

Voice of Asia

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Our *Voice of Asia* series brings to life the challenges and opportunities facing the region today and tomorrow. *Voice of Asia* is the result of significant collaboration across the Deloitte Asia Pacific and Global Network.

COVER IMAGE BY: JASON SOLO

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Demographics fuelling Asia's shifting balance of power

Demography—the fundamental driver of all economies—is shifting the balance of power in Asia. India's young economy is on the rise, Japan's big budget deficits are being worsened by ageing, and both China and Australia are getting older at a speed that will re-fashion their business landscape.

Two centuries ago Napoléon Bonaparte noted,
"China is a sleeping giant . . . when she wakes, she will move the world."

He was right. But now two other sleeping giants are stirring.

Ageing Tigers, hidden dragons

India is the first awakening giant. Its rise as an economic superpower is about to be felt in earnest. Our first article in this issue—*Ageing Tigers, hidden dragons*—shows that India will account for more than half of the increase in Asia’s workforce in the coming decade.

The consequences for businesses are vast: An Indian summer is coming, and it will last half a century. And while India’s rise might have the largest impact on the world, it isn’t the only economy set to surge, with Indonesia and the Philippines on track to enjoy similar trends. Both of these nations have a relatively young population, mainly because they still have birth rates in excess of the global average. This makes demographics a tailwind rather than a headwind for their growth across at least the next 20 years.

It’s time to wake up and see the opportunities

The second awakening giant is the accelerating pace of retirements across much of Asia. Hong Kong is set to be hit harder than anywhere else in Asia as its workforce ages fast, but the likes of China, Vietnam, and Australia will all see their economies witness slower growth due to their ageing population—with Thailand and New Zealand not far behind.

The world is beginning to wake up to the emerging challenge of ageing markets. Yet in many cases businesses simplistically assume that the glory days of market growth have passed. It may well be challenging, but that demographic destination isn’t absolute. Indeed, it isn’t entirely new. Japan, which led Asia’s first wave of demographically powered economic growth, is already grappling with a rapidly ageing population.

The second article in this edition—*Asia’s growth on the cusp of change, driven by demographics*—asks

how businesses on the right side of those changes can maximise the potential benefits. Our analysis shows that even for those nations on the wrong side of demographics, ageing will produce some very large winners at the industry level.

That last point isn’t well understood. Ageing may be a challenge to some economies, but it will also present some incredible business opportunities within those same nations. Ageing populations will generate a “growth cluster” of vibrant businesses at the heart of the collision of megatrends such as rising life expectancies, increasing relative health care costs, and tightening public sector health budgets.

The scale is simply staggering, and so are the associated business opportunities.

Our analysis shows that those in Asia aged over 65 will be the largest and fastest growing market in the world; they are set to grow in number from 365 million in 2017 to more than 520 million in 2027.

There are already more over-65s in Asia than there are people in the United States. The number of over-65s in Asia will exceed one billion just after the middle of this century. In fact, by 2042—in just a quarter of a century—there will be more over-65s in Asia than the populations of the Eurozone and North America combined.

Yes, you read that right: More people aged over 65 in Asia than the total combined populations of North America and the Eurozone, and in just 25 years from now.

This will provide a target-rich environment of business opportunities, and these opportunities will be concentrated in nations at the forefront of ageing in Asia.

Country insights illuminated

When it comes to demographics, it's also important to take a closer *country-specific* look to uncover shared trends and collective insights across the Asia-Pacific landscape.

In article three of this edition—*Demographics in the spotlight, by country*—we asked our national experts to look into three key questions to bring *their own voice* to the topic of demographics. The questions focus on opportunities for industries, the effect on disenfranchised communities and the role of digital technology in driving changes across the workforce.

In turn, that connects this edition of *Voice of Asia* (which concentrates on people power) with the last edition, which focused on digital developments across Asia Pacific. While the last edition assessed the effectiveness of workers, this one concentrates on worker numbers.

This edition of *Voice of Asia* also highlights just how much of an issue the ageing of the global population is for this region. By 2027, Asia is likely to see 160 million people added to the ranks of its over-65s. Yet that same figure for the Eurozone and North America combined is expected to be “just” 33 million extra.

That's not, by the way, to underplay the effect of ageing in the Western world, but to put it in context—Asia is enormous, and it is set to age faster than the West, which means the business opportunities and policy challenges of ageing now loom largest in Asia.

So what can countries do right now to get ahead of this?

It isn't clear whether Asia will rise to these challenges as fast or as fully as it might.

For Asia's ageing Tigers, their growth now lies on the wrong side of demographic destiny, and will now rest on other growth drivers, including productivity-enhancing reforms, an openness to migrants, and a drive towards greater participation among women.

Unlocking people power among female workers:

No matter which side of this decade's demographic divide a nation stands on, it can boost its markets best if it can make the most of its potential people power. That's true, for example, of Japan, Malaysia, and India, where participation rates of women in the workforce are less than those of men.

Welcoming migrants: It makes sense for nations most at risk of a demographic-driven growth slowdown to be among those most open to immigration. Yet, 2017 is a year in which opposition to immigration is garnering votes all over the globe. Migration can help ward off ageing at the national level, but the critical issue is whether policy—and property prices—will allow this immigration to happen on a sufficient scale.

To be clear, bigger isn't better. But accepting young, high-skilled migrants has the potential to boost all three of the building blocks of economic potential at the same time: population, participation and productivity.

So a key test of Asia's political systems looms: Those nations that are able to politically sustain solid levels of net immigration, especially of higher skilled workers, will grow faster than those that can't achieve that—and the same will be true of nations that welcome women workers as much as they welcome men.

Ageing may be a challenge to some economies, but it will also present some incredible business opportunities within those same nations.

What can businesses do right now to embrace the coming demographic opportunities?

Risk and return usually move in opposite directions—the better the returns on offer, the greater the risks.

But demographics is a different story. In a world of uncertainty, the most reliable forecasts of the future are those focused on how many people there will be in different parts of the globe.

It has long been established that older customers spend differently than younger ones, on everything from recreation to health care. This says that some of the best bets businesses can now make involve embracing the customer trends Asia's sleeping demographic giants will send their way, repositioning their business models to take advantage of the "growth clusters" emerging across a range of sectors.



Ageing Tigers, hidden dragons

Asia as we know it will rapidly change shape over the coming decade, with demographics set to drive huge changes in growth momentum in our region. Asia's third wave of growth is set to begin, stirring hidden dragons, while ageing Tigers must face the challenges and opportunities of an older population.

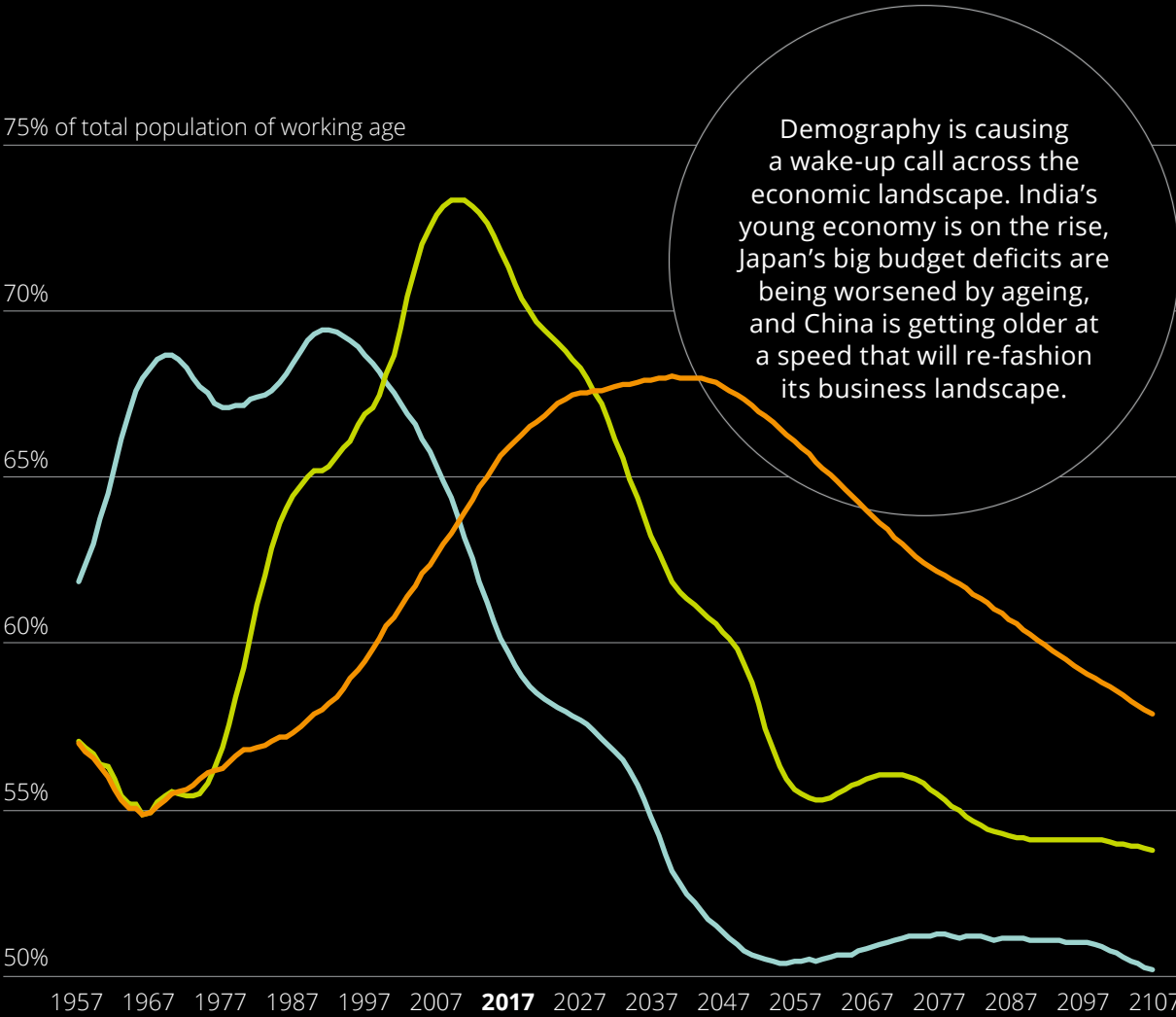
The first wave of growth in Asia saw Japan's relative "people power" peak in the 1990s, while China's people power sprinted for four decades and generated a second great wave of growth in Asia, before peaking at the start of the current decade.

That second wave rewired the world economy more significantly than any other event since the industrial revolution.

Now the third great wave of Asia's growth is beginning, one that will cement us as the centre of the world's economy and its growth.

Figure 1.1 shows the rise and fall of the working age population (those aged 15-64) as a share of the total population of Asia's three biggest economies.¹ This simple ratio of workers (productive potential) to total population (demand) is marvellously predictive.

Figure 1.1. Working age as a percentage of total population—Japan, China, India



Japan China India

Source: United Nations, 2017
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As these two waves begin to recede, the figure shows they will be replaced by Asia's third wave, with India's contribution to global growth increasingly set to rise to the fore, well supported by the likes of Indonesia and the Philippines.

The demographic dividend

Asia's tides are turning. And these massive demographic tides in countries such as India, the Philippines, and Indonesia will drive more growth than generally realised.

The great waves shown in figure 1.1 essentially map the ageing process. But these waves aren't just a cause of economic change; they're also a symptom.

Nations get older for a reason—ageing happens because birth and death rates both fall as nations get richer:

- When people are poor, having more children is both insurance against the child mortality rates seen in poorer places, and also insurance for aged care—that there'll be someone to take care of you when you can't take care of yourself.
- As nations get richer, different things happen, including greater spending on training and education, and a fall in birth rates, which creates the opportunity for more women to work, as well as a rise in life expectancy that encourages people to work for longer.

They are the additional accelerators of growth for the countries on the rising side of the wave but they could also be the decelerators of growth for the countries on the declining side of the wave. These factors, as well as different speeds of getting richer, aren't captured in figure 1.1—they alter the size of the labour force (the share of the population that would take a job given the opportunity) differently than the change in working age population.

But they do travel alongside those background demographic trends. And, if given the chance, these additional factors typically add to each country's productive capacity.

That says there's a potential virtuous circle: Improving demographics are usually accompanied by (1) increased productivity thanks to a better-trained workforce and, in the case of some countries, that is accompanied by (2) increased participation within the working age population as more women work, and (3) growing workforce participation outside of the traditional 15 to 64 age group as retirement ages start to rise.

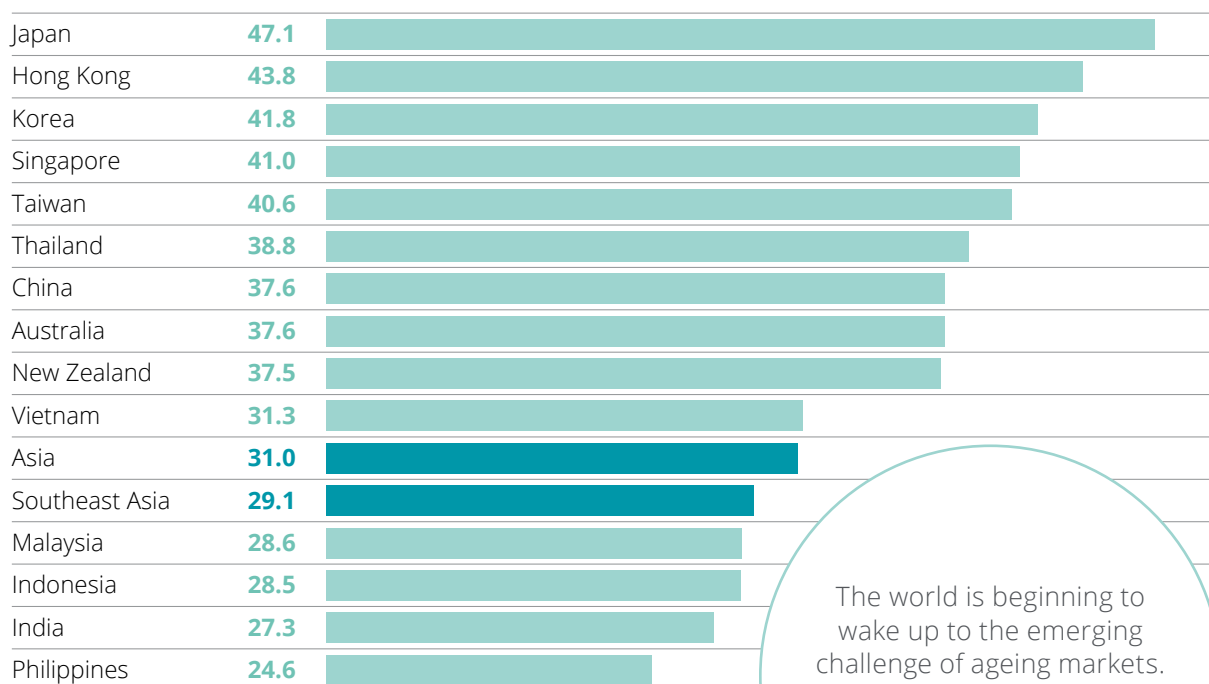
(Some of these trends will, of course, be partially offset by other factors. For example, while education boosts productivity, it will often lower workforce participation as young people delay their entry into the market as they undertake higher education.)

So, for example, the lift in Japan's relative people power through the 1950s and 1960s was occurring mainly thanks to the first factor. In Japan, the second and third factors came later, being the focus of policy amid declining demographics in order to mitigate the damages of a shrinking labour force.

In China's case, we can also add a policy factor to these demographic impacts, with its one-child policy contributing to the speed of the initial wave of China's relative people power versus that in other countries.

Equally, India's contribution to the economies of Asia and the globe won't simply be because of worker numbers or population alone but also because those gains will go hand in hand with increased productivity and participation, which have been realised by improving demographics.

Figure 1.2. Median age in 2017 (years)



Source: Deloitte, based on United Nations, 2017
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The world is beginning to wake up to the emerging challenge of ageing markets. It may well be challenging, but that demographic destination isn't absolute.

Japan, land of the rising age— and disappearing worker

In the early 1990s, Japan surpassed Sweden as the oldest country in the world. In the quarter century since, its median age has leapt to over 47 years (see figure 1.2). The average resident in Japan today is 25 years older than in 1950.

This increase is to some extent driven by increasing life expectancy—Japan’s life expectancy is among the highest in the world. However, the average woman in Japan is having only 1.4 children in her lifetime—compared with 2.5 around the world—well below the 2.1 required to maintain population levels without assistance from migration.

The low birth rate (combined with low migration levels) is now cutting into the supply of potential workers in Japan. That measure—the population aged 15 to 64—peaked in the 1990s at around 90 million. It

has already fallen to close to 75 million, and the latest United Nations projections suggest it will likely halve from its peak over the course of this century. This sort of decline is viewed by some as the real “population bomb”² of the 21st century, dragging down rates of economic growth through ageing-driven recessions and by the increase in the number of retirees relative to the number of workers.

Japan’s rather unique immigration policy only adds to these effects. While many European and Asian countries facing ageing populations have adjusted their immigration policies to mitigate the problem, Japan has kept its door strictly closed to foreign workers and immigrants. One observation is that while this policy does not help ease labour shortages, it may still contribute to enhancing the cohesion of society (which helped to overcome national crises such as Japan’s March 2011 triple disasters of earthquake, tsunami and a nuclear meltdown). With many countries facing

increasing social divides and unrest now reconsidering their open immigration policies, how Japan keeps or changes this unique policy may be a lesson for others.

The resulting ageing and declining population have been causing many problems for Japan, one of which is its declining potential growth rate. Japan's potential growth rate has been constantly declining, from 3-4 percent during the 1980s to less than 1 percent a year from now, mainly owing to declining growth in worker numbers.

Another problem has been the worsening government budget deficit, caused in large part by rapidly rising spending on the growing number of retirees. Japan's public debt is now more than double its annual national income—by far the highest in the world. As its social security system was designed assuming stable funding of the older generation by the younger generation, an ageing population risks the collapse of the system (without reducing the benefits for the old or increasing the contributions by the young). Japan's ageing population also limits the potential for the political system to fix the problem, as the dominant older generation's vote makes it quite difficult to transform the system.

Japan might be fortunate in that many of the more negative impacts of population ageing—notably, increasing health care expenditure—are lessened by the relatively healthy state of the populace (the Japanese take less medication than almost any other rich nation), but they are of course unable to avoid all of the issues around population ageing.

One rather unexpected problem of Japan's changing demographics was that the great growth of the 1980s—and accompanying financial bubbles in its real estate and stockmarkets—misled companies, banks, and the government into thinking that the pace of growth would continue. This occurred even though demographic change is one of the easier events to forecast and prepare for. Still, the inertia of people's mind-set, which is often accustomed to growing population over generations, makes it difficult for them to accept the new reality. In practice the demographic cycle turned, meaning that many investments failed to meet their potential, thereby adding to non-performing loans and deflationary pressures. This result is another lesson that other countries would be wise to take note of.

Ageing Tigers

What Japan has in averages, China trumps in scale. Indeed China probably already has more than 150 million people aged over 65, and the echoes of its one-child policy mean the next generation will be much smaller than would otherwise have been the case.

Much of the rest of Asia's story will mirror that of China. That's true, for example, of Thailand, Hong Kong, Taiwan, Singapore, and Korea. Like Japan, many of these countries have relatively high life expectancies and low rates of child birth (according to some measures,³ Singapore, Hong Kong, and Korea have three of the five lowest rates in the world).

This group of five will face similar demographic-driven challenges, and opportunities, to those of China. In fact, as [figure 1.3](#) shows, they are almost indistinguishable in the tides of their demographic rise and fall.

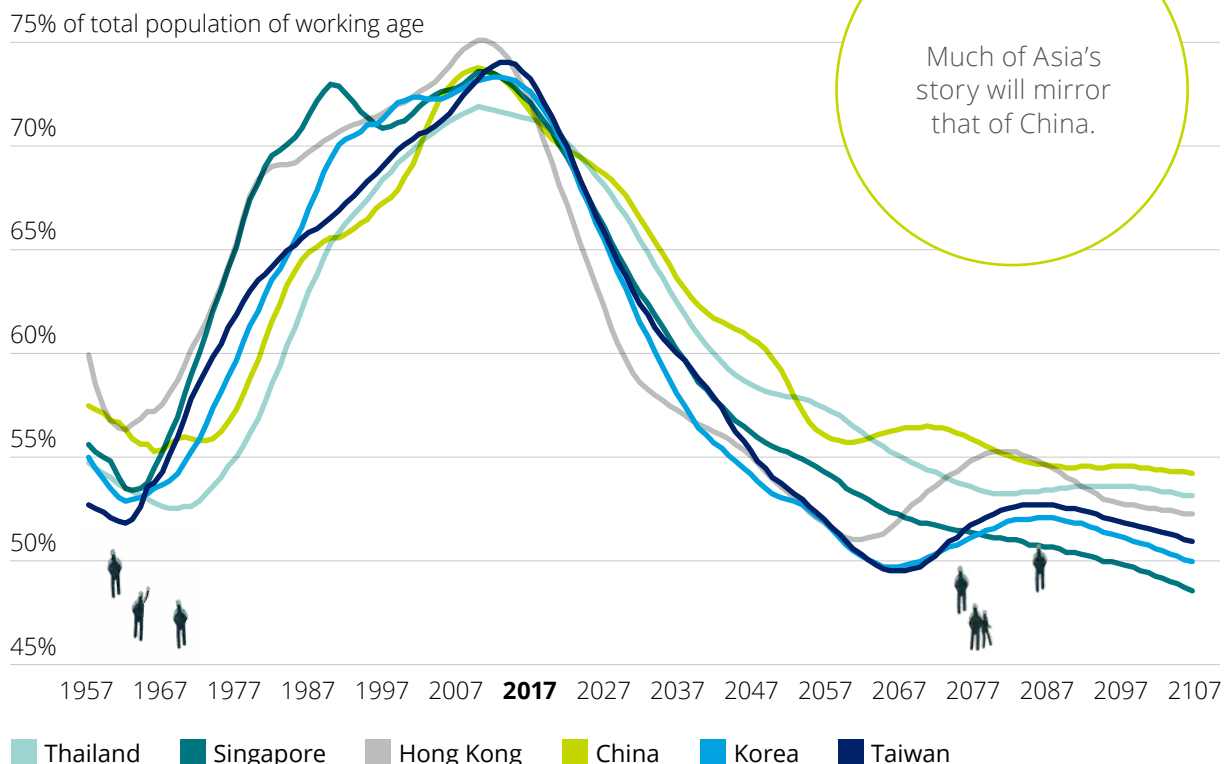
That may seem strange, given that average incomes in China are a fraction of those of developed Asia. But that's because China's demographics, like much of the rest of the China story in recent decades, have been sprinting.

It usually takes longer for nations to get older, but China's one-child policy accelerated that timetable. One of the key reasons why [figure 1.1](#) saw China's working population share rise higher than other countries was the lack of children born through the 1980s and 1990s, but that same lack of children (and the inability of the government to lift birth rates in recent years) will see a rapid reversal of those trends.

Countries typically get both rich and old in tandem, at least in part because ageing is a symptom of incomes. However, the acceleration of this process means China will get old before it fully succeeds in getting rich. This is yet to seep into the consciousness of most of the world, which still regards China simply as a country with an extremely large population.

Yet, the most recent update to the long-term population outlook for China has seen a sharp downward revision of the long-term size of its workforce. Despite moves to unwind the one-child policy, younger people do not need to be prevented from having more than one child; they may require significant encouragement to have any children at all.

Figure 1.3. Working age population as a percentage of total population—Thailand, Hong Kong, Taiwan, Singapore, Korea, and China



Source: United Nations, 2017
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The worst-case scenario would be if China followed Japan's path, with declining growth, a worsening government budget deficit, and pressure on its property and financial markets.

If so, the global implications would be massive, given that China's population is ten times that of Japan, and given that China doesn't yet have a sound social security system. And there's a chance that ageing, particularly in China, could lead to higher inflation rates and higher interest rates around the world.⁴

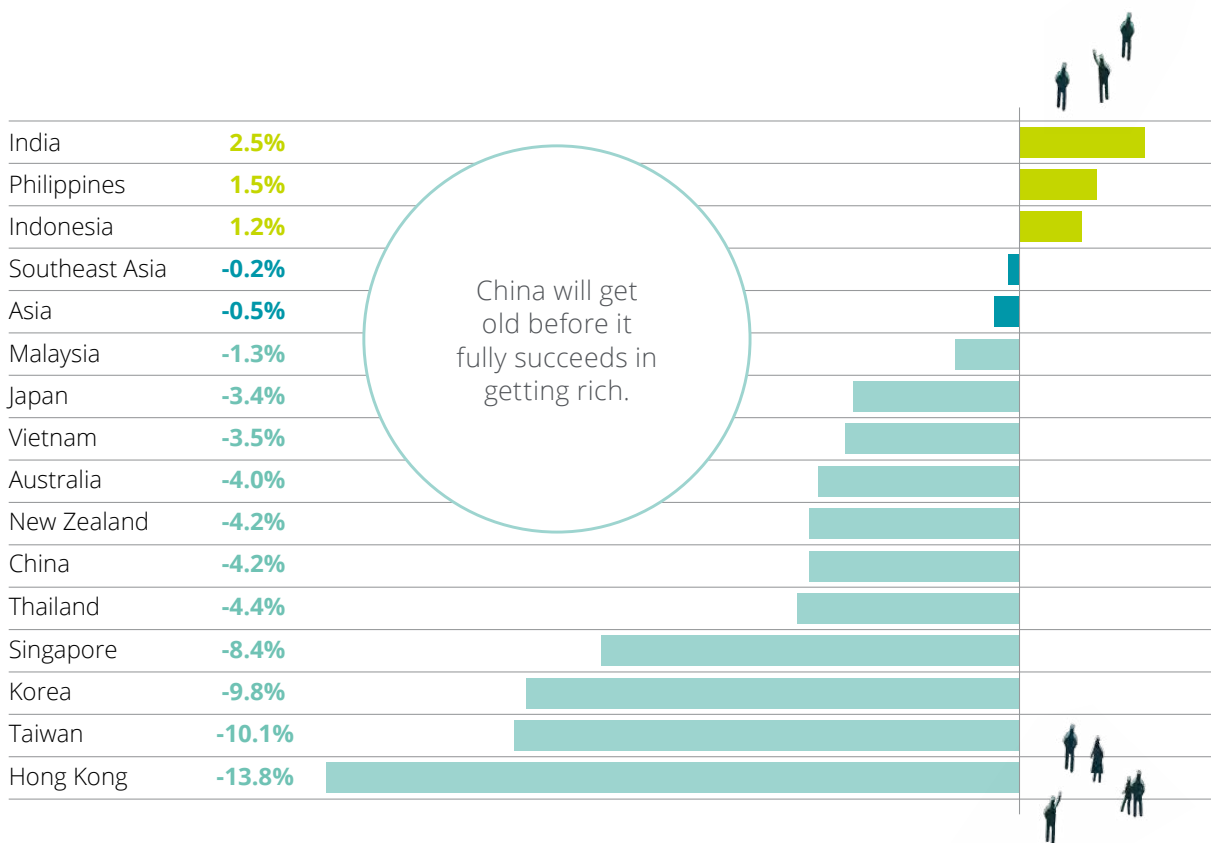
In turn, that says the business opportunities opening up as a result of demographics—which we cover in the next article, *Asia's growth on the cusp of change, driven by demographics*—will be different in China from those that can be expected in Thailand, Taiwan, Singapore, and Korea. All of these nations have enjoyed a remarkable run of growth over the past half century.

And, as figure 1.3 shows, some of that economic expansion has been thanks to an underlying trend in demographic growth that has boosted the share of the population most likely to work.

But this trend is poised to reverse its direction. In China, Hong Kong, Thailand and Singapore, the working age population peaked as a share of total population a few years ago, while that demographic peak is happening pretty much now in both Korea and Taiwan.

This group may sit behind Japan in terms of the median age of their populations, but they are the next in line for ageing pain to hit their economies.

This tide will go out relatively fast. For each of these countries the next half century will not merely unwind the demographic gains of the last half century, it will see new demographic lows being hit. And although some of these effects will be slow, a number of them will travel at speed.

Figure 1.4. Demographic addition/subtraction to size of economies over the coming decade

Source: Deloitte
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Figure 1.4 sets out the projected losses attributable to (or gains from) demographics. These calculations assume that, other things equal, the size of these economies will be:

- Proportionately larger where there's a demographic dividend (India, the Philippines, Indonesia), and
- Smaller where working age populations will shrink as a share of the total between now and 2027.

The figure tells a remarkable story, but not a pretty one.

The group of economies considered in [figure 1.3](#) are those most in the firing line. The backdrop to doing business in Hong Kong, for example, will change radically within a decade as retirees surge in number.⁵ The number of people in Hong Kong aged 65 and over will rise from just 1.2 million to 1.9 million by 2027, and 2.4 million by 2037.

At the same time, the number of children in Hong Kong (those aged through to 14) has already fallen behind the number of people aged over 65. In fact, Hong Kong has around one-quarter fewer children today compared to the 1980s. While births are finally on the rise, these past trends will limit future growth, with consistently fewer people starting their working lives than there are older workers retiring at the end of theirs.

To add to that quantitative problem, there is survey evidence suggesting a surprisingly high number of young adults would live elsewhere if they could,⁶ a qualitative issue further jeopardising the long-run pipeline of new workers.

Yet, although this story is particularly stark for Hong Kong, it doesn't—or shouldn't—overshadow what is starting to happen in Korea, Taiwan, and Singapore. Each of these nations is also seeing the demographic tides turn sharply against them.

This group was lauded as Asia's Tigers during the 1980s and 1990s. But from here on they are ageing Tigers, whose growth now lies on the wrong side of demographic destiny, and whose policy challenges will now rest on other growth drivers, including productivity-enhancing reforms, an openness to migrants, and a drive towards greater participation among women.

Aussies and Kiwis

A glance at figure 1.5 shows another little-recognised fact: Over the coming decade, Australia and New Zealand will see demographic-driven slowdowns even larger than those being faced in Japan.

What gives? How is it, for example, that Australia shows up as more in the demographic firing line than Japan over the next decade?

The difference is simple: Japan has been feeling its demographic downdraft since the mid-1990s, with the last decade putting considerable pressure on that nation's growth potential.

In other words, Japan has already faced the facts, whereas the pace of future pain is starting to go up for the likes of Australia and New Zealand, as well as in countries such as China and Thailand.

As the figure shows, by 2047 Australia will have lost all of the demographic-driven gains in the ratio of potential workers to total population made since 1961, and the same will be true of New Zealand by 2061.

The hidden dragons have demographics that look like India's

As seen above, much of Asia's demographic change across the rest of the century will match the trends seen in China.

Yet, it is equally true that much of Asia's story will also track India's more positive outlook. That's true, for example, of Indonesia, Malaysia, and the Philippines.

Although the lines in figure 1.6 map similar paths, the stories are slightly different.

As the most developed economy of this group, it makes sense that Malaysia is also the most advanced on its demographic journey. In 1965, barely one in two Malaysians were of working age. Now that ratio is at its peak—at close to 70 percent. Yet, unlike a number of nations, Malaysia's demographic transition will be relatively gentle, and the impact of ageing won't really take big bites out of its economic growth until the 2050s.

That decade, however, will see a demographic bell toll for Malaysia: Changed birth rates and a rise in life expectancy will see its demographics depart from the rest of this group, leaving it older and greyer than these others beyond that decade.

With a slower fall in its birth rate and an equally moderate advance in life expectancy, Indonesia will also see relatively benign demographic tides in coming decades. This is a nation with a younger population than many others, making demographics a tailwind rather than a headwind for growth through to the mid-2030s.

Thereafter, and in common with Malaysia, the transition from tailwind to headwind will also be relatively gentle—with the difference being that Indonesia's glide path will remain gentle long after Malaysia's doesn't.

By the end of this century, Indonesia will have kept its status as younger than average, competing with the Philippines on that score.

Figure 1.5. Working age population as a percentage of total population—Australia and New Zealand

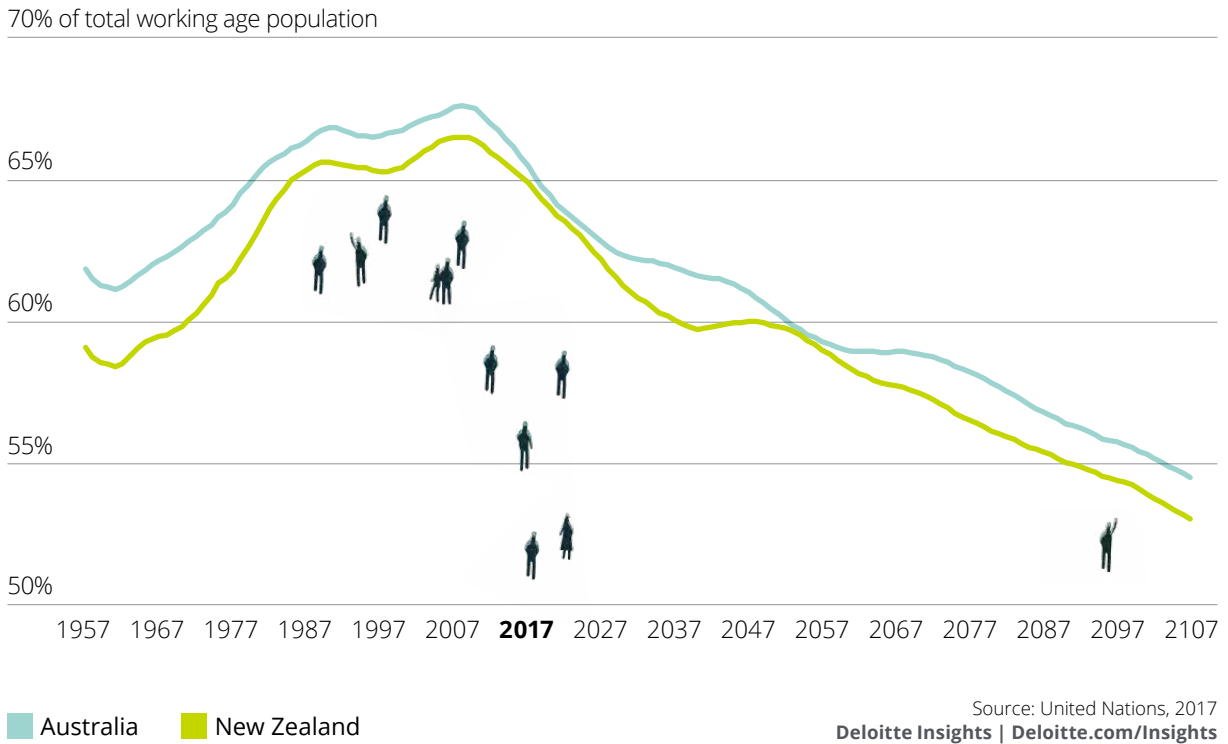


Figure 1.6. Working age population as a percentage of total population—India, Indonesia, Malaysia, and the Philippines

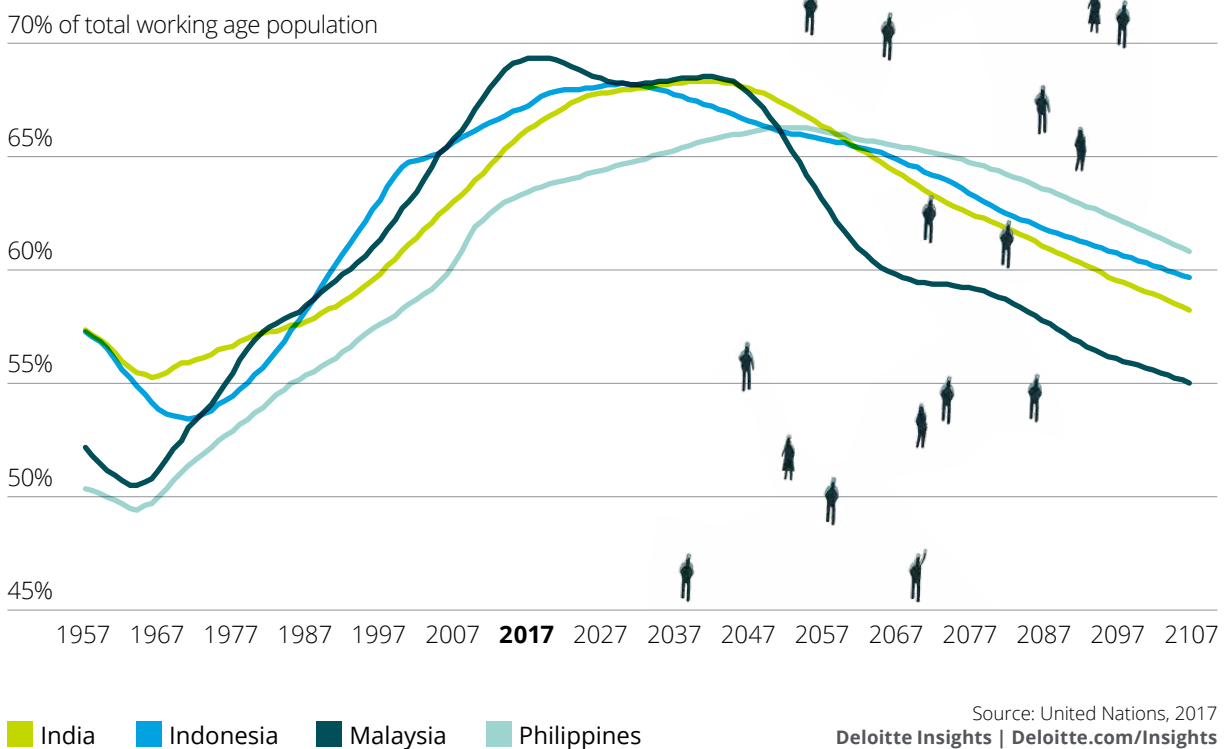
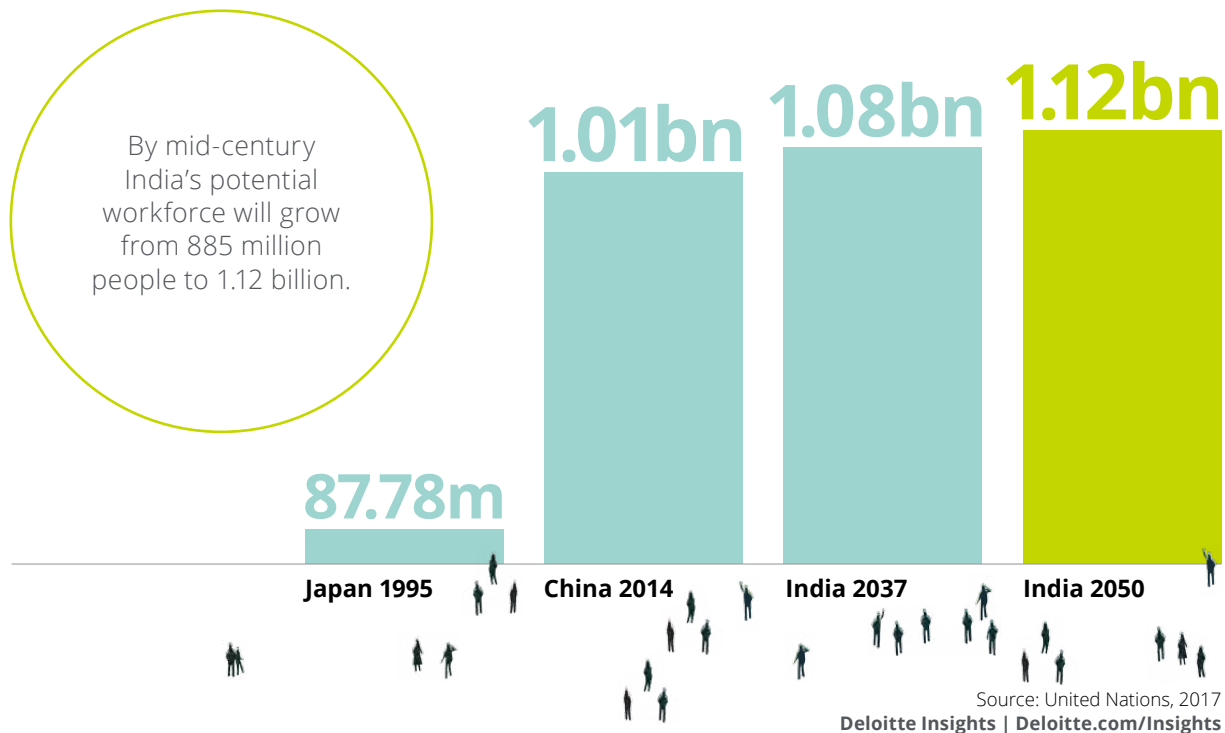


Figure 1.7. Peak potential workforce—Japan, China, India



An Indian summer set to last for half a century

Figure 1.1 showed three great growth waves through Asia, beginning in Japan, spreading to China, and increasingly encompassing India.

Yet the figure doesn't pick up the absolute size of these waves. And those differences are tremendous.

As we saw, Japan's working age population peaked close to a quarter of a century ago, at less than 90 million potential workers. Figure 1.7 shows the peak in China's workforce at more than ten times as many people—more than a billion potential workers—far and away the greatest workforce the world has ever seen.

China's rise across recent decades indeed moved the world.

And there's further potential there too. Although China's demographic tides are moving fast, changes in the skills base of its workforce and the potential for a range of reforms to unlock assets into more productive use means that economic forecasters still rank China second with regard to expected speed of growth over the next decade.

The nation expected to beat China—the one that the consensus view of forecasters sees having an economy growing even faster than that of China over the next decade—is India.

That's because the coming wave of people power will have an even higher crest.

India's potential workforce today is 885 million people. Yet:

- As seen in figure 1.7, this number will jump to 1.08 billion people some two decades from today, and it will remain above a billion people for half a century.
- These new workers will be much better trained and educated than the existing Indian workforce, and there will be rising economic potential coming alongside that, thanks to an increased share of women in the workforce, as well as an increased ability and interest in working for longer.

This combination says the three big levers of economic potential—the 3Ps of population, participation, and productivity—are all set to surge in India.

The numbers here are simply staggering:

- Over the next decade, India's working age population will rise by 115 million people and account for more than half of the 225 million expected across Asia as a whole.
- Across that same decade, Japan's working age population will shrink by more than 5 million people, and China's by 21 million.
- And the decade after that—through to the mid-2030s—will see India's working age population jump by another 78 million people, but Japan's will once again shrink by 7 million, and China's demographic destiny will enter a sharper decline, with a further drop of more than 80 million.

The next 50 years will therefore be an Indian summer that redraws the face of global economic power.

However, there's an important caveat—and opportunity—to note. "Getting richer" isn't guaranteed. India needs the right institutional set-up to promote and sustain its growth. Otherwise its rising population could cause increasing unemployment and consequent social unrest—the phenomenon often observed in African countries.

In particular, it will be vital to get more women to join the labour market. Yet workforce participation by women in India has fallen rather than risen, dropping from 37 percent to 27 percent over the last decade.

India is not alone in seeing female participation rates fall over recent years; China, Indonesia, Korea, Thailand, the Philippines, and Japan have all seen either stable or falling rates since 2000. However, female participation in India is significantly below the rates in all these countries, meaning there is far greater economic potential that could be unlocked.

For India's economic growth to outperform the potential mapped out in this article, women's participation needs to start to rise from its current global ranking of 16th lowest in the world.⁷ This is a key issue we pick up in the second article in this issue: *Asia's growth on the cusp of change, driven by demographics*.

As figure 1.1 illustrated earlier, the Indian demographic cycle is about 10-30 years behind that of other countries. This presents an opportunity for it to catch up with its peers in per capita income levels. However, the Indian story has some unique features:

- First, India's working age population to non-working age population is likely to peak at a ratio much lower than Brazil and China, both of which sustained a higher level for at least a quarter of a century.⁸
- Second, India is likely to remain close to its peak for much longer than other countries.

The growth consequence of such a phenomenon would come in the form of reduced fluctuations in growth compared to other East Asian countries. Both the acceleration and deceleration in growth momentum are likely to be slower, suggesting India's demographic structure could sustain higher levels of growth for longer.

The next decade will see a changing of the guard
Asia's growth momentum is on the cusp of significant change.

Two centuries ago, Napoléon Bonaparte noted "*China is a sleeping giant . . . when she wakes, she will move the world.*" He was right. But now, with demographic changes impacting the entire Asia Pacific region, there are stirrings and rumblings among many giants, which see a new terrain of challenges and opportunities emerging.

This article makes the point that the great underlying force of change—people power—has driven a series of surges in economic capacity across the Asia Pacific landscape. After the first wave, in Japan, the second wave of growth, seen in China over the past four decades, reshaped the world's economy. Now, a third wave shows India moving front and centre stage. Its rise as an economic superpower is about to be felt in earnest, with further growth to be driven by the increasing importance of Indonesia, Vietnam, and the Philippines.

But just as these economies have seen the incoming tide of a rapidly rising working age population, the path of demographic transition is not one of endless growth. Population ageing will see the growing impact of rising retirements across much of Asia, as the likes of China and Australia join Japan in seeing their economies grow more slowly due to the force of demographics.

In combination, those effects will rewrite the playbook of businesses around the globe. Both the levels and types of growth will bring new opportunities, risks and challenges. Population growth is often a cause for concern: The global population rising from 7.5 billion now to 10 billion by the middle of the century will bring many challenges.

And, in addition to the mere number of people, there will be changes in the way they want to live. As *Asia's growth on the cusp of change, driven by demographics* notes, younger people across Asia often aspire to the lifestyles of their peers in the West, rather than their own parents.

That choice will drive increasing demands on the global environment—a fraught prospect. Yet it is also true that we have made incredible strides in lowering the inputs required to create the output we desire, an oft-forgotten trend that works against the more obvious increases in consumer spending.

But, these demographic trends are coming, whether we want them or not. This means we really have little choice but to face up to them head on, embracing the changing demands of the future (rather than pretending that, if we ignore them, they will go away).

The next article, *Asia's growth on the cusp of change, driven by demographics*, looks at how various Asian economies and businesses are already preparing themselves for these coming changes. It also gives some concrete examples of how businesses can harness the opportunities that areas of stronger growth will provide, and be prepared for the challenges that ageing populations will bring.

1. There are a number of figures detailing past and future population trends in this edition of *Voice of Asia*. All results are taken from recently released United Nations Population projections, *World population prospects: The 2017 revision*, <http://www.un.org/en/development/desa/population/>
2. For example, in Ben Wattenburg's 2004 book *Fewer*
3. These results are from World Bank estimates of 2016 total fertility rates (TFRs), http://data.worldbank.org/indicator/SP.DYN.TFRT.IN?year_high_desc=true
4. BIS Working Papers No 656, by Charles Goodhart and Manoj Pradhan, Demographics will reverse three multi-decade global trends, 2017: "Between the 1980s and the 2000s, the largest ever positive labour supply shock . . . led to a shift in manufacturing to Asia, especially China; a stagnation in real wages; a collapse in the power of private sector trade unions; increasing inequality within countries, but less inequality between countries; deflationary pressures; and falling interest rates. This shock is now reversing. As the world ages, real interest rates will rise, inflation and wage growth will pick up and inequality will fall."
5. Richard Morrow, *Hong Kong budget fails to address pension savings issue*, *Asian Investor*, 2017, <http://www.asianinvestor.net/article/hong-kong-budget-fails-to-address-pension-savings-issue/434096>, accessed June 30, 2017
6. South China Morning Post, *Four in 10 Hong Kongers want to leave city, with some already planning their exit*, 2016, <http://www.scmp.com/news/hong-kong/education-community/article/2027021/four-10-hongkongers-want-leave-city-and-1-10-has>, accessed June 30, 2017
7. International Labour Organization, *India: Why is women's labour force participation dropping?*, 2013, http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_204762/lang--en/index.html, accessed June 30, 2017
8. Ministry of Finance, Government of India, *Economic survey 2016-17*, 2017, <http://indiabudget.nic.in/survey.asp>, accessed June 30, 2017



Asia's growth on the cusp of change, driven by demographics

Deloitte regularly surveys CFOs in almost 60 nations across Asia, Europe, and the Americas. In the last two years these surveys have shown that executives are increasingly worried not just by traditional risks (such as those stemming from economies and politics), but by new ones too (from disruptive technologies to the likes of cyber and terror attacks).

Yet, amid all this uncertainty there are a surprising number of things that can still be planned with confidence. In fact, some of the biggest changes in markets as well as entire economies in the years and decades ahead can be mapped with reasonable likelihood.

The first article in this edition, *Ageing Tigers, hidden dragons*, set out two key changes we will witness over the next quarter century, such as the surging growth potential in India and a peak in the working age population in China, and the outcome of these changes.

The world is beginning to wake up to the emerging challenge of ageing markets. Yet, in many cases, businesses simplistically assume that the glory days of market growth have passed. It may well be challenging, but that demographic destination isn't absolute. As Japan's experience of the past two decades already shows, the future might well be challenging, but the impacts of Asia's demographic destiny don't have to be entirely, or even mainly, negative.

This article asks how those on the right side of the changes can maximise potential benefits, and how those challenged by demographic destiny can best rise to the challenge.

How big is the demographic challenge?

As figure 2.1 shows, ageing is an issue for Asia as a whole, and one that is just about to bite, with more of an impact to be evident in Asia than across the world.

Our analysis shows that those in Asia aged over 65 will be the largest and fastest growing market in the world; they are set to grow in number from 365 million in 2017 to more than 520 million in 2027.

There are already more over-65s in Asia than there are people in all of North America. The number of over-65s in Asia will exceed one billion just after the middle of this century. In fact by 2042 (in just a quarter of a century) there will be more over-65s in Asia than the total populations of the Eurozone and North America combined.

Yes, you read that right: More people aged over 65 in Asia than the total combined populations of North America and the Eurozone, and in just 25 years from now.

So how big is Asia's challenge? Figure 2.2 lays out the relative effects of demographic destiny across Asia in the decade ahead.¹

This figure sets out the demographic dividing line between producers (workers aged 15 to 64) and consumers (the total population). The result is a simple ranking that sheds light on where overall markets will go across the next decade.

But there are factors that would act to both improve and worsen that picture. Why might the effects of ageing be smaller than those shown in figure 2.2?

- **Retirement age can rise:** Not only are people starting work later (as they are studying for longer), but they're also retiring later. Partly that's because they can—fewer jobs are back-breaking these days, rising life expectancies are encouraging longer working lives, and today's higher incomes are also encouraging people to work for longer. Of course, not all people are willing to retire later, but rising life expectancies mean many of them are effectively forced to do so. Many countries are

also seeing moves by the government to extend the expected working lives of their citizens to boost their economic potential and mitigate some of the impacts of ageing on public finances. Accordingly, the assumption behind figure 2.2—that the population aged 15 to 64 is a sufficient proxy for the potential workforce—can overstate ageing effects.

- **More women could join the workforce:** Patterns differ markedly across Asia, but in most nations there are far fewer women than men in the paid workforce. Accordingly, the demographic downdraft to economies can be fought by unleashing the pent up potential among less tapped groups of workers. The potential is significant. As the discussion at the end of this article notes, the potential gains for India can be measured in trillions of dollars.
- **Migration can give wriggle room:** These population projections already assume people moving between nations. However, if the impact of ageing starts to be too severe, more workers may be “imported” than these figures allow. This may be true, for example, for Hong Kong. And it seems unlikely, as these projections would have it, that Japan's population at the end of this century would have fallen by a third from current levels.
- **We can actively draw up the experience that comes with age:** Much of the evidence shows that the experience older workers can bring to bear on the workplace makes up for any loss of mental dexterity and enthusiasm.
- **Bigger isn't necessarily better:** In the end, it's not the size of the economy that determines whether people are happy or not, it's average incomes and standards of living. This means productivity is just as much a contributor to final outcomes as population and participation. Many previously labour-intensive jobs—ones which might have needed younger workers—may well be replaced by automation in coming years. And governments around the world have long focused on education and skills as a key plank of growth.
- **And worse isn't necessarily smaller:** As Japan clearly shows, ageing might be challenging, but there are ways to face that challenge. Indeed, across the past decade living standards in Japan have risen almost as fast as those of the United States.

Figure 2.1. Working age population as a percentage of total population—Total for Asia and for the world

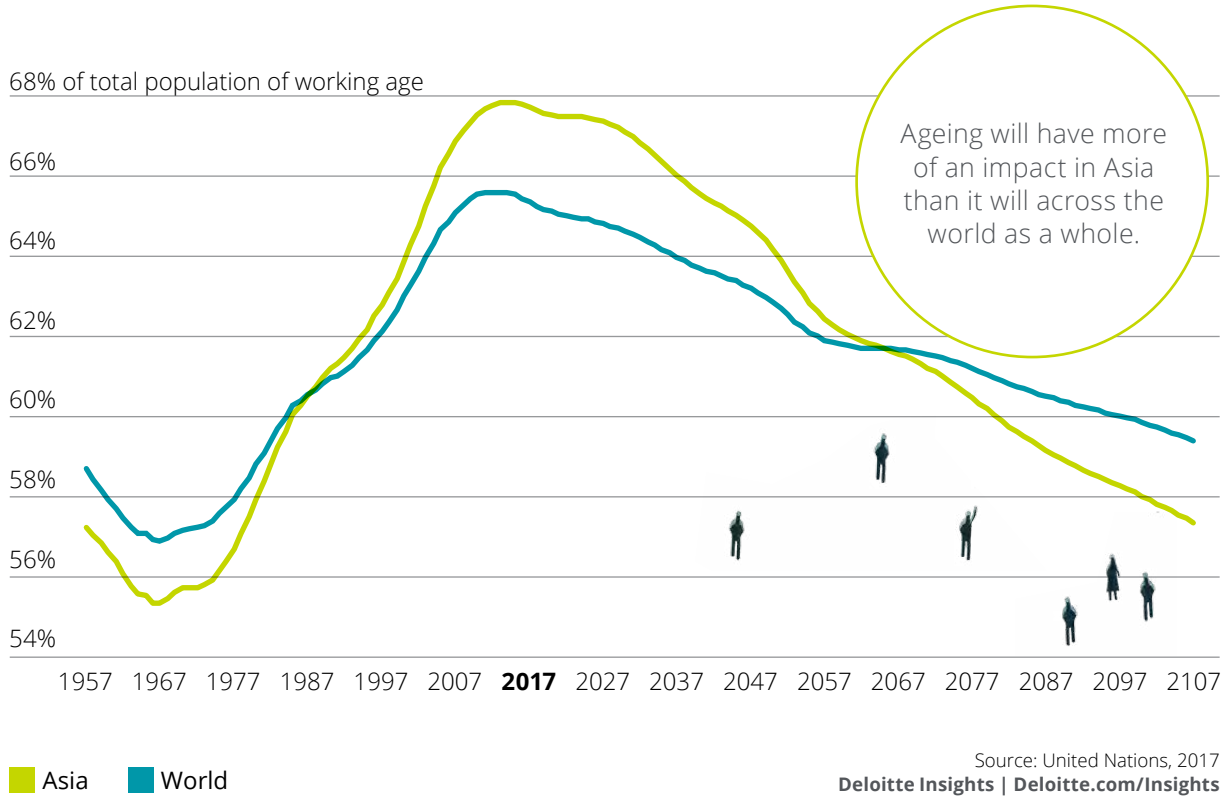
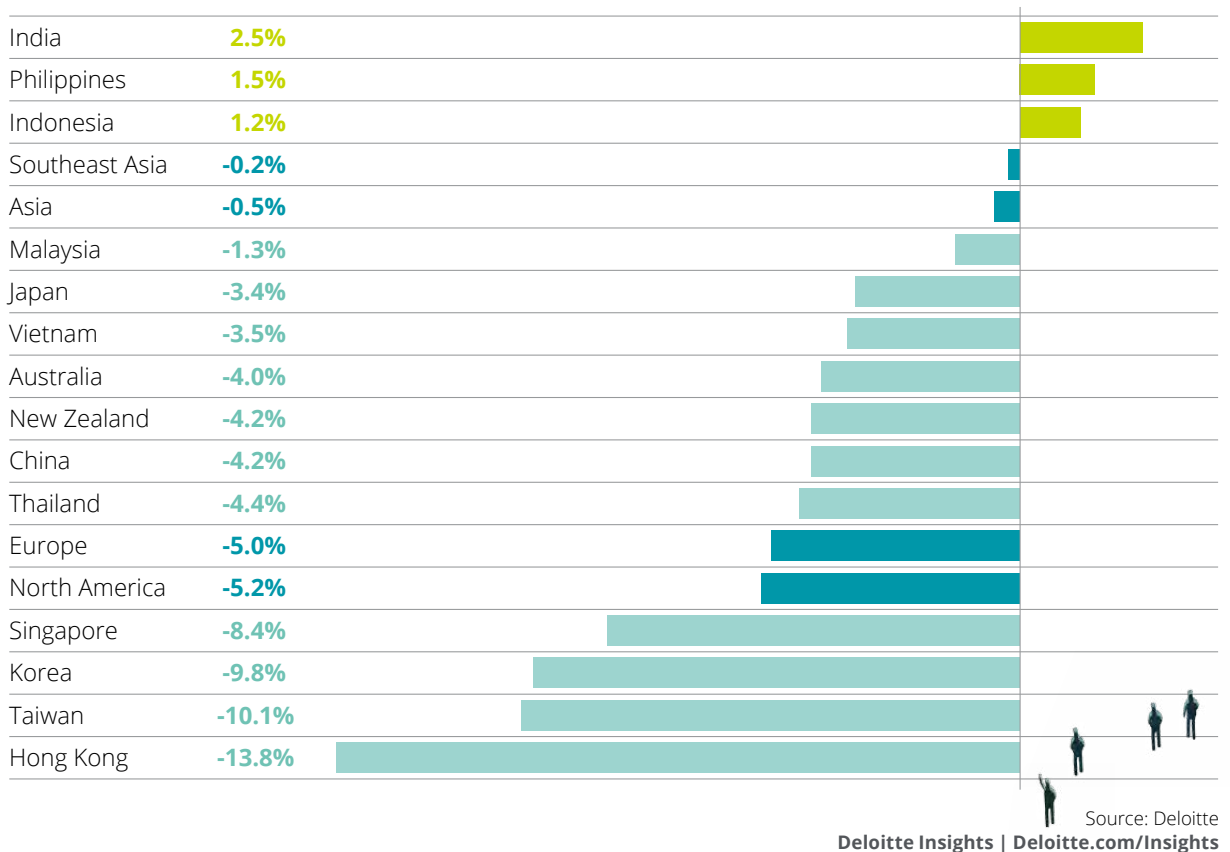


Figure 2.2. Demographic addition/subtraction to size of economies over the coming decade



And why might ageing effects be larger than those shown in [figure 2.2](#)? First, certain factors mitigate attempts to get around the problem:

- **Productivity and participation march alongside population:** Most importantly, and as noted above, there are both virtuous and vicious cycles in play. Favourable demographics are usually associated with rising workforce participation and better education. While some governments have faced up to the demographic challenge, the world is yet to come to terms with what happens when the demographic pendulum moves onto its downswing.
- **Migrants age too:** Migration can help ward off ageing at the national level, but not forever. Besides, from a global viewpoint, migration is essentially a zero sum game. And in an age of international mistrust, local populations are wary of too many people coming from “elsewhere.”
- **Less productivity, less risk-taking:** The positives noted above included one about the benefits of experience outweighing “any loss of mental dexterity and enthusiasm.” But these studies mostly looked at individuals. Once you start to look at states and nations, that’s not what the latest evidence suggests. For example, researchers from Rand Corporation looked at what different speeds of ageing had done to the growth of different states of the United States.² They found that the direct demographic effects derived in [figure 2.2](#) accounted for less than half the impact of ageing on overall economic growth, as older States became less productive. Although its conclusions were less stark, the International Monetary Fund also found ageing workforces reduced productivity.³
- **Financial bubbles tend to be formed and burst:** When demographics drive growth, an expectation of continuing good growth can get priced into real estate and stockmarkets. Equally, when demographics turn, it can ‘surprise’ businesses, governments and markets, and the resulting failure to meet expectations can see asset prices go through a “bust.”

And then there are additional challenges that ageing will bring:

- **Budget pressures:** In simple terms, governments tax workers and hand subsidies to the young (for their education and health) and the old (for their health and for aged care). So ageing puts stress on government budgets by reducing revenue growth and adding to spending. Other things equal, this weighs on growth because the shortfall has to be remedied by some combination of higher taxes or lower spending.
- **The rise of the “grey vote”:** While the economy in general may be affected by falling growth rates, many will fear that they are being forced to pay too large a price to fix the problem if governments cut expenditures. This may see the increasing electoral voice of the growing older generation stifle much needed policy changes.

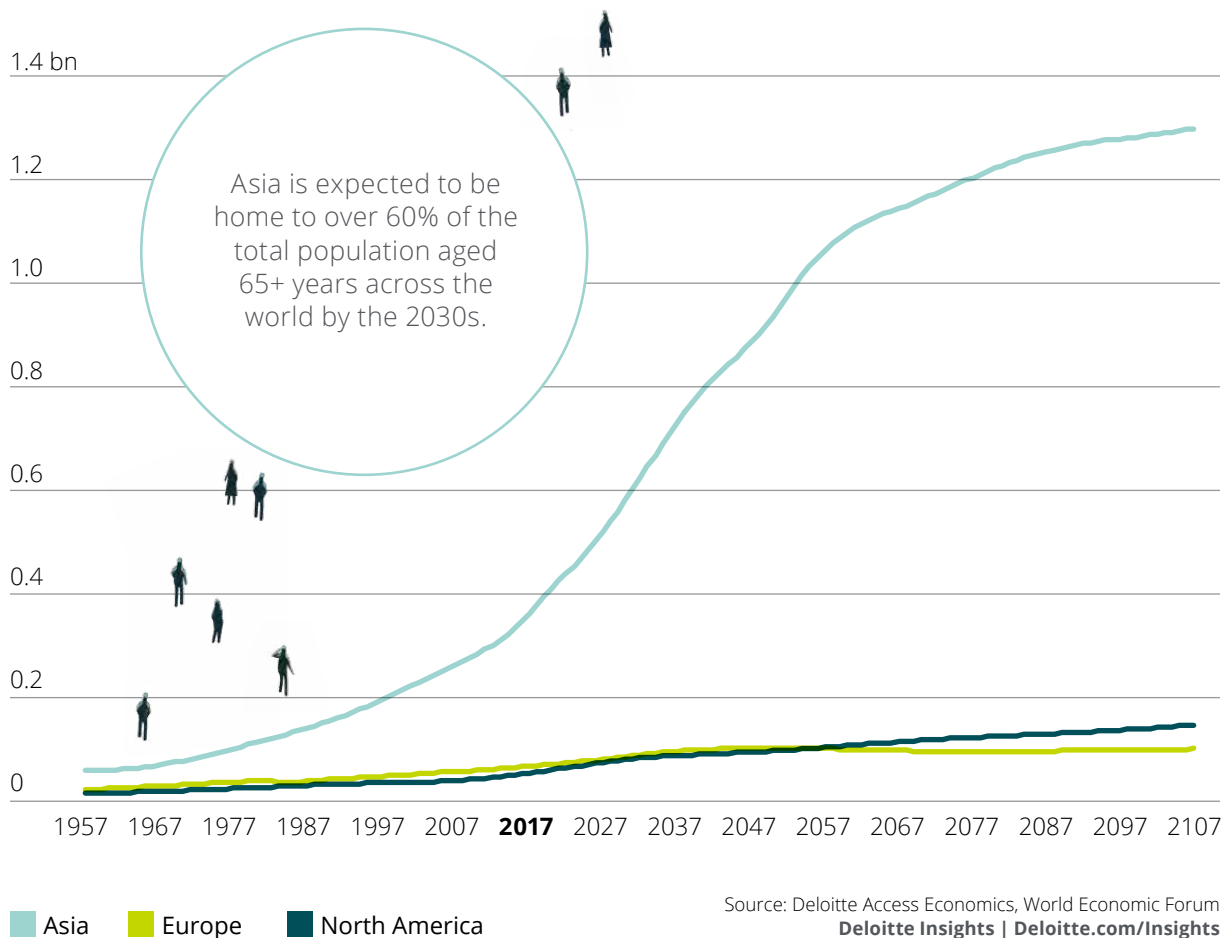
On balance then, [figure 2.2](#) may understate the changes afoot across business prospects in a range of nations.

Every challenge is also a business opportunity

Ageing will slow overall economic growth rates in a number of countries, but it will turbocharge a range of specific markets at the same time. Yes, ageing brings costs, but it also brings benefits, and those benefits may be concentrated in particular industries. Simply put, we spend on different things as we age. And therein lies opportunity.

There are megatrends in play here. Across much of Asia:

- We’re getting older.
- We’re getting richer.
- New technologies will add to health care costs.
- Public sector budgets will come under even greater pressure.
- More people will be living with chronic conditions.

Figure 2.3. Number of people aged over 65 in various regions of the world

This combination says a range of sectors will become bigger business in the future than they are today. And the scale of the opportunities is mind-boggling, with **Asia expected to be home to over 60 percent of the total population aged 65+ years across the world by the 2030s**. That's a rapidly rising share of an even more rapidly expanding pool.

As figure 2.3 shows, the number of over-65s in Asia is already much larger than in other regions of the world. This market is set to swell rapidly, hitting almost a billion people by the middle of the century.

In fact these markets are already moving. Over the decade to 2027, Asia will see 160 million people added to the ranks of its over-65s. Yet that same figure for the Eurozone and North America combined is just 33 million extra.

That's not, by the way, to underplay the impact of ageing in the Western world, but to put it in context—Asia is enormous, and it is set to age faster than the West. And, in turn, that says the business opportunities and policy challenges of ageing now loom largest in Asia.

The next decade and more will therefore see a developing “growth cluster” of health-related businesses across Asia. These business opportunities will lie at the heart of the collision of trends such as rising life expectancies, rising relative health care costs and tightening public sector health budgets.

The last factor is little understood. In most nations, taxpayers fund a larger share of health spending than they do of other types of spending. However, with public sector budgets set to come under increasing pressure over time, more health care and related opportunities will come to the private rather than the public sector.

As the megatrends noted, we're getting older and richer. That means we are more likely to need health care, and we will also need to pay more for it, but we'll also be better placed to pay. And technology increasingly means that what we want is actually doable, so more and more procedures are likely to occur.

Of course, some of those advances will cut costs as new drugs will mean surgery is no longer required, or improvements to techniques mean recovery from surgery is much faster and requires less time in hospital.

On the other hand, the world is seeing a shift towards chronic conditions such as diabetes, some types of cancer, dementia, Parkinson's disease, cardiovascular disorders, and musculoskeletal diseases. And, to the megatrends we've just listed, you can also add obesity. With the simple addition of "heavier" to "older" there is a risk Asia's population of diabetes sufferers will surge in the years ahead.

These chronic conditions are likely to be future drivers of health care spending. As Asia lives longer, it is increasingly living with ailments that are not life threatening, but require more care than otherwise.

It won't just be the case that future conditions will be longer lasting. Many of the new business opportunities they drive will be much more "recession proof" than average. When times are tough, you may put off buying new clothes or eating at restaurants, but chances are you won't put off treatment for a sore back or an infected tooth.

Pain is a powerful motivator.

In turn, this points to a welcome advantage for businesses selling into these markets—they know the future looks bright. That's why the coming wave of growth in health care and related sectors will see a major shift in the spending habits of Asia, presenting a number of business opportunities as it does so.

If "demographics is destiny,"⁴ then the future of health and related industries is bright across much of Asia. That very destiny represents a long-term opportunity for businesses to invest in what will clearly be growth sectors in coming decades.

There are policy challenges here too—skilled migrants, anyone?

There are also challenges to be faced, and it isn't clear whether Asia will rise to these challenges as fast or as fully as it might:

- **Unlocking people power among female workers:** No matter which side of this decade's demographic divide a nation stands on, it can boost its markets best if it can make the most of its own potential people power. That's true enough, for example, of Korea, Japan, Indonesia, and the Philippines, where participation rates among women not only lag those of men, but have failed to lift significantly over recent years. It's even truer for India, where the participation gap is around twice as large as it is in these economies (and has actually widened across this century). Some nations in the region—Australia, New Zealand, Taiwan, Malaysia, Singapore, and Hong Kong—have seen the opposite trend, with female participation rates rising strongly since 2000.⁵
- **Welcoming migrants:** It makes sense for those nations most at risk of a demographic-driven growth slowdown to be the most open to immigration. Yet, 2017 is a year in which opposition to immigration is garnering votes all over the globe. However, there are some success stories. Singapore, for example, has a low birth rate, but manages a better ranking in the projections here than it would otherwise have done thanks to a relatively liberal view of immigration. Yet, the political willingness to accept migrants often appears to be strongest in regions where, at least from the viewpoint of demographics, it isn't particularly called for. For example, Malaysia has a large number of guest workers, and the same is true of Thailand (albeit with the important caveat that some of the latter are in Thailand illegally) but it is in Hong Kong where these questions loom largest. Immigration from mainland China developed Hong Kong in the first place, and will continue to be a driver. There's already a large inflow of skilled professionals from China, but inflows of lower skilled workers are more tightly controlled. The critical issue is whether policy, and property prices, will allow this immigration to happen on a sufficient scale.
- **Raising birth rates:** Although it takes longer to have an impact on worker numbers, the other key lever here is the potential to lift birth rates once more.

To be clear, bigger isn't necessarily better. Accepting young, highly skilled migrants, a longstanding policy in Australia, has the potential to boost all three of the building blocks of economic potential at the same time: population, participation and productivity.

So a key test of Asia's political systems looms: As countries grapple with the effects of ageing, nations able to politically sustain solid levels of net immigration, especially of higher skilled workers, will grow faster than those that can't. And regardless of whether working age populations are still rising, the same will be true of nations that welcome women workers as openly as they do men.

Girl power: What India can gain from its women

India's potential workforce will rise by 115 million people over the next decade—and account for more than half of the 225 million strong workforce increase expected across Asia as a whole.

But just how well will “potential” translate into “actual”? India has the 16th lowest rate of female workforce participation in the world. Were that to lift, it would turbocharge the demographically driven boost to India's economy over coming years.

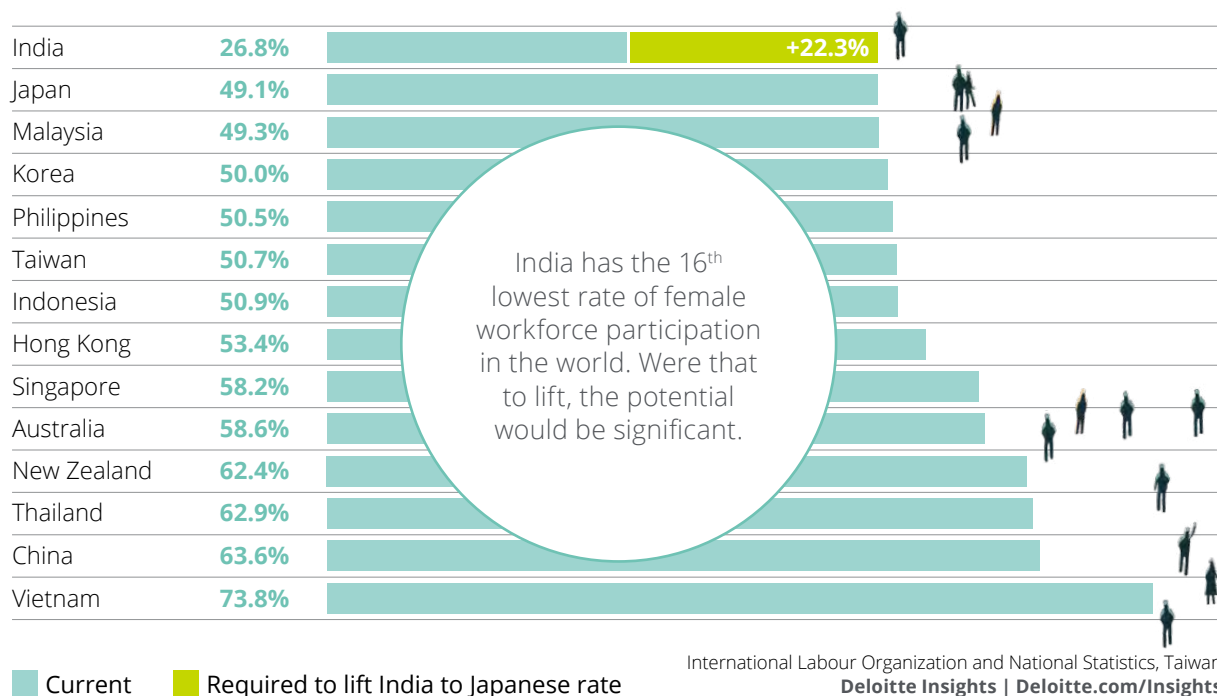
Compare two cases—one where India's female workforce participation rates remain at 27 percent, and another where it gradually rises to 49 percent (equal to Japan's current position) by the 2030s. This may seem like a huge leap, but it would merely lift India to the second lowest of the countries shown in [figure 2.4](#).

Such a change would nearly double the number of women working in the paid economy, with the extra workers lifting the overall size of the workforce by more than 20 percent above its expected level.

And, even after noting that women tend to receive lower wages than men, this would boost the overall size of the Indian economy by around one sixth, or the equivalent of close to US\$2 trillion a year in terms of today's purchasing power.⁶

So there is a huge incentive to act; yet getting there won't be easy. Japan, with female participation rates still below 50 percent, shows that even after a long period of grappling with the need to boost female participation, progress can be slow.

Figure 2.4. Female workforce participation rates in 2015



And there's more than just who—there's how and where

Different economies will see other factors impact the challenges they might face. The previous article, *Ageing Tigers, hidden dragons*, noted that both growth in population and a change in the type of lifestyle these populations might wish to enjoy will put increasing pressure on the environment, both in terms of the demands on food and water and the pollution that might result. These challenges can also be driven by choices made in the past and that are still affecting the environment today.

The long-running impacts of urbanisation continue to be felt across Asia. While the rise in China's population has been important to its success, the internal movement of people from rural regions to the cities has been just as important. Official estimates have put the level of internal migrants at over 10 percent of the country's population⁷—150 million—with other estimates suggesting that the true figure is more than twice that.⁸

Urbanisation leads to differing issues across the economies of Asia—both positive and negative. In the faster-growing areas of Indonesia and the Philippines, the huge construction requirements the trend brings are clearly a massive business opportunity, but where development is too slow, problems around housing availability can be dangerous for social cohesion.

Gaps between the richer urban areas and the impoverished countryside can also exacerbate the risks of the “middle-income trap”—where a period of strong economic development stalls.

Demographics may add further to the risks, with declining workforce levels not only leading to increasing pressure on wages and limiting international competitiveness, but also increasing demands on public expenditure on the elderly through pensions or health care.

Millennials to the rescue?

This report sets out the challenges arising from the great tides of demography. Yet, demography isn't manifest destiny. Weakness in growth potential as a result of an ageing population can be offset if the rising generation can bring sufficient productivity benefits.

That, for example, is the test for China. Its population is ageing and its potential workforce is already beginning to shrink. The good news is that it is likely that the younger workers swelling the ranks of the employed over the next decade will be able to fight off some of those demographic difficulties.

The first edition of *Voice of Asia*⁹ noted that the young people of Asia were revolutionising marketplaces: *“A new and optimistic generation is taking its place in driving the direction of their economies: One that is technologically savvy, comfortable with the borderless consumerism of the global middle class, and yet imbued with the consumption-smoothing instincts of its parents and grandparents. These new consumers are exactly what Asia and the world need right now. They're inherently optimistic and incredibly open to innovation and new ideas.”*

That's a very Asian story, with this region's youth front and centre in the global roll call of optimism. Our own research on Millennials¹⁰ found a chasm between the developing world and the rich world when it comes to the outlook of the younger generation. Millennials in emerging markets expect to be both financially (71 percent) and emotionally (62 percent) better off than their parents, whereas in the developed world only 36 percent of Millennials predict they will be financially better off than their parents, and a bare 31 percent say that they'll be happier.

And times are changing fast. There is a new class of consumers, as we are going from “Millennials” to “Minimals.”¹¹ They carry some traits of the

Millennials, but aim to declutter their lifestyle by minimising asset ownership while still getting the services they desire. In a minimalist economy, ownership of assets is lowered as services are preferred over products and Minimals instead invest in health, well-being, and productivity. The sharing economy is perhaps a source and a product of the advent of the Minimals.

Yet, it is the behaviour of the young as producers which may prove even more revolutionary than their behaviour as consumers. In both India and China, the next generation to join the workforce will be rather better educated than the average of the current workforce.

In turn, this may enable these younger workers to unlock the power of new digital technologies with increased “productivity potential” covered in edition two of *Voice of Asia*.¹²

These trends in lifestyle, whether workforce participation or productivity, will be just as important as demographics to overall economic trends in the decades to come. Long-term projections for economic growth across the next 40 years¹³ show the Indian and Indonesian economies leading the way in terms of speed, growing at close to 5 percent per year.

And while China’s growth might be hampered by its more negative demographics, the 3.3 percent average growth rate forecast would mean one economy would still account for more than a quarter of all economic growth around the world across this period.

Add India and Indonesia, and the three biggest Asian economies will account for more than half the world’s economic expansion between now and the middle of the century.

So some things might be set to change, but Asia’s role as the world’s business powerhouse is not one of them.

1. The figure matches figure 1.4 in the first article in this edition, but covers the likes of Europe and North America as well.
2. The National Bureau of Economic Research, *Population aging and economic growth*, 2016, <http://www.nber.org/aginghealth/2016no2/w22452.html>
3. International Monetary Fund, *Euro area politics*, July 2016, <http://www.imf.org/external/pubs/ft/scr/2016/cr16220.pdf>
4. Wall Street Journal, “Demographic 2050 destiny,” <http://graphics.wsj.com/2050-demographic-destiny/>
5. Most results are from the International Labour Organization (ILO), see www.ilo.org/ilostat, with the exception of Taiwan, which is sourced from National Statistics, Republic of China (Taiwan), see <https://eng.stat.gov.tw/>
6. Based on 2011 PPP measures. As the purchasing power of money goes further in India, the addition to India’s economy is smaller than that at market prices, but it is the US\$2 trillion figure that provides the more accurate assessment of the impact on world well-being. Note that this result is consistent with the analysis undertaken by the ILO, *Reducing gender gaps would significantly benefit women, society and the economy*, http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_557266/lang--en/index.htm and *How much would the economy grow by closing the gender gap?*, http://www.ilo.org/global/about-the-ilo/multimedia/maps-and-charts/enhanced/WCMS_556526/lang--en/index.html
7. Cai, Fang, Yang Du, and Dewen Wang (eds.), *Report on China’s population and labour*, 2011
8. Kang Wing Chan and Peter Bellwood (eds.), *China, internal migration*, 2011, <http://faculty.washington.edu/kwchan/Chan-migration.pdf>
9. Deloitte University Press, “A rich tapestry of insights,” *Voice of Asia*, <https://dupress.deloitte.com/dup-us-en/economy/voice-of-asia/january-2017/introduction.html>
10. Deloitte, *The Millennial survey*, see <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>
11. Minimals: A cohort of people belonging to the younger demographic within the Millennials whose expenditure patterns are distinctly geared towards acquiring services rather than assets
12. Deloitte University Press, “Asia winning the race on innovation, growth, and connectivity—powered by digital,” *Voice of Asia*, <https://dupress.deloitte.com/dup-us-en/economy/voice-of-asia/may-2017/winning-the-race.html>
13. OECD, “GDP long-term forecast,” <https://data.oecd.org/gdp/gdp-long-term-forecast.htm>



Demographics under the spotlight, by country

With demographics creating a rich tapestry of challenges and opportunities, it's important to take a closer country-specific look to uncover shared trends and collective insights across the Asia-Pacific landscape.

In this edition of *Voice of Asia*, we asked each country to look into three key questions to bring their own voice to the topic of demographics:

1. What are the opportunities for industries related to population changes in your country?
2. As a result of the population changing, what are you seeing in your country around the income/socioeconomic inequalities and the rise of disenfranchised communities?
3. How is digital technology driving changes across the workforce in your country?

China

Opportunities for industries

China's population is ageing. That is not only because we are living longer, but also because there are fewer young people—the next generation of workers—in the country. This is why the government recently decided to do away with the one-child policy and has even encouraged discussions to encourage women to have two children, an attempt that has had only limited success so far, with the birth rate rising from below 1.5 in 2000 to just 1.57 in 2015.¹ Indeed, sharp declines in the number of young adults across the last decade may have led to the labour shortages that have been felt by the manufacturing sector in recent years.

Rising labour costs have also resulted in the migration of some industries to less developed countries (such as Indonesia and Vietnam), as well as a continued drive to automation and strong demand for vocational education.

In general, these demographic trends will favour services and weigh on the manufacturing sector. From the government's perspective, China must retain its advantages in the manufacturing sector—advantages that are increasingly built on the back of first class infrastructure linked to an educated and productive workforce.

In addition, in common with much of the world, the generations born after 1990 show a much higher propensity to consume, rather than save, due to lower aversion to credit and a greater acceptance of digital payments. It will be impossible to truly understand China's growing consumer spending without appreciating its confident young consumers, whose audacity of spending has provided a floor to growth against the backdrop of economic moderation. The policy implication is clear—China does not need to have another stimulus in order to cushion potential sharp slowdown. For companies that are targeting Chinese consumers, those who were born after 1990 are a force to be reckoned with.

These demographic changes are also underpinning demand growth in the health care industry, with citizens becoming more health-conscious and therefore demanding better services. However, supply has lagged significantly.

On health care policies, both Taiwan and Hong Kong (where universal health care is being made available) could provide some interesting lessons. In Taiwan and Hong Kong, life expectancies (80 and 84 years respectively²) are higher than those of many developed countries, and yet, health care expenditures are well under control (accounting for 6.7 percent and 5.7 percent of GDP respectively, not much higher than China's 5.7 percent).³

Demographic changes and inequalities

Yet, even as China tries to mitigate the negative impacts of these demographic trends, policy remedies must also address the welfare of disadvantaged groups.

China's rapid pace of urbanisation and asset inflation means that those who do not already own property have to struggle to survive in big cities. Many of these people flocked to cities as migrant workers but find they may be forced back to their villages. In addition, it is often extremely challenging for them to acquire new skills in the rapidly transforming economy.

Meanwhile, the elderly who have been left behind are in an even worse position. They get little access to public services, such as health care, and have the least amount of lobbying impact.

Migrant workers who have successfully settled in cities face challenges as well. Their children often do not have adequate access to even the basic amenities that are taken for granted by urban dwellers.

In short, while an ageing population has heightened China's urgency to move away from the middle-income trap, certain policy remedies that are aimed at raising productivity are exposing the vulnerability of disadvantaged groups because they are less connected to education, health care, and social mobility.

China's workforce—with more than a billion potential workers—is far and away the greatest workforce the world has ever seen. For now.

Japan

Impact of digital technology

Many of the changes being brought about by digital technology in China are breathtaking. In light of sharply rising labour costs, the Chinese Government is determined to move up the value chain by using robots and artificial intelligence (AI) to raise national productivity.

The rise of robots and AI will have its biggest impact by replacing jobs involving repetitive tasks rather than those involving personal interaction. This poses a particular challenge for China, whose great advances in recent decades have been relatively more focused in areas such as manufacturing rather than service sectors. Other things equal, that says the rise of machines looms larger as a game changer for China than it does for many other nations.

For example:

- A major energy company has built four intelligent factories for demonstration purposes and boosted labour productivity in these pilot plants by over 10 percent.⁴ Their factory in Zhenhai in southern China is the first fully enclosed, fully automated chemical warehouse in China, where the staff were reduced by 66 percent.
- A large appliance maker retrofitted its factory into an intelligent one, and managed to reduce the number of employees from over 3,000 to just 700.⁵
- In the red-hot fintech sector, where Chinese companies are likely to emerge as global leaders, interesting applications are increasingly pervasive. Investment and trading are being done by AI, which makes use of big data to predict market trends and improve investment portfolio performance.
- In health care, machines are being built to complete specific tasks such as assistance in medical imaging, precision medical care, health management, and drug research and development.

In the foreseeable future, continued digitisation, along with the development of robots and AI, will facilitate the further movement of workers from repetitive to innovative work.

Opportunities for industries

Rapid ageing of the Japanese population has changed the needs of people and the way businesses satisfy them. While falls in population overall are a negative for demand, the Japanese experience has shown that ageing can have positive impacts as well,^{6,7} increasing demand for some sectors such as:

- **Health care and nursing services** for the elderly, including funeral-related services
- **Consumer goods for the older person**, including disposable diapers, high-quality and small-portioned daily meals, anti-ageing products, high-class and well-prepared cruises, and/or train tours
- **Age-appropriate houses and social infrastructure**, such as high-rise apartments close to big city centres, and urban design concepts such as “compact city,” (which realise high residential density in a small area with multiple social functionalities)
- **Asset management and testamentary trust services**, as well as insurance policies focusing more on longevity risk than on mortality risk

While an ageing population increases opportunities for industries that provide the above products and services, there are a number of positive impacts on the supply side, as there will be increasing need for:

- **Labour-saving technologies**, including robotics, sharing economies, and AI
- **Aged worker retraining services**, adapting the capabilities of the elderly after their retirement to meet labour market needs
- **Child-care services** to help mobilise the female labour force, along with a variety of services to support working women⁸
- **Foreign worker training services**, which assist in adapting foreign workers’ capabilities to the requirements of Japanese immigration regulations, and a variety of services to support the daily life of foreigners in Japan

Japan's overall population is falling by 250,000 people per year. The number is set to double in a decade.

Demographic changes and inequalities

The declining potential growth tends to result in looser monetary policy, but those lower interest rates—and the higher asset prices they generate—result in increasing inequalities between the asset-rich elderly and income-poor younger generations.⁹

Over time, that divergence can increase the younger generation's economic dependence on the elderly, discouraging young people from getting married and starting families. In turn, this can lead to further falls in the birth rate.

Furthermore, the increasing importance of holding assets (for instance, real estate in big cities) over generating income flow tends to reinforce the division between rich and poor families over generations (though that could be mitigated by future inheritance tax hikes).

The issues created by declining and ageing populations also tend to have greater impact on disenfranchised communities, posing further risks to social harmony. Some of these problems are now being addressed, for example, by using the idea of a compact city, which means the elderly are encouraged to move from rural to urban areas.¹⁰

Demographic factors will also change the political scene. The increasingly strong voice of an older generation that accounts for the majority of votes in a democracy will limit the ability of governments to change their pension and health care systems. This may mean more intergenerational income transfer from the young to the old, or cause more consumption at the expense of investment.

Impact of digital technology

Digital technology may be instrumental in addressing problems that arise from an ageing and declining population.

A prime example can be found in automated driving technology, which can address developing labour shortages in the transport sector—shortages that may arise amid a significant increase in demand for goods and services delivered through e-commerce businesses. Drone technology, already being introduced in the home-delivery service industry, can assist access to services in remote communities.

And the future may see the increasing ability of robots to care for the elderly—abilities that range from physically moving elderly bedridden patients, to stimulating their minds and providing company through AI-generated conversations and interactions. These developments can help address a lack of aged care personnel across Japan.

AI also helps facilitate the transfer of advanced manufacturing skills from experienced older workers to their younger counterparts. Some innovative companies have started to use AI to analyse the “tacit knowledge” of their skilled workers. This includes key manufacturing industries where ageing is becoming a serious problem, such as steel and machinery sectors, but also traditional performing arts and agriculture.

One of the biggest hurdles to Japan accepting more foreign workers, the language barrier, is also being addressed. Recent years have seen the development of many convenient translation applications, particularly for smartphones, which facilitates very smooth conversation between Japanese speakers and foreigners without any pre-existing knowledge of the other language.

India

Opportunities for industries

India's demographic dividend has been feeding growth for the last 30 years and is likely to continue to have a positive effect for some decades to come.¹¹ The impact has not been consistent across the economy, with some sectors benefiting more than others.

At a broad level:

- The services sector has received the biggest push, as it has benefited from an increasingly mobile, adaptive, and educated workforce.
- Critically, the IT sector has particularly benefited from India's changing population. The initial opportunity in this segment was created in the outsourcing industry, largely on the back of a higher education infrastructure that produced an army of English-speaking engineering graduates who were able to work at comparatively lower wages.
- That success in IT has since been replicated across a number of service sector segments, where the Indian education system has been able to provide skilled graduates in areas such as health care, accounting, data processing, and legal outsourcing.
- The manufacturing sector has also benefited from a range of demographic-related factors, but its gains have been uneven at best and have lagged behind those of the services sector.
- India's largest employer, the agriculture sector, has been unable to climb onto the bandwagon of technological innovations leading to weak productivity increases and rising wage pressures.

Additionally, demographics have ensured the creation of a large and resilient domestic sector. India is already home to one of the largest consumer bases, one that is growing rapidly in terms of both its ability and its willingness to spend.

Demographic changes and inequalities

India is one of the world's fastest-growing economies, but it still has a high level of income inequality, primarily due to a lack of adequate growth in its agricultural sector. With a large part of the population still dependent on the sector, this has driven rapid migration from rural areas, not only putting pressure on urban infrastructure, but creating a pool of urban poor struggling with low income and poor access to services. Similarly, landless labourers, marginal farmers, rural artisans, and the communities displaced by environmental and political disturbances still struggle to reap the benefits from India's strong growth.

If these inequalities are not narrowed, they could restrict the ability of the Indian economy to fully capitalise on future demographically driven expansion. In fact, in its *Global Risks Report 2016*, the World Economic Forum has identified inequality as a significant risk to global growth in this decade.¹² From a policy perspective, the key requirement to enable inclusive growth (apart from employment and education) is a focus on the efficient delivery of government policies and services.

Impact of digital technology

Digital India is the new *aspirational India*. There is a widespread focus on expanding the use of digitalisation as a tool to provide direct access to public services and as a means to generate self-employment opportunities and to spread education at a lower cost. The government is trying to push this along with its recent policy of "demonetisation," which encouraged people to stop using cash, start engaging in electronic payments, and participating in the formal financial sector. The recent creation of a Goods and Services Tax (GST) will hopefully have the effect of boosting digitisation of tax compliance.

The private sector has also started to use digitalisation as a tool to grow sales, and more businesses are now using technology to develop niche-specific business models. A good example is the growth in hyper-local retail along with the growth in e-commerce. Both have grown because of the spread of the Internet and mobile telephony, but they have different business models. Using a digital backbone, aggregation across multiple sectors such as small merchants, urban services, logistics, transport, and even credit, is also growing in importance.

However, growth in technology also threatens employment, at least in the short run. For the IT sector, the country's premier industry association, NASSCOM, has estimated around 40 percent of the workforce will need reskilling to stay relevant in the face of automation while 50-60 percent of jobs will require new skills.¹³ Automation is an even bigger challenge for manufacturing sectors. There are many instances where companies have opted for higher levels of mechanisation and robotics, in sectors ranging from aviation and warehousing to automobile manufacturing. In effect, technology is seen to be replacing low-skill, routine tasks while putting a premium on high-skill jobs.

By mid-century India's potential workforce will grow from 885 million people to 1.12 billion.

For India, changes in technology can lead to the following trends:

- Short-term threat to employment, which can become long term if the government and private players do not respond adequately by creating infrastructure to participate in the new technological environment.
- On the other hand, it also opens up opportunities to use India's population base to drive growth across labour-intensive sectors such as textiles, toys, electronics manufacturing and assembly, housing, and infrastructure.
- This would provide opportunities for niche sectors such as services for affluent older populations, social entrepreneurship, and so on.

Taiwan

Opportunities for industries

With life expectancy on the rise and Baby Boomers reaching retirement age, the proportion of the elderly in Taiwan's population has been increasing. Taiwan is set to become an aged society (with over 14 percent of the population aged over 65) in 2018 and a super-aged society in 2025 when that proportion passes 20 percent.¹⁴

Longer life expectancy and high economic growth from 1950 to 2000¹⁵ are increasing demand for mobility products and services for the elderly, as well as preventing and treating chronic diseases that afflict older people. Consumers have also become more health conscious, creating a demand for organic food and fitness products.

To better utilise its resources to help elderly citizens, the Taiwanese government launched a “long-term care service program 2.0,” which came into effect in 2017. It will boost the number of neighbourhood care stations to 4,529 by 2021, more than double the 2016 level. The program will also increase services provided, and try to reach more people in need via these stations.¹⁶ The program creates new business opportunities for medical solution providers to offer their services to neighbourhood care stations.

Demographic changes and inequalities

An empirical study found that from 1998 to 2006, Taiwan saw a correlation between ageing and rising income inequality. Some of this can be attributed to a decline in multigenerational families, with additional impacts due to a rise in the number of elderly households with no additional income beyond a pension.¹⁷ Without income from work, some elderly people need help from the government to make ends meet.

Pension schemes and insurance packages have become increasingly unsustainable because of the rising level of retired population compared to the working age population.¹⁸ This, coupled with Taiwan's slower economic growth since 2000¹⁹ has placed strains on the current system, thereby leading the government to amend the scheme to prevent it from collapsing. In addition to direct help to the elderly, the “long-term care service program 2.0” also hopes to empower local communities to take care of their elderly members.²⁰

Impact of digital technology

The government has set itself the goal of becoming a “digital country, intelligent island”²¹ by initiating policies to assist Taiwanese companies to transform themselves. This includes:

- **Asia Silicon Valley:** The government aims to transform Taiwan into the Asia Silicon Valley by building an Internet of Things (IoT) ecosystem²² with a focus on six areas: mobile lifestyles, AI, automated driving and piloting, augmented and virtual reality, information security for the IoT,²³ and Southeast Asian markets.²⁴
- **Fintech and regulatory sandbox:** The cabinet passed a draft bill for a regulatory sandbox, which is pending approval by Taiwan's legislature. The draft would set up a “regulatory sandbox” for financial institutions and technology companies to test innovative services, products, and business models in a live environment with exemption from regulations.²⁵
- **Smart manufacturing:** The government has established the Smart Machinery Promotion Office to help manufacturing companies in Taiwan transform to Industry 4.0 standards, with the aim of maintaining the competitiveness of many “hidden champions” in Taiwan.²⁶

Taiwan is one of the fastest-ageing societies in the world; estimated to become an aged society in 2018 with 14 percent of the population aged 65 and over, and a super-aged society in 2025 when that figure reaches 20 percent.

Thailand

Opportunities for industries

Thailand is entering a new era of slow population growth, rapid population ageing, and even probable population decline. The falls may set in by the mid-to-late 2020s, on the back of startlingly low birth rates which have been below the replacement level of 2.1 births per woman for the past two decades.²⁷ The country is also experiencing rapid urbanisation, as more people from the outskirts move towards cities such as Bangkok, often in hopes of better employment outcomes.

These changing demographics have opened up some key business opportunities:

- **Care of the elderly:** Demand for health care products and care services, as well as doctors and nurses, is growing. Demand for long-term residential facilities like elder communities, retirement centres, and nursing homes are also an area of increasing opportunity.
- **Rebalancing the economy towards services:** These major demographic shifts position Thailand as a provider of services geared for an ageing population, such as medical and wellness tourism. Furthermore, as the country ages and the workforce declines, automation will be required to help offset losses by increasing overall efficiency.

Demographic changes and inequalities

The changing demographic structure has resulted in widening income and socioeconomic disparities as well as an increase in disenfranchised communities. Key trends include:

- **Growing old before growing rich:** Thailand risks becoming mired in the middle-income trap, as the working population declines and productivity diminishes before the economy reaches high income levels.

- **Rising dependency rates:** The shrinking support base of adults that the elderly Thai population can depend on has resulted in a sharp increase in the age-dependency rate,²⁸ straining the working population in Thailand.
- **Brain drain exacerbating urban-rural disparities:** Disparities in national wealth distribution were amplified by the 1997 Asian Financial Crisis and will be further exacerbated by rapid urbanisation as more educated and skilled workers, usually young adults, migrate to urban areas due to the lack of appropriate and attractive jobs in rural areas. The elderly or poor (those not able to afford to move) are usually left behind in rural areas, further intensifying rural-urban disparities. More than 40 percent of Thailand's poor live in the north-east, with less than 5 percent of the country's poor living in Bangkok.²⁹

Impact of digital technology

The development of digital technologies in Thailand has strong government support as part of the Thailand 4.0 masterplan to develop 10 industries of the future.³⁰ The goal is to transform the country's traditional farming, manufacturing and small and medium-sized enterprises (SMEs) into "smart" enterprises, and to shift traditional services to high-value services. This policy seeks to promote creativity, innovation, and the application of technology in various economic activities that are also high in value-add.

Technology can help ease the gap between skills shortage and an ageing workforce. A shift towards automation and robotics will aid productivity and efficiency as manual labour gets too arduous for an ageing population. However, Thailand has to ensure that its working age population is well-equipped to handle high-tech processes. This also means considerable improvements need to be made to its current education system.

Thailand is entering a new era of slowing population growth, rapid population ageing, and even probable population decline.

The Philippines

Opportunities for industries

The Philippines' population is expected to cross 120 million in the next decade, an increase of 15 million from current levels.³¹ However, the rate of population growth is expected to slow as birth and death rates are dropping, even as life expectancy is increasing.

World Bank data shows the Philippines as one of the fastest urbanising countries in the region, with Manila being the most densely populated urban area in the world.³² Currently, 45 percent of Filipinos live in cities, and this proportion is set to surge to around 65 percent by 2050.³³ Urbanisation requires cities to improve infrastructure and transport systems to remain sustainable.

Key insights include:

- **Growth in the construction sector:** Urbanisation results in higher demand for housing, functional transport systems, and basic services. Within the next five years, the government plans to increase spending on infrastructure as part of the Build! Build! Build! program—lifting infrastructure from 5.4 percent to 7.4 percent of GDP across this period. The construction sector will contribute significantly to Philippines' growth in the future.
- **Need for better education:** With urbanisation, Filipinos need to improve their skills for better job opportunities in the future. Besides educational institutes, creating online platforms where people can obtain specific technical skills or even diploma courses will be key.
- **Business Process Outsourcing (BPO):** The rapid expansion of the BPO industry is providing the younger workforce with middle-class jobs. There are currently approximately 800 call centres,³⁴ and this is expected to grow in the years to come.

World Bank data shows the Philippines as one of the fastest urbanising countries in the region.

Demographic changes and inequalities

A report by Asian Development Bank (ADB)³⁵ said that approximately 400 million people in the Asia-Pacific region still experience poverty due to widening income inequality. This may decline in the years to come thanks to:

- **Higher incomes for rural communities:** Urbanisation has mixed impacts on rural communities. While some see a decline in population as workers move from agriculture to more remunerative jobs in the city, efforts by the government to improve rural infrastructure can boost yields and lift rural incomes.
- **Government intervention:** The authorities have adopted a plan which hopes to eradicate poverty by 2040,³⁶ tripling real per capita incomes across this period and wiping out poverty and hunger.

However, other risks remain. In particular, sectarian conflicts could widen the gulf. Filipino Muslims, constituting about 5.6 percent of the population, are a minority in the archipelagic nation. They are also disproportionately located in the poorer parts of the Philippines—notably in the south. In 2015, 59 percent of the population living in the Autonomous Region in Muslim Mindanao (ARMM) were classified as poor, and one-third live in extreme poverty.³⁷ Events like the recent conflict in Marawi City make it difficult for economic development to take root properly in order to overcome poverty.

Impact of digital technology

Advances in digital technology have improved the efficiency of financial institutions in the Philippines. For example, the Bank of the Philippine Islands (BPI) and BDO Unibank Incorporated have recently invested in chatbots and AI to streamline back-end processes and augment customer service.

The Philippines has latched onto the digitalisation wave and is well-poised to ride it to greater heights. The country boasts some of the largest incubator hubs in Southeast Asia and, with appropriately supportive regulatory regimes, the Filipino digital technology scene can potentially drive innovation through the region. With the recent establishment of the QBO Innovation Hub, start-ups and young entrepreneurs can utilise its resources to create a more sustainable business.

Vietnam

Opportunities for industries

Despite being youthful in comparison to other Asian countries, with almost half of its population being below the age of 30, Vietnam's population will undergo a gradual ageing process through to approximately 2040.

The drivers of that process are classic: The country has experienced a remarkable drop in birth rates (from five births per woman in 1980 to just two children per woman in 2016), while the average life expectancy has increased significantly, up from just 40 years in 1960 to 73 years now.³⁸

The country's demographic trends have provided opportunities to tap into the young, emerging middle class which dominates nearly half of the population, as well as to meet their needs in their later years.

Key insights include:

- **Health care as a primary sector:** There will be a growing demand for hospital capacity, elderly care, and pharmaceuticals.
- **Improved lifestyle options for the emerging middle class:** As the country develops, people are migrating to cities in big numbers in pursuit of good jobs. This has created a large and growing consumer class as wages increase and the population becomes more affluent. Demand is expected to increase in the consumer products, infrastructure, IT and education, automotive and housing industries.

Vietnam's demographic trends have provided opportunities to tap into the young, emerging middle class which dominates nearly half of the population.

Demographic changes and inequalities

Several disparities are the by-product of changing demographics:

- **Rising dependency ratios:** While the proportion of children in the entire population has shrunk due to declining birth rates, the fast-growing senior population is driving up the overall dependency ratio.
- **Worsening gender imbalances:** The practice of pre-natal sex determination and selection in Vietnam has led to a gender imbalance over the years, with 112.2 male births per 100 female births in 2014,³⁹ well above the world average of around 104 male births per 100 female births. While this means there are relatively few girls and young women, women consistently live longer than men; therefore the population aged 65 and over is projected to remain predominantly female.
- **Entrenched urban-rural disparities:** Despite recent poverty reduction programmes, the disparities between rural and urban, lowland and upland areas, and between agricultural and non-agricultural sectors have all increased. This will further intensify as more young people move to cities, leaving the poor and elderly behind in rural areas.

Impact of digital technology

The digital economy in Vietnam is thriving. The country's ICT industry and rate of mobile phone penetration is growing faster than in any other country in the region. Research has found that about 43 percent of Vietnamese learn about products and make decisions through online advertisements,⁴⁰ and this has given rise to a wave of entrepreneurship including local start-ups and SMEs.

With the country's emerging young population, this trend will only increase in the future. Furthermore, the government aims to make Vietnam the world's factory. The country will have to build more infrastructure and improve its business operations, especially in the manufacturing sector. Automation will benefit manufacturing in the face of an ageing workforce, particularly as younger workforce turns towards ICT, e-commerce, and start-up activities.

Malaysia

Opportunities for industries

Malaysia's total population is expected to grow by more than 75 percent, from 19 million as recently as a quarter of a century ago to nearly 34 million in 2022. The population aged 65 and above is projected to more than triple over that time, from 700,000 to over 2.5 million, and to reach 7.5 percent of the total population. This highlights the need for Malaysia to improve health care options to accommodate the aged.

Key trends include:

- **Increasing need for geriatric health care:** As Malaysia's population ages, chronic diseases and disabilities will become more common, leading to an increased need for professionals trained in geriatric health care. Services such as elderly care, rehabilitation, social clubs, and home nursing also need to be adequate to enable the aged to remain in the community.
- **Rising demand for insurance:** An ageing population will drive the need for health insurance products, such as life insurance plans, as the population increasingly becomes aware of the cost of long-term health care.

Additionally, the growth of the Muslim population means there is the prospect of significant growth of the Halal industry to provide food that meets religious requirements. The Halal Industry Development Corporation (HDC) has forecast the global Muslim population will increase from 23 percent to 27 percent in 2030,⁴¹ creating business opportunities for the industry, while the government has adopted the Halal Industry Master Plan (HIMP) to expand capacity in this sector over the coming years.

Demographic changes and inequalities

Based on measures of gross household income (including both rural and urban areas) Malaysia's level of inequality has decreased over the past decade.⁴² Key insights include:

- **Increased government spending:** In the last decade, the government has increased wealth-distribution efforts to address the problem of income inequality. Between 2009 and 2014, the real average household income of the bottom 40 percent grew 11.9 percent each year—outpacing the total increase of 7.9 percent across the population,⁴³ thereby helping close the gap between the groups.
- **Rising top income tax rates:** Malaysia's current tax rate for the top income bracket is at 25 percent—a rate significantly lower than some other Asian economies (for example, 38 percent in Korea and 35 percent in Thailand).⁴⁴ An increase in the tax rate will help reduce income disparity and generate revenue for development and poverty alleviation projects.
- **Policy reform to promote greater equality among races:** Racial discrimination in Malaysia continues to rise, according to the recent Racial Discrimination Report.⁴⁵ The government should focus on need-based policies to help the bottom 40 percent, regardless of ethnicity, while efforts need to be made to reduce the potential for perceptions of racist overtones in the public sphere.

Impact of digital technology

Deployment of robots in Malaysia increased about 8 percent annually from 2010 to 2015, according to the World Robotics Report.⁴⁶

A case study of a local apparel manufacturer suggests it could increase its production volume by as much as 300 percent by automating its operations, avoiding the hiring of an additional 100 workers and reducing defect rates by 80 to 90 percent.⁴⁷

The population aged 65 and above is projected to reach 7.5 percent of the total population by 2022.

Singapore

Opportunities for industries

Singapore is already grappling with a rapidly ageing population and an extremely low birth rate. United Nations population projections suggest the number of Singaporean citizens aged 65 and above will more than double to 1.5 million in the next 15 years, and the government has suggested Singapore will age more rapidly than any other society in the world.⁴⁸

This is likely to drive growth in the following industries:

- **Private health care, pharmaceuticals, biotechnology, and nutritionals and supplements:** Growth in these industries is likely to be driven by increased health care expenditure arising from the greater prevalence of chronic diseases due to the rising proportion of senior citizens.
- **Asset management services:** As asset ownership levels among elderly Singaporeans are relatively high, demand may increase among senior citizens seeking to manage their assets, generating opportunities in the financial services, insurance, and legal industries.
- **Child-care and elderly-care industries:** As more families face a situation where fewer working adults are supporting both younger and elderly dependents, demand may rise for child-care services, health care monitoring devices, assisted living technologies, care-giving services, retirement homes, and hospices.

Demographic changes and inequalities

The demographic changes discussed above may worsen income inequality (which remains high in Singapore despite falling from a peak in 2007⁴⁹) and wealth inequality (which is rising).

Key insights include:

- **Widening of income disparities:** This may arise as a result of the government's policy of making up for falling birth rates (and to prevent Singapore's population from shrinking) by granting citizenship to immigrants. These immigrants tend to be high-income earners, often drawn by Singapore's aspirations to become a "global city." This may raise average incomes at the top, even as incomes for the lower end of the population remain depressed.
- **Exacerbation of wealth inequality:** Singapore's household net wealth has more than doubled in the last decade, but rising levels of wealth inequality suggest that the wealth of the richest Singaporeans is growing much more rapidly than that of Singapore's poorer households. With falling birth rates, wealth may become increasingly concentrated within smaller families, and this could eventually exacerbate wealth inequality.

Impact of digital technology

Faced with a rapidly ageing and shrinking workforce, Singapore has turned to technological innovation in a bid to boost productivity and economic growth. Automation, intelligent machines, and data analytics can allow firms to cope with decreasing numbers of available workers and raise productivity.

However, the adoption of new digital technologies and disruption of existing industries threatens many workers if they are unable to continually adapt and pick up new skills. In an attempt to help the workforce cope with these developments, the government has launched the SkillsFuture initiative to help workers pick up new skills and take advantage of new technologies and the new jobs created.

Singapore is already grappling with a rapidly ageing population and an extremely low birth rate. The Government has suggested the country will age more rapidly than any other society in the world.

Indonesia

Opportunities for industries

Indonesia is set to benefit from the “demographic dividend” over coming decades, where increasing life expectancies and falling birth rates produce an increase in the working-age population and relatively fewer dependents than in previous generations.

The proportion of working-age adults is estimated to remain relatively stable at about two-thirds of the total population, which is higher than neighbouring Association of Southeast Asian Nations (ASEAN) economies such as Thailand or Singapore.

Indonesia also faces the fastest rate of urbanisation in Asia, but has so far under-invested in its cities. Many urban communities lack access to safe water, sewer systems, and public transportation, and the resultant congestion, pollution, and disaster risks are holding back economic growth in Indonesia.

These trends are likely to drive growth in the following areas:

- **Consumer goods:** This includes tourism, entertainment, hospitality, manufacturing, and education. Demand for such goods is likely to increase, given that working adults typically have higher purchasing power and levels of disposable income.
- **Construction, utilities, and transport:** Given the rapid urbanisation, these industries are set to benefit from tremendous opportunities as the government is likely to face political pressure to increase investment in urban infrastructure, including public transportation systems, ports, airports, housing, and utility networks.
- **Gaps left by changing Chinese production:** Manufacturing costs in China have crept up steadily as average wages in the sector increased by about 80 percent since 2010.⁵⁰ This means Chinese firms are gradually abandoning low-cost manufacturing and moving up the value chain, thereby opening up an opportunity that Indonesian firms can fill, given the youthful Indonesian population and the need to industrialise. The average daily cost of factory labour in Indonesia is US\$9 compared to US\$28 in China.⁵¹ Indonesia should capitalise on this trend to promote low-cost manufacturing to attract more investors.

Indonesia’s relatively youthful workforce gives it a significant advantage in adapting to technological changes.

Demographic changes and inequalities

Indonesia has one of the highest levels of income and wealth inequality in the world, and the concentration of wealth is also rising faster than in other countries, as the economy continues to grow at a high rate. These trends will likely have the following impacts:

- **Exacerbation of income and wealth inequality:** Should assets and capital continue to be largely owned by a small elite class, the richest Indonesians are more likely to benefit disproportionately from the projected high rates of economic growth generated by the demographic dividend.
- **Improvement in the average Indonesian’s access to infrastructure and education:** Due to urbanisation, fewer Indonesians live in rural areas and are therefore better able to access good employment, educational opportunities, and infrastructure. Urbanisation may act as a social leveller and moderate any rise in income and wealth inequality.

Impact of digital technology

Internet and smartphone penetration rates remain low in Indonesia compared to other ASEAN economies, such as Malaysia or the Philippines, and the country continues to lag behind in the adoption of digital technologies in the workplace, such as cloud computing, AI, and big data.⁵² Even though Indonesia does not face the problems of an ageing and shrinking workforce, digital technologies create great opportunities for Indonesia to raise productivity levels.

Furthermore, Indonesia’s relatively youthful workforce gives it a significant advantage in adapting to the technological changes that are likely to arise as digital infrastructure in Indonesia catches up with the rest of the world. The increased utilisation of digital technologies in Indonesia will allow it to maximise the economic growth generated by the coming “demographic dividend.” Indonesia will, however, have to make concerted efforts to improve higher education to truly drive growth through digitalisation.

Australia

Opportunities for industries

Australia has long benefited from the industrialisation of China and India, selling resources to their rapidly growing economies. Now it faces up to the need to transition its economy to ensure future prosperity.

Many of the key areas that may drive Australia's coming growth successes were examined in Deloitte's *Building the lucky country: Positioning for prosperity*,⁵³ and three of these in particular are linked closely to demographic trends in the region:

- **Agribusiness:** While Australia ranks as the world's driest continent, it is still a net exporter of food. Population growth across Asia will combine with rising incomes, increasing demands on food production generally, with the additional issue that growth in the size of cities may restrict available land. Demand for Australia's fresh produce, particularly proteins, is set to rise significantly in coming years.
- **Higher education:** Teaching foreign students is Australia's fourth-biggest export earner, generating an income of AU\$20 billion a year⁵⁴ and employing a significant number of Australians. The future potential is also enormous, given the emerging economies of today will become the knowledge economies of tomorrow. The additional possibility of using education as a pathway to Australian citizenship means Australia can sell both education and migration potential. With India, Indonesia, and the Philippines still boasting a growing pool of young workers, there is scope for further expansion in the sector.
- **Wealth management:** At the other end of the ageing spectrum, retirement management is set to be a growing industry in the Asia Pacific region that Australia will chase. Two trillion Australian dollars in pension assets under management, a sophisticated finance sector, and the surge in the number of people in Asia aged over 65 should help Australia become a global competitor in the business of managing people's money.

By 2040, Australia will have lost all of the demographic-driven gains made since 1960.

Demographic changes and inequalities

Australia has long recognised the risks from demographic ageing—the 2002 Intergenerational Report⁵⁵ examined the long-term impacts that these trends would have on government health expenditure, as well as the supply of labour. Since then, large inflows of (typically younger) migrants to Australia have slowed this process and offset the impact that the start of the retirements of the Baby-Boom generation might have seen.

Yet, that growth has led to its own problems: As overall population growth rates increased, Australia began to find itself struggling to build the infrastructure required to deal with the rising population as well as surging property prices in the major population centres of Sydney and Melbourne. Combined with weak wage growth, a general surge in populist political sentiment has begun to put pressure on the government to curtail immigration.

Impact of digital technology

The impacts of digital disruption across all sectors of the economy has long been anticipated by futurists, but the past couple of years have seen this coming change begin to impinge on mainstream discussions. Early effects—for example, the rise of on-demand car services and the demise of print media—are now being eclipsed by the rise of automation across a number of industries.

While a strong adopter of technology, as well as a key developer, with Australia's CSIRO being the creator of the now-ubiquitous WiFi technology,⁵⁶ Australia is still grappling with the scale of infrastructure required to run new digital industries. The construction of the nation's National Broadband Network, a system to improve connection speeds nationwide, is continuing.

What's next?

By taking a bird's eye view across Asia Pacific, these country-specific spotlights paint a powerful picture of the trends, challenges, risks, and opportunities of demographics.

The time for planning, preparation, and innovation is now. We all have a role to play in harnessing the data, insights, and analysis of demographics to cultivate and shape the future of tomorrow.



1. See fertility rate (total) for China, World Bank, "Fertility rate, total (births per woman)," <http://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=CN>
2. United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, custom data acquired via website
3. Source: EIU database, accessed, July, 2017
4. Chinanews, "Sinopec to build 10 smart factories," <http://www.chinanews.com/ny/2016/09-09/7999624.shtml>
5. Xinhuanet, "Sneak peek into Midea's smart factory: Automation and project excellence," http://news.xinhuanet.com/tech/2016-05/10/c_128973688_2.htm
6. Cabinet Office, Government of Japan, *Aging society* [in Japanese], http://www8.cao.go.jp/kourei/whitepaper/w-2017/zenbun/29pdf_index.html
7. Mizuho Bank, Ltd., Industry Research Division, *Mid-term outlook for Japanese industries* [in Japanese], vol.39, no.2, 2012, https://www.mizuhobank.co.jp/corporate/bizinfo/industry/sangyou/pdf/1039_03_03.pdf
8. Japan Finance Corporation Research Centre, *New business in the era of declining birth rate and aging population* [in Japanese], no. 2015-4, June 23, 2015, https://www.jfc.go.jp/n/findings/pdf/soukenrepo_15_06_23.pdf
9. Japanese Bankers Association, *Financial businesses in society with declining birth rate and aging population to support economic growth* [in Japanese], March 2015, https://www.zenginkyo.or.jp/fileadmin/res/news/news270337_1.pdf
10. Ministry of Health, Labour and Welfare, *Welfare and labour* [in Japanese], October 2016, <http://www.mhlw.go.jp/wp/hakusyo/kousei/16/dl/all.pdf>
11. The Economic Survey, 2016-17, and Aiyar and Mody, "The demographic dividend: Evidence from the Indian States"
12. Nisha Agarwal, *Inequality in India: What's the real story?*, World Economic Forum, <https://www.weforum.org/agenda/2016/10/inequality-in-india-oxfam-explainer/>
13. Pankaj Doval, "Up to 40 per cent IT staff need reskilling: Nasscom," *Economic Times*, <http://economictimes.indiatimes.com/jobs/up-to-40-per-cent-it-staff-need-re-skilling-nasscom/articleshow/58746011.cms> and Nasscom, *Jobs and skills: The imperative to reinvent and disrupt*, http://www.nasscom.in/sites/default/files/Jobs_and_Skills.pdf
14. National Development Council, ROC, 中華民國人口推估 (105年至150年), p.1, http://www.ndc.gov.tw/Content_List.aspx?n=84223C65B6F94D72, accessed July 7, 2017
15. Directorate General of Budget, Accounting and Statistics, ROC, *Economic growth, national statistics*, <http://statdb.dgbas.gov.tw/pxweb/Dialog/varval.asp?ma=NA8101A1A&ti=國民所得統計常用資料-年&path=.../PXfile/NationalIncome/&lang=9&strList=L> accessed July 6, 2017
16. The Economist Intelligent Unit, "Taiwan unveils new long-term care services programme," <http://www.eiu.com/industry/article/1414448925/taiwan-unveils-new-long-term-care-services-programme/2016-07-26>, 2016, accessed July 7, 2017
17. Chun-Hung A. Lin, Suchandra Lahiri, and Ching-Po Hsu, *Population aging and regional income inequality in Taiwan: A spatial dimension*, *Social Indicators Research*, 122(3), pp 757-777
18. Ministry of the Interior, ROC, *Work age population and elderly population*, 內政統計查詢網, <http://statis.moi.gov.tw/micst/stmain.jsp?sys=100>, accessed July 6, 2017
19. Directorate General of Budget, Accounting and Statistics, ROC, *Economic growth, national statistics*
20. The Economist Intelligent Unit, "Taiwan unveils new long-term care services programme," Executive Yuan, ROC, *Asia Silicon Valley Development Plan*, http://english.ey.gov.tw/News_Hot_Topic.aspx?n=D8084014E29E8219&sms=C39B3566A41136FF, accessed July 8, 2017
21. Ibid
22. Ibid
23. Executive Yuan, ROC (2017), *Asia Silicon Valley Development Plan driving industrial upgrades and transformation* [online], http://english.ey.gov.tw/News_Hot_Topic.aspx?n=F11330368F5E8FFC&sms=9929E72F56DA46EA, accessed July 11, 2017
24. 潘姿羽 (2017) "亞洲矽谷攻物聯網 六路出擊", 聯合新聞網, <https://udn.com/news/story/7241/2451058>, accessed July 10, 2017
25. Financial Supervisory Commission, ROC, 行政院通過「金融科技創新實驗條例」草案, 2017, http://www.fsc.gov.tw/ch/home.jsp?id=96&parentpath=0,2&mcustomize=news_view.jsp&dataserno=201705040002&toolsflag=Y&dttable=News, accessed July 10, 2017
26. Liberty Time Net, "張菁雅 智慧機械推動辦公室成立 蔡英文賦予3任務," <http://news.ltn.com.tw/news/politics/breakingnews/1967036>, accessed July 9, 2017
27. P. Prasartkul and P. Vapattanawong, *Thai Health 2012: Thai Population and Health Indicators Taking the Pulse of Thailand's Populational Health* [ebook], pp.12-13, http://www.hiso.or.th/hiso/picture/reportHealth/ThaiHealth2012/eng2012_4.pdf, accessed July 10, 2017
28. Defined as the ratio between the aged population (65 and over) and the working age population (15-64)
29. Asian Development Bank, *Country Partnership Strategy: Thailand, 2013-2016* [ebook], pp.1-3, <https://www.adb.org/sites/default/files/linked-documents/cps-tha-2013-2016-pa.pdf>, accessed July 10, 2017

30. Bangkok: Thailand Board of Investment, *Thailand 4.0 Means Opportunity Thailand* [ebook], 2017, pp.1–3, http://www.boi.go.th/upload/content/TIR_Jan_32824.pdf, July 10, 2017
31. UN population data
32. Time, *TIME special report: The world at 7 billion*, http://content.time.com/time/specials/packages/article/0,28804,2097720_2097718_2097716,00.html, accessed August 1, 2017
33. B. Vera, "World Bank: Filipinos living in urban areas to double to 102M by 2050," *Newsinfo.inquirer.net*, <http://newsinfo.inquirer.net/900745/world-bank-filipinos-living-in-urban-areas-to-double-to-102m-by-2050>, accessed July 10, 2017
34. Karim Raslan, "How outsourcing transformed the Philippine middle class," *Business Insider*, December 29, 2016, <http://www.businessinsider.com/outsourcing-philippines-middle-class-2016-12/?IR=T>, accessed July 10, 2017.
35. Asian Development Bank, *Increasing equality, managing rural-urban transitions, investing in sustainable infrastructure keys to unlocking prosperity in Asia Pacific*, <https://www.adb.org/news/increasing-equality-managing-rural-urban-transitions-investing-sustainable-infrastructure-keys>, accessed July 10, 2017
36. A. Aaron Lozada, "Duterte signs EO on 25-year plan to eliminate poverty," *ABS-CBN News*, <http://news.abs-cbn.com/news/10/15/16/duterte-signs-eo-on-25-year-plan-to-eliminate-poverty>, accessed July 10, 2017
37. L. Revolv, "Islam in the Philippines," *Revolv.com*, https://www.revolv.com/topic/Islam%20in%20the%20Philippines&item_type=topic, accessed July 10, 2017
38. Thanh Nien Daily, "Vietnam's rapid aging population a new challenge," <http://www.thanhniennews.com/society/vietnams-rapid-aging-population-a-new-challenge-118.html>, accessed July 10, 2017
39. UNFPA, http://vietnam.unfpa.org/sites/default/files/pub-pdf/PD_SRB%20Report%202014_ENG_FINAL_printed%20in%20Mar%202017.pdf, accessed July 10, 2017
40. SITEC Academy, *Where are consumers introduced to new products in Southeast Asia?*, <http://www.sitecademy.com/where-are-consumers-introduced-to-new-products-in-southeast-asia/>, accessed July 10, 2017
41. "Growth of the Halal industry," <http://www.themalaymailonline.com/features/article/growth-of-the-halal-industry>, accessed July 10, 2017.
42. The standard measure of inequality, the Gini coefficient declined from 0.46 in 2004 to 0.40 in 2014 based on analysis by the Development Research Group (DECRG), <http://pubdocs.worldbank.org/en/285151475547874083/Is-Inequality-in-Malaysia-Really-Going-Down.pdf>
43. Khazanah Research Institute, http://ongkianming.com/wp-content/uploads/2016/09/KRI_State_of_Households_II_280816.pdf
44. World Economic Forum, *How can Malaysia reduce inequality?*, <https://www.weforum.org/agenda/2015/02/how-can-malaysia-reduce-inequality/>, accessed July 10, 2017
45. Kamles Kumar, "Racial discrimination in Malaysia growing despite Putrajaya's efforts," *Sg.news.yahoo.com*, <https://sg.news.yahoo.com/report-racial-discrimination-malaysia-growing-despite-putrajaya-efforts-151600304.html>, accessed July 10, 2017
46. Diag, http://www.diag.uniroma1.it/~deluca/rob1_en/2015_WorldRobotics_ExecSummary.pdf, accessed July, 2017
47. Digital News Asia, "Universal Robots doubles distribution network to meet growing demand for collaborative robots," <https://www.digitalnewsasia.com/business/universal-robots-doubles-distribution-network-meet-growing-demand-collaborative-robots>, accessed July 11, 2017
48. Singapore: National Population and Talent Division, *A Sustainable Population for a Dynamic Singapore: Population White Paper* [ebook] pp.9-13. <https://www.nptd.gov.sg/PORTALS/0/HOMEPAGE/HIGHLIGHTS/population-white-paper.pdf>, accessed July 10, 2017.
49. C. Yong, "Income inequality in Singapore lowest in a decade, monthly household income grows but at slower rate," *Straits Times*, <http://www.straitstimes.com/singapore/income-inequality-lowest-in-a-decade-monthly-household-income-grows-but-at-slower-rate>, accessed July 10, 2017
50. M. Lomas, "Which Asian country will replace China as the 'world's factory?'" *Diplomat*, <http://thediplomat.com/2017/02/which-asian-country-will-replace-china-as-the-worlds-factory/>, accessed July 10, 2017
51. S. Yusoo, F. Zuber, H. MNSR, N. Zamziba, and S. Toriry, "Wages of labour discrimination: Case study on Nike company, Indonesia," *International Journal of Academic Research in Public Policy and Governance*, 4(1), pp.19–27, http://hrmars.com/hrmars_papers/Wages_of_Labour_Discrimination_Case_Study_on_Nike_Company_Indonesia.pdf, accessed July 10, 2017
52. S. Kemp, "The full guide to Southeast Asia's digital landscape in 2017," *Techinasia.com*, <https://www.techinasia.com/talk/full-guide-southeast-asia-digital-landscape-2017>, accessed July 10, 2017
53. Deloitte, *Building the lucky country: Positioning for prosperity?*, <https://www2.deloitte.com/au/en/pages/building-lucky-country/articles/positioning-for-prosperity.html>
54. Department of Foreign Affairs and Trade, "The importance of services trade to Australia," <http://dfat.gov.au/international-relations/international-organisations/wto/pages/the-importance-of-services-trade-to-australia.aspx>
55. Treasury, Australia, "Intergenerational report," <http://archive.treasury.gov.au/contentitem.asp?ContentID=378>
56. CSIRO, "Our top 10 achievements," <https://www.csiro.au/en/About/History-achievements/Top-10-inventions>

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