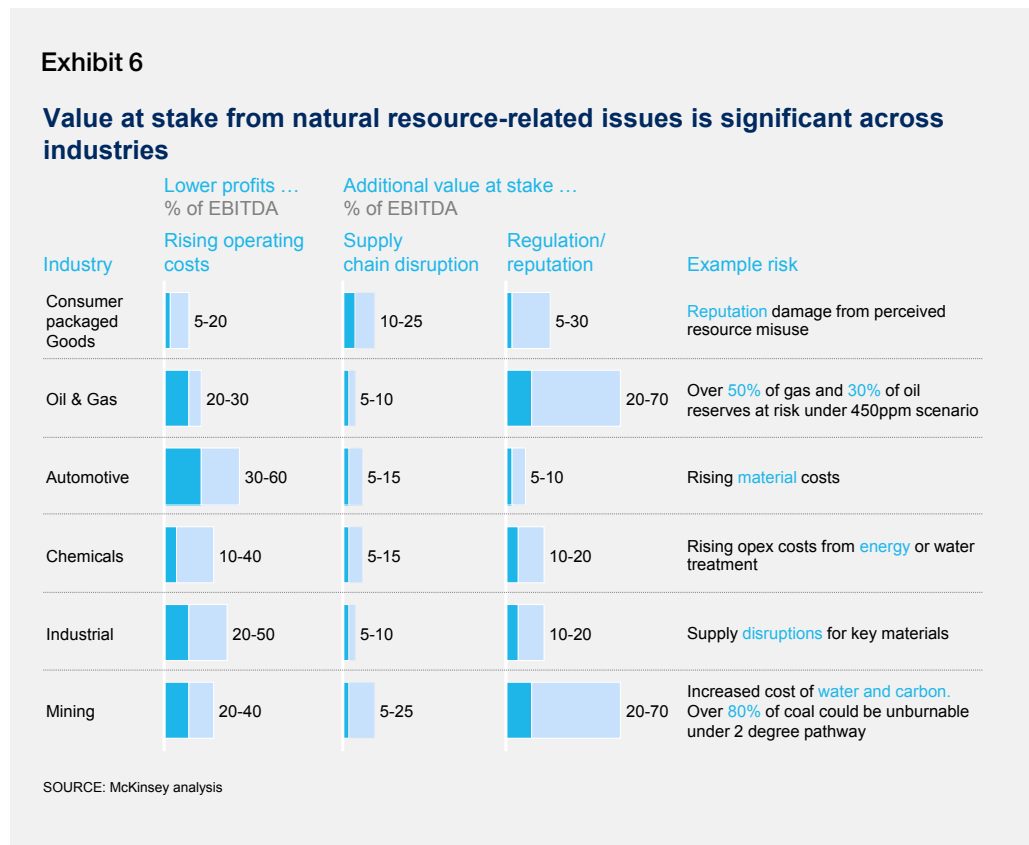
¹⁹ McKinsey Digital Quotient Survey results, July 2015.

²⁰ “Raising your Digital Quotient,” *McKinsey Quarterly*, June 2015.

growth of the world economy, but this increased consumption will undoubtedly impose new pressures on already-scarce supplies of resources.

Asia is particularly exposed to the threat of climate change, the pressures of groundwater depletion, heightened demand for resources, and unsustainable management of fisheries. The concentration of people in low-lying urban areas could intensify the impact of flooding from rising sea levels and intensifying storms. “Slash and burn” land-clearing practices in some Asian countries carry air pollution to surrounding countries, blanketing cities with a haze that poses a recurring public-health hazard.

These issues matter not only for society, but are becoming a core risk—and an opportunity—for businesses operating in Asia. As a result, executives need to consider three risk factors: operating costs, the resilience of supply chains, and regulatory issues (Exhibit 6).



- Operating costs.** Resource prices have recently been declining, but on average, the prices of commodities including energy, materials, and agricultural products are still more than double the levels they were at the turn of the century. As global demand for resources grow, the marginal source of supply is likely to be more difficult and expensive to access. Ultra-deep-water wells and oil sands are two cases in point. For companies that rely heavily on resource inputs, this creates significant risks at a time when margins are under pressure and customers are price-sensitive. During the past three global economic recoveries, prices in the consumer packaged goods sector grew at an average of more than 11 percent while the price of raw materials increased by 17 percent—a gap that suggests that these companies found it hard to pass the rising

costs of raw materials onto consumers in full. Price levels are not the only issue; we expect increased volatility as well. Companies need to be prepared for periods when the prices of many of their inputs could spike at the same time. The most forward-thinking companies are likely to deploy a range of tools beyond traditional hedging techniques, including, for instance, longer-term contractual arrangements and closed-loop production systems.²¹

- **Resilience of supply chains.** Climate change is likely to put pressure on the supply chains associated with many key resources. Changes in weather patterns and rainfall could potentially depress agricultural yields by more than 10 percent in some areas with fast-growing populations over the next 20 years. Water shortages could also become an important constraint on production in many sectors. For example, 32 percent of copper mines and 39 percent of iron ore mines are in areas with moderate to high water scarcity. Companies need to develop a sophisticated understanding of their exposure to different resource risks, including their supply-chain dependencies. For example, steel is becoming increasingly important in the oil and gas sector because of the shift to offshore deepwater drilling and smaller well sizes. Steel production depends on the supply of iron ore, which relies heavily in turn on the water used in the production process. In addition, businesses need to look at every resource input they—and their customers—use, and then look for higher performance, lower cost, or materials that are less scarce. GE and Apple have been through the periodic table, element by element, and assessed which elements pose the biggest risks in terms of supply and regulation, developing substitutes for each risky element.
- **Regulatory risk.** If resources become scarce due to a combination of rising demand and constraints on supply, companies need to be prepared to deal with rising regulatory uncertainty. Trade disputes are already on the rise as governments compete for the resources they need. One example is the 2012 complaint to the World Trade Organization by the European Union, Japan, and the United States about China's imposition of restrictions on exports of rare-earth minerals. Then there are broader risks such as assets 'stranded' due to climate-change regulation and the impact of pricing of resources. For example, pricing water to reflect its "shadow cost" (the economic value of the water if put to its best alternative use) and imposing a price of \$30 per ton of carbon emissions could increase costs for some mining companies by up to 16 percent.²²

Could technology ride to the rescue of a stressed resource landscape as it has done in the past—as when the 1970s oil shocks triggered an energy-efficiency revolution? The answer, in all likelihood, is yes. Opportunities exist to transform the productivity of energy, water, land, and materials. MGI estimates these are sufficient to reduce resource demand by up to 30 percent in 2030 and generate more than \$3 trillion in savings.²³ All of these strategies involve known technologies that could be scaled up significantly, creating a resource revolution.

²¹ "Closed loop" production is basically a production process in which post-consumer waste is collected, recycled, and used to make new products.

²² *Resource Revolution: Meeting the world's energy, materials, food, and water needs*, McKinsey Global Institute and the McKinsey Sustainability & Resource Productivity Practice, November 2011.

²³ *Ibid.*

Many of these opportunities will give rise to disruptive new business models. One large new opportunity involves optimizing the efficiency of resource usage. Komatsu, the world's second-largest manufacturer of building equipment, has achieved this by creating a market that lets customers rent to and from each other. The United States Air Force, the single largest consumer of gasoline in the world, has found ways for jets to fly in convoys, much as geese fly in a V-formation, to save on energy. These convoys save 20 percent on fuel.²⁴

Questions to ask yourself to stay ahead:

- What three to five natural resource-related issues pose the biggest risks or opportunities to your business?
- Are you clear about the first-, second-, and even third-order impacts that resource constraints could have on your business?
- Can your company adopt circular economy principles, sharing models, or digitization to become more resource efficient?

Asia will be the world's primary growth engine in the 21st century. But it will be operating in a much changed—and rapidly changing—world. If executives and policy makers look at Asia through a rear-view mirror and act as if all the old certainties and assumptions apply, or simply fail to grasp the radical nature of the change currently unfolding, they will quickly find that their strategies are misaligned. Today they need to look at the world through a fresh lens. A wave of disruption is upon us, and with the right investment and mindset, leaders in the Asia-Pacific region have a chance to turn it into a wave of opportunity.

²⁴ Stefan Heck and Matt Rogers, *Resource Revolution: Capturing the biggest business opportunity in 100 years*, Melcher Media, April 2014.

No Ordinary Disruption: The forces reshaping Asia
September 2015
Copyright © McKinsey & Company
Designed by ASO New Media
www.mckinsey.com

 @McKinseyASEAN