

The future of work in emerging markets

The RBC Emerging Markets Equity team



Introduction

We believe a confluence of factors is causing a shift in the way workplaces operate around the world. Not only are we seeing a rapid acceleration of newer and more powerful technologies driving productivity and efficiency in the workplace, but there is also a seismic shift in the composition of the workforce and the way we are working. With emerging markets (EM) home to 85% of the world's millennials and 89% of generation Z, we expect this digital-savvy generation to embrace new forms of work including remote working and the rise of the gig economy.¹ While many of these trends were already under way, the advent of certain technologies and the COVID-19 pandemic has accelerated them.

In this report we analyse how various EM are positioned to benefit from these accelerating technology trends. Our research has highlighted wide divergences at the country level, with North Asian countries such as South Korea, Taiwan and China best positioned to lead the way in terms of adoption rates of new technology and relevant digital skillsets. On the other hand, Latin American countries and those such as India, Indonesia and the Philippines still lag behind in terms of digital capabilities. Many of these countries, however, are well positioned to benefit from demographic shifts and the rising number of women and generation Zers entering the workplace.

Our conclusions

Technology in the workplace

- We expect to see an acceleration in the pace of adoption of technology as the level of automation increases and enabling technologies such as 5G become more prevalent.
- The APAC region has the highest potential in terms of workplace digitisation. South Korea, Taiwan and China already lead other EM and most developed markets (DM) in terms of automation and robot penetration, and are expected to have the highest levels of 5G penetration and Internet of Things (IoT) connectivity by 2025.²
- With improving technology, rising wage growth and declining costs for automation and robotics, we expect to see a decline in manual labour roles and certain service sector roles with low skill requirements. Research by OECD and the World Economic Forum indicates that approximately one billion people globally, or one-third of all jobs, will need to be reskilled as many work tasks become obsolete. This will likely be more pronounced in countries with high levels of GDP per capita such as DM and more established EM such as South Korea.³
- We see wide divergence in EM countries' preparedness. Countries such as South Korea, Taiwan, China and Malaysia are best positioned overall to meet the digital skills requirement of the future compared to those like Indonesia, the Philippines and South Africa.

¹ UN Population Statistics, 2019. Broadly speaking millennials are those born between 1981 and 1996 and generation Z (also referred to as 'zoomers') are those born after 1997. ² International Federation of Robotics, 2020. GSMA Mobile Economy reports 2019. ³ World Bank, Oxford Economics, McKinsey Global Institute, 2017.

The evolving structure of the workforce

- We expect to see an increase in the number of female workers in the workforce in the next few years. According to McKinsey, by 2030, women could hold 20% more jobs compared to present levels versus 19% for men, with job mobility and education levels supporting female labour force participation. In all levels of education, the female enrolment rates in EM are higher than those of men.⁴
- EM is home to 85% of millennials globally and 89% of generation Z.⁵ These generations are the most educated generation to date and have a strong focus on working in technology-related jobs. However, we also find that generation Z are more likely to switch jobs than previous generations and place more emphasis on corporate values.⁶

Changing forms of work

- The proliferation of technology and expanding demand for flexible working is driving an acceleration in the gig economy and increasing the ability of people to work independently. The gig economy is rising rapidly in EM countries such as China, India, Indonesia and Brazil where we find large numbers of informal workers as well as young and digital-savvy workers, who are supplementing their income using the gig economy.⁷
- While many occupations in DM have been able to adapt to remote working without a significant loss of productivity, in many EM employment is still skewed towards occupations that require a physical presence. Our assessment of current levels of connectivity suggests that countries such as Taiwan, South Korea and Malaysia are best positioned for the potential to work remotely without the loss of productivity. On the other hand, poor technology connectivity suggests remote working potential is lower for India, South Africa and Indonesia.⁸

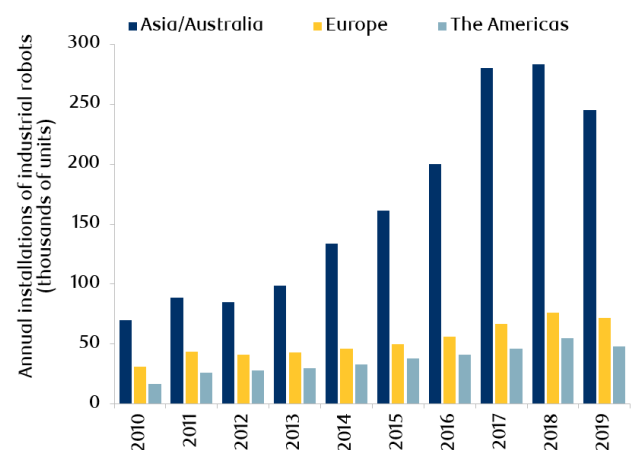
Technology in the workplace

We have been in the midst of a multi-year growth trend for technology adoption in the workplace and there has been a clear acceleration in 2020 as a result of the COVID-19 pandemic. We believe a confluence of factors such as falling robot prices, rising wages and reshoring of supply chains can drive further growth in automation over the next decade in EM, albeit with a degree of fragmentation at the country level. We have found that the APAC region has the highest potential in terms of workplace digitisation and that South Korea, Taiwan and China already lead other EM and most DM in terms of automation and robot penetration (Exhibit 1).

We believe the world of digital connections is getting broader and connectivity is faster, providing every industry with the opportunity to boost productivity and innovation. Ubiquitous connectivity and decreasing technology costs are leading to the digitalisation and 'datafication' of most activities around the world. At the heart of this trend of digitalisation is the 5G revolution, which is expected to be a key enabler of many technologies and increased connectivity. 5G's key technical attributes include faster connectivity speeds (10x faster than 4G), lower latency (50x lower than 4G) and vastly increased network capacity, all of which are crucial for a large scale enterprise digital transformation at a decreasing cost. We have found that EM in the APAC region are likely to have the highest potential in terms of workplace digitisation and countries

like South Korea, Taiwan and China would be ahead of other EM in terms of 5G penetration and IoT connectivity by 2025 (Exhibits 2 and 3).

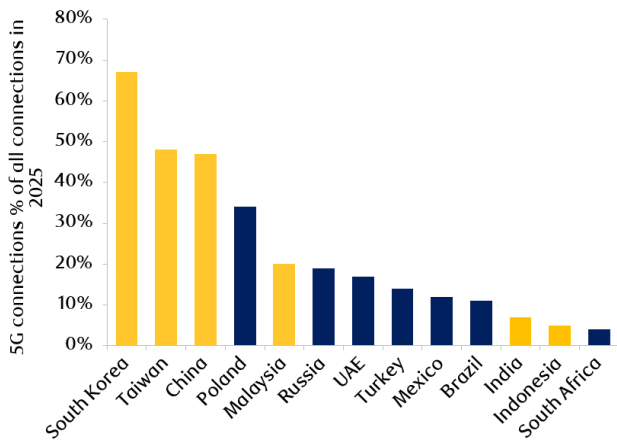
Exhibit 1: Industrial automation is led by the APAC region



Source: International Federation of Robotics. Data as at December 2020.

⁴ UNESECO, Global Gender Gap Report, 2020. ⁵ UN Population statistics, 2019. ⁶ OK Zoomer: Gen Z Primer, Bank of America, 2020. ⁷ BCG Future of Work worker survey, 2019. ⁸ IMD Global Competitiveness Ranking, 2020.

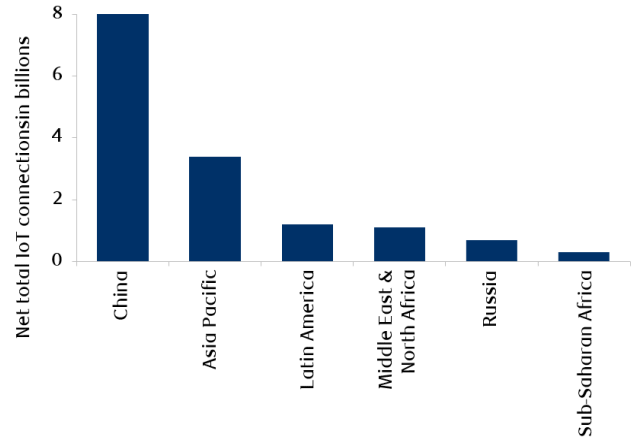
Exhibit 2: 5G penetration highest in APAC EM in 2025



Source: GSMA Mobile Economy reports. Data as at December 2019.
NOTE: APAC economies highlighted in yellow.

EM have historically provided an affordable source of labour to DM. However with the price of robots declining rapidly and wage growth rising in EM, it is likely that this trend will reduce the importance not only of manual labour, but also of certain service roles that require lower skills as automation and AI technology are able to improve efficiency. This risk of jobs displacement is higher in countries with higher levels of GDP per capita (Exhibit 4). Research by the OECD and the World Economic Forum indicates that as the world becomes more automated

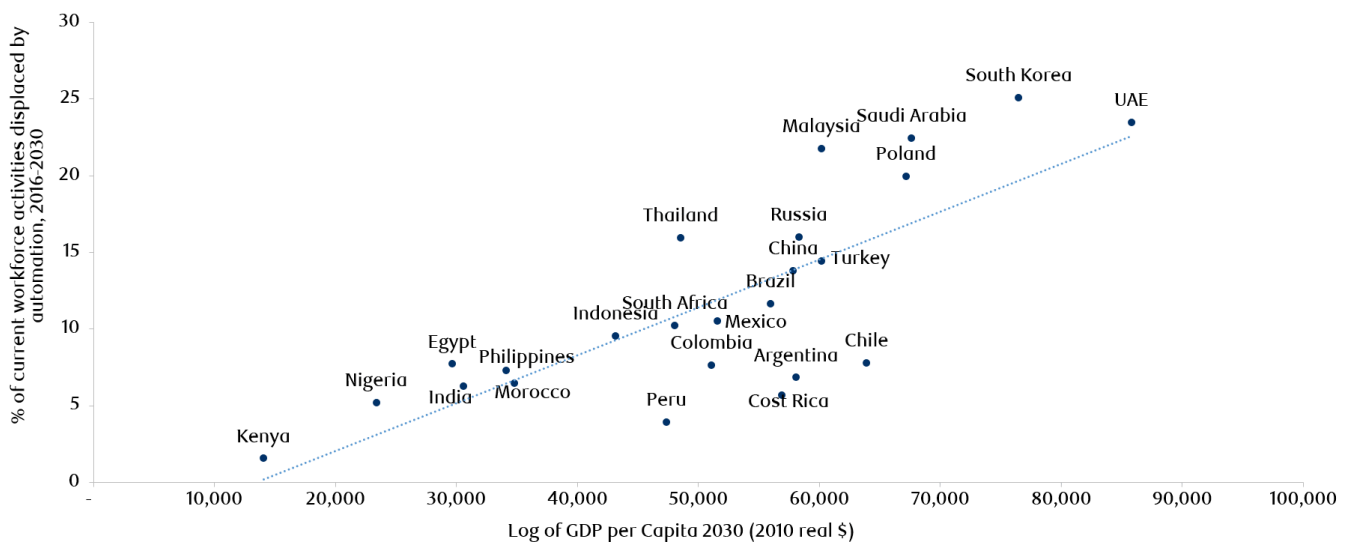
Exhibit 3: IoT connections highest in China and APAC in 2025



Source: GSMA Mobile Economy reports. Data as at December 2019.
NOTE: NA and Europe excluded from original chart.

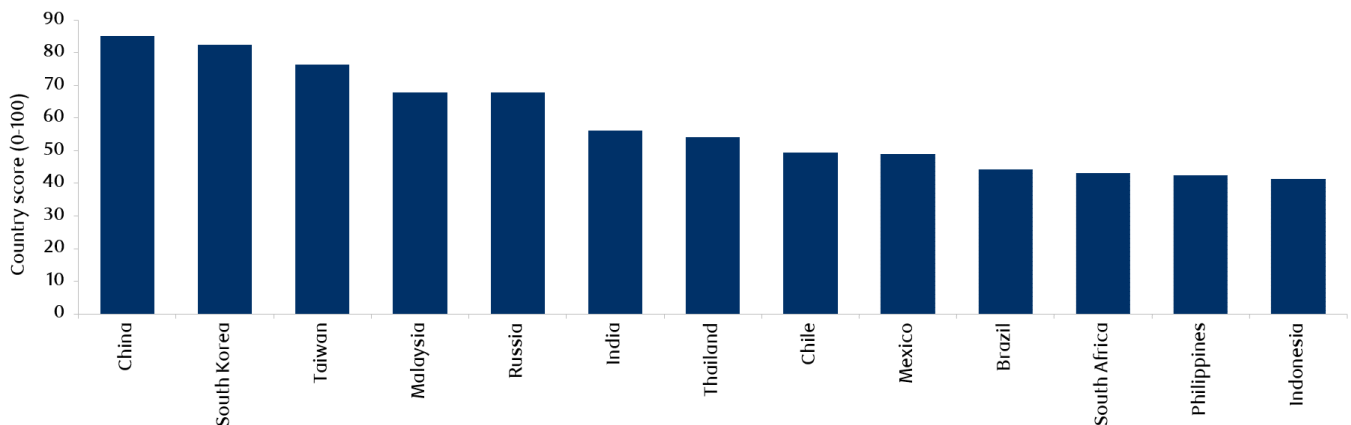
approximately one billion people globally will need to learn new skills as many work tasks will become obsolete. Our assessment of the digital skills of the populations across EM shows a fragmented picture of the readiness of these economies to face a digital future. We find that countries in the APAC region (South Korea, Taiwan, China and Malaysia) are best positioned overall to meet the skills requirements of the future compared to countries such as Indonesia, the Philippines and South Africa (Exhibit 5).

Exhibit 4: Level of automation of workforce activities is positively correlated with GDP per capita



Source: World Bank, Oxford Economics, McKinsey Global Institute. Data as at December 2017.
NOTE: This chart is a simplified version of the original to illustrate GDP per Capita and automation relationship.

Exhibit 5: EM knowledge ranking



Source: IMD World Digital Competitiveness Ranking. Data as at December 2020.

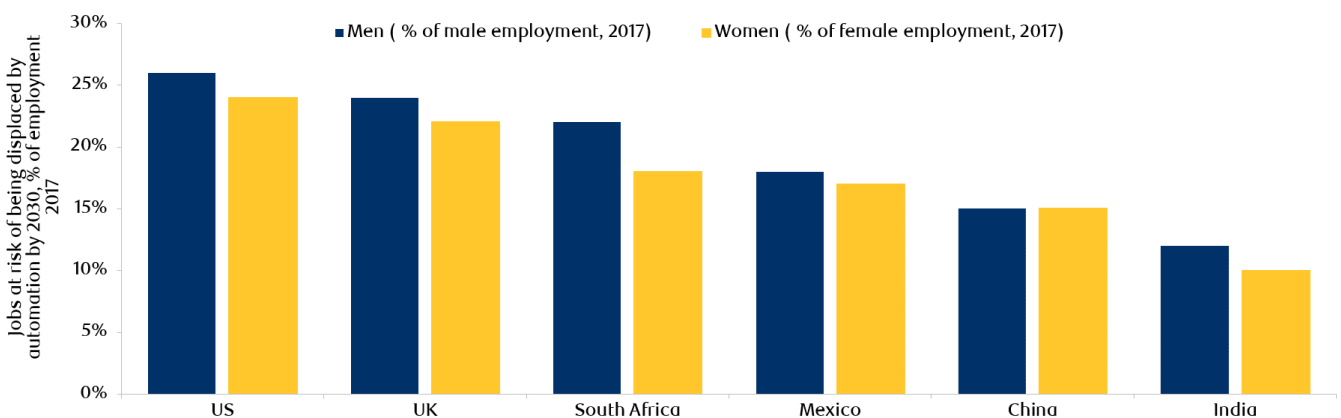
The evolving structure of the workforce

In addition to rising technology in the workplace, we also expect to see a significant shift in the composition of the workforce. It is likely that an increasing number of women with higher literacy rates and a young, digital-savvy population will enter the workforce.

Rising female participation in the workforce. In the next few years, we expect to see more women joining the workforce in EM due to an increase in literacy levels for women and growing urbanisation. According to analysis by McKinsey Global Institute, there could be a

26% increase in GDP by minimising gender disparity in the workforce. Research also suggests that women in the workplace can have a positive effect on the economy and that their participation can correspond with an increase in innovation. In addition, women are at less risk of job displacement due to automation (Exhibit 6). Currently, China has the highest level of female participation in the labour force at 60% and it is expected that China will have the largest increase in the share of women in employment by 2030.⁹ On the other hand, India has one of the lowest levels of female participation at 20.3% but this is expected to increase by 2030.

Exhibit 6: Women are less at risk of job displacement due to automation than men (by country)



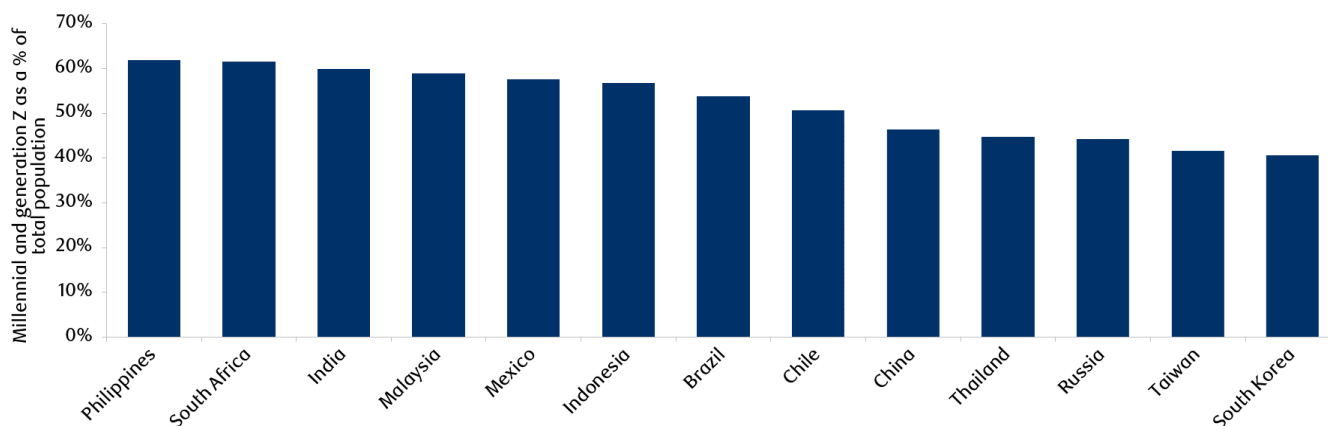
Source: McKinsey Global Institute Analysis. Data as at June 2019.

⁹ World Economic Forum Gender Gap Scores, WPO2019 Innovation Index, 2020. World Bank and ILO, 2020. McKinsey Global Institute, 2019.

Younger generations in the workforce. EM is home to 85% of millennials globally and 89% of generation Z (Gen Z), with countries such as the Philippines, South Africa and India having the highest share of this younger demographic (Exhibit 7). Gen Z is expected to be the most educated generation thus far with literacy rates among 15-24 year olds at 90.4% for women and 92.9% for men.¹⁰ These generations are much more digitally connected, having been exposed to technology from a young age and they are

well poised to be the beneficiaries of the changes in the future of work. More than 50% of Gen Z surveyed wanted to work in technologies such as 5G and IOT over the next five years.¹¹ However, according to Bank of America research, Gen Z is also much more focused on corporate values and more likely to switch jobs more regularly. We believe these attitudes are likely to support more flexible forms of working such as remote and independent work.

Exhibit 7: EM is home to a large proportion of millennials and generation Z



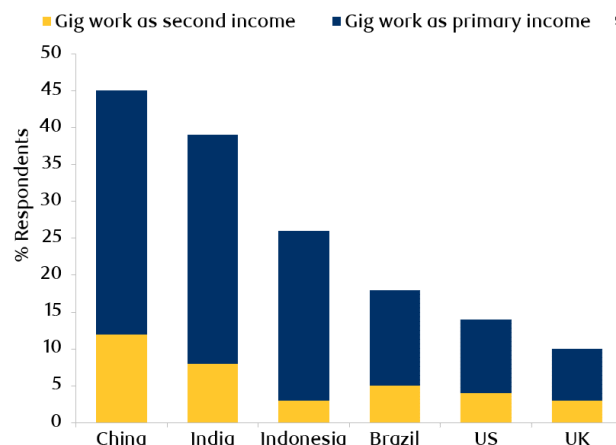
Source: UN Population statistics. Data as at December 2019.

Changing forms of work

How people live, work and spend their money has changed dramatically over the past decade, especially with the advent of technology. The ability to be hyper-connected has increased communication and further transformed the ways people live and work.

Gig Economy. The gig economy is a free market system in which temporary positions are common and organisations hire independent workers for short-term commitments. In recent years digital platforms have been transforming independent work, building on the ubiquity of mobile devices, the enormous pools of workers and customers they can reach, and the ability to harness rich, real-time information to allocate jobs more efficiently. Our research finds that the gig economy is particularly prevalent in EM, with gig workers constituting a large portion of the overall labour force in markets such as China, India, Indonesia and Brazil (Exhibit 8). We believe this is due to a large proportion of digital-savvy, younger people in these countries and because of the informal nature of employment. Workers are not only able to use the gig economy as a source of primary income but also a large proportion of the workforce is able to supplement its income with a secondary job on a gig platform.

Exhibit 8: The use of gig platforms was greatest in the four emerging economies



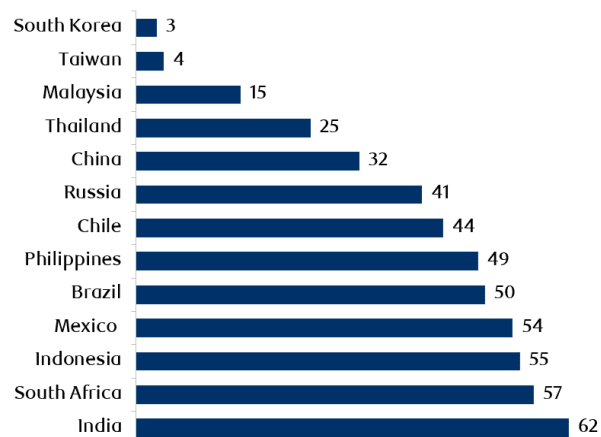
Source: BCG Future of Work 2018 worker survey, conducted with Research Now SSI. Data as at January 2019.

¹⁰ UNDP, World Bank, Gender Statistics, 2018. ¹¹ ServiceNow, 2019.

Remote and hybrid work. Rapid digitisation is already under way and has been accelerated on a global scale in response to the COVID-19 pandemic: we are witnessing significant growth in remote working across the globe. While EM countries have also adapted to working remotely, studies undertaken by McKinsey show the effective working potential, or in other words the ability to work remotely without a drop in productivity is much less likely in countries such as Mexico, China and India when compared to developed countries.¹² While the lack of adequate digital infrastructure, especially access to internet, may be one reason for this, we also think that more occupations in EM (e.g. jobs in agriculture) still require physical presence to operate effectively. In order to get a better understanding of the level of readiness for remote connectivity across EM, we analysed the technological framework rankings from the IMD World Digital Competitiveness report in 2020. The technological framework takes into account the quality of communications technology to meet business requirements, mobile broadband subscribers (the proportion of 3G and 4G subscribers in the mobile market), wireless broadband penetration rate, the number of internet users, average internet bandwidth speed, and the proportion of high-tech exports. The scores show that

South Korea and Taiwan are the highest ranking countries with strong scores in all of the aforementioned categories. South Africa and India scored poorly in terms of levels of broadband and internet connectivity (Exhibit 9).

Exhibit 9: South Korea and Taiwan are the countries most prepared for remote connectivity



Source: IMD Global Competitiveness Rankings. Data as at December 2020.

We hope you enjoyed our research insights. For further information please visit the [RBC Emerging Markets Equity team site](#).

¹² McKinsey Global Institute, What's next for remote work: An Analysis of 2,000 tasks, 800 jobs and nine countries, November 2020.

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Ashna is a portfolio manager on the Emerging Markets Equity Team at RBC GAM. She joined the organization in 2017 as an emerging markets equity product specialist, and began her career in the investment industry in 2012. Prior to joining the firm, Ashna worked in equity sales at a large global financial institution, covering the Asia Pacific region. During her time there, she was also a member of the content development team for the Europe, Middle East and Africa (EMEA) regions.



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