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THE POWER OF PARITY: ADVANCING WOMEN'S EQUALITY IN ASIA PACIFIC

APRIL 2018

FOCUS: SINGAPORE

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THE POWER OF PARITY: ADVANCING WOMEN'S EQUALITY IN ASIA PACIFIC

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PREFACE

Advancing women's equality in work and society represents one of the most sizable economic opportunities for the world. McKinsey & Company has been researching, publishing, and helping shape action on gender diversity for more than a decade, and the McKinsey Global Institute (MGI) has contributed to this important issue with its research series on the "power of parity".

In September 2015, MGI published a global report, *The power of parity: How advancing women's equality can add $12 trillion to global growth*. Since then, we have issued reports on the power of parity in Canada, India, the United Kingdom, the United States, and Western Europe, as well as research on what it will take to deliver gender parity globally. In this report, MGI explores the challenge of gender inequality in Asia Pacific, one of the most economically dynamic regions in the world, and an engine of global growth.

This research was led by Jonathan Woetzel, a director of MGI and senior partner of McKinsey, based in Shanghai; Anu Madgavkar, an MGI partner based in Mumbai; Kweilin Ellingrud, a partner based in Minneapolis; and Mekala Krishnan, an MGI senior fellow based in Boston, along with Kevin Sneader, chairman of McKinsey's offices in the Asia Pacific region, and McKinsey senior partners John Lydon in Sydney, Sha Sha in Hong Kong, Oliver Tonby in Singapore, and Diaan-Yi Lin in Singapore. Michael Gubieski, a consultant in Melbourne, led the working team, which comprised Alice Hudson, Nigel Lee, James Oliver, Catherine Peralta, and Phillippa Radford. We are grateful to a number of McKinsey colleagues who were closely involved in this research and provided invaluable insight into the seven countries highlighted in the report. They are Rishi Arora, Anders Bärlund, Jules Carrigan, Jenny Cermak, Kaushik Das, Namrata Dubashi, Emma Dudley, Ellen Feehan, Vidhya Ganesan, Guillaume de Gantès, Rajat Gupta, Shishir Gupta, Rachel Howard, Corinne Johnson, Peter Kenevan, Nick Leung, Guang Li, Suraj Moraje, Joe Ngai, Tracy Nowski, Vivek Pandit, Kristine Romano, Yukiko Sakai, Miki Sarumaru, Himanshu Satija, Jeongmin Seong, Tanya Sharma, Ben Vatterott, Jin Wang, Kenji Watatani, Phillia Wibowo, Naomi Yamakawa, and Fadhilah Zamawi.

We are grateful to the academic advisers who helped shape this research and provided challenge and insights and guidance: Laura Tyson, professor of business administration and economics and director of the Institute for Business and Social Impact, Haas Business and Public Policy Group, University of California at Berkeley; and Rakesh Mohan, senior fellow at the Jackson Institute for Global Affairs at Yale University and distinguished fellow at Brookings India. We are also grateful to the advisers who have worked with us regularly on our "power of parity" series, namely Jeni Klugman, fellow, Kennedy School of Governments Public policy Program, Harvard University, and managing director, Georgetown Institute for Women Peace and Security; and Henrietta Kolb, head of the Gender Secretariat, International Finance Corporation.

This report would not have been possible without the expert input, advice, and help of numerous leading voices on these issues. We would like to thank Georgette Tan Adamopoulos, group head, communications, Asia Pacific, Mastercard Worldwide; Willem Adema, senior economist, Organisation for Economic Co-operation and Development; Vasuta Agarwal, vice president and general manager, India, InMobi; Alison Aggarwal, director, Women's Economic Security, Office for Women; Amelia Agrawal, Asia partner and channel marketing director, Microsoft; Stevia Angesty, co-founder, Feel Well Ceramics; Patricia Apps, professor of public economics, University of Sydney Law School; Alice Au, board member, Spencer Stuart; Natalie Au, formerly of the Council on Foreign Relations; Marian Baird, professor of gender and employment relations, University of Sydney Business School; Jennifer Baxter, senior research fellow, Australian Institute of Family Studies; Daiana Beitler, philanthropies director for Greater Asia and the Pacific, Microsoft; Analisa Belares, CEO, Womensphere; Deborah Brennan, professor, University of New South Wales; Elizabeth Broderick, former sex discrimination commissioner (2007–15), Australian Human Rights Commission, convenor and founder of Male Champions of Change, and special rapporteur, Working Group on Discrimination Against Women, UN Human Rights Council; Doreen Buettner, programme specialist, UN Women Indonesia; Avic Caparas, associate professor, University of Asia and the Pacific; Melinda Cilento, chief executive, Committee for Economic Development of Australia; Ryce Chanchai, programme specialist, UN Women; Tania Coltman, deputy chief of staff to the Minister for Women, Australia; Deepa Das, independent programme development professional, UNICEF India; Sharon G. Dayoan, vice chairman and head of audit, KPMG, Philippines, and founding member, Filipina CEO Circle; Xiao-yuan Dong, professor, University of Winnipeg; Helen Duce, leader, Lean In Singapore; Kathryn Fagg, board member, Reserve Bank of Australia,

and president, Chief Executive Women; Annika Freyer, CEO, Male Champions of Change; Debjani Ghosh, trustee, NASSCOM Foundation, and honorary adviser, Federation of Indian Chambers of Commerce and Industry Science and Technology/Innovation Committee; Jane Golley, associate professor, College of Asia and the Pacific, Australian National University; Geeta Rao Gupta, executive director, 3D Program for Girls and Women, UN Foundation; Sotero de Guzman, OIC-division chief, Philippine Statistics Authority; Jianbin Hao, director, Entrepreneurship and Employment Research Center, Alibaba Research Institute; Elizabeth Hill, senior lecturer, University of Sydney, and co-convenor, Work + Family Policy Roundtable; Shachi Irde, executive director, Catalyst India WRC; Kae Ishikawa, director, Japan Liaison Office, UN Women; Anna-Karin Jatfors, deputy regional director, UN Women; Kate Jenkins, sex discrimination commissioner, Australian Human Rights Commission; Geetha Kannan, managing director, AnitaB.org Institute for Women and Technology, India; Shobana Kamineni, executive vice chairperson, Apollo Hospitals Enterprise Ltd., and president, Confederation of Indian Industry; Amitabh Kant, CEO, NITI Aayog; Ayano Kashima, advocacy, outreach, and resource mobilisation team, UN Women, Japan; Miwa Kato, regional director Asia Pacific, UN Women; Niny Khor, head, ADB-China Regional Knowledge Sharing Initiative, Asian Development Bank; Zoe Kinias, associate professor and academic director, Gender Initiative, INSEAD; Bingqin Li, associate professor, University of New South Wales; Tiina Likki, principal adviser, The Behavioural Insights Team; Jialei Lin, project officer, UN Women China; Susan Lloyd-Hurwitz, CEO and managing director, Mirvac Group; Amy Luinstra, senior gender adviser, East Asia and Pacific, International Finance Corporation; Pelle Lutken, policy specialist, UNDP; Sabine Machl, special representative, UN Women; Charu Mathur, director, communications, operations and marketing, AnitaB.org India; Kathy Matsui, chief Japan strategist, Goldman Sachs Japan; Koh Miyaoi, regional gender equality advisor for Asia and the Pacific, UNDP; Tri Mumpuni, executive director, IBEKA; Sia Nowrojee, program director, 3D Program for Girls and Women, UN Foundation; Jennifer Pan, ChinaSense; Lily Puspasari, programme specialist, UN Women Indonesia; Veronica Quinn, adviser, The Behavioural Insights Team; Holly Ransom, CEO, Emergent; Amanda Robbins, deputy director, Australia Indonesia Partnership for Economic Governance; Anna Roy, adviser, NITI Aayog; Carol Schwartz, board member, Reserve Bank of Australia, and founding chair, Women's Leadership Institute Australia; Diane Smith-Gander, immediate past president, Chief Executive Women; Miranda Stewart, director, Tax and Transfer Policy Institute, Australian National University; Diana Contreras Suarez, research fellow, University of Melbourne; Pocket Sun, founder, SoGal Ventures; Virginia Tan, co-founder, She Loves Tech, Lean In China; Jill Tang, co-founder, Ladies Who Tech; Julie Taylor Broussard, country programme manager, UN Women; Uma Thana Balasingam, co-founder, Lean In Singapore; Fraser Thompson, director, AlphaBeta Advisors; Tsukiko Tsukahara, vice president, Catalyst Japan; Astrid S. Tuminez, regional director, corporate, external, and legal affairs, Microsoft Southeast Asia; Valentina Y. D. Utari, researcher, The SMERU Research Institute; Ariane Utomo, research fellow, Crawford School of Public Policy, Australian National University, and labour market economist, Australia Indonesia Partnership for Economic Governance; Maria-Noel Vaeza, director, Program Division, UN Women; Emmeline L. Verzosa, executive director, Philippine Commission on Women; Claire Wang, founder, Medistar; Edith Yeung, partner, China, 500 Startups; Naoko Yuki, partnerships consultant, UN Women, Japan Liaison Office; Doris Zhang, founder, TechXQUEEN; and Zhenzhen Zheng, professor, Institute of Population and Labor Economics, Chinese Academy of Social Sciences.

We would like to thank MGI's operations team, which provided crucial support for this research: senior editor Janet Bush; Cathy Gui and Rebeca Robboy in external communications and media relations; Julie Philpot, editorial production manager; Marisa Carder, graphics specialist; Tim Beacom, research specialist; and Deadra Henderson, manager of personnel and administration. We are also grateful to Stephanie Gatto and Nicole White of Sydney Design Studio, Australia, for their help with design and production.

This report contributes to MGI's mission to help business and policy leaders understand the forces transforming the global economy, identify strategic locations, and prepare for the next wave of growth. As with all MGI research, this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution. We welcome your comments on the research at MGI@mckinsey.com.

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April 2018

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IN BRIEF

ADVANCING WOMEN'S EQUALITY IN ASIA PACIFIC

Advancing women's equality in the countries of Asia Pacific could add $4.5 trillion to their collective annual GDP by 2025, a 12 percent increase over the business-as-usual trajectory. Already a powerful engine of global growth, pursuing the goal of gender parity can lift many more women out of poverty, unleash the economic potential of many others, and reinforce the region's dynamic growth story.

- All countries would benefit from advancing women's equality. In a best-in-region scenario in which each country matches the rate of progress of the fastest-improving country in its region, the largest absolute GDP opportunity is in China at $2.6 trillion, a 13 percent increase over business-as-usual GDP. The largest relative GDP opportunity is in India, which could achieve an 18 percent increase over business-as-usual GDP, or $770 billion. Across Asia Pacific, we estimate that 58 percent of the opportunity would come from raising the female labour-force participation ratio, 17 percent from increasing the number of hours women work, and the remaining 25 percent from more women working in higher-productivity sectors.

- MGI has established a strong link between gender equality in work and in society—the former is not achievable without the latter. MGI's Gender Parity Score, or GPS, using 15 indicators of gender equality in work and society, measures the distance each country has travelled towards parity, which is set at 1.00. Overall, Asia Pacific has a GPS of 0.56, slightly lower than the global average of 0.61—both "high" levels of gender inequality. But countries in the region vary in their positions on specific indicators. There is no single Asia Pacific story.

- On gender equality in work, the Philippines stands out for its progress, followed by New Zealand and Singapore. The six countries furthest from gender parity in work are Bangladesh, India, Japan, Nepal, Pakistan, and South Korea. China does well on female labour-force participation but can improve its share of women in leadership—as can most countries in Asia. Globally, there are fewer than four women in leadership roles to every ten men, but, in Asia Pacific, only around one woman for every four men. Gender inequality also remains high across the region in the sharing of unpaid care work.

- On gender equality in society, Australia, New Zealand, the Philippines, and Singapore are ahead of most in the region on essential services such as education, maternal and reproductive health, financial and digital inclusion, and legal protection and political voice; countries like Bangladesh, India, Nepal, and Pakistan still have a considerable distance to travel. Achieving gender parity in digital and financial inclusion is a large opportunity in many South Asian and Southeast Asian countries. Physical security and autonomy remains a concern in many parts of the region—and globally.

- Asia Pacific nations have made progress in the past decade, driven by a combination of economic development, government measures, technological change, market forces, and activism. Maternal mortality and gender gaps in education have declined in countries including Bangladesh, Cambodia, India, and Nepal. Many countries have increased women's labour-force participation, but participation has fallen in Bangladesh, India, and Sri Lanka, a trend that may be linked to rising household income.

- Mapping the road ahead, policy makers, companies, and non-governmental organisations could consider prioritising action in five areas that are urgent issues (to differing degrees) across the region: (1) focus on higher female labour-force participation, with steps to address unpaid care work as a priority to boost economic growth; (2) address the pressing regional and global issue of women's underrepresentation in business leadership positions; (3) capture the economic and social benefits of improving access to digital technology; (4) shift social attitudes about women's role in society and work in order to underpin progress on all aspects of gender inequality; and (5) collaborate on regional solutions as powerful catalysts for gender equality.

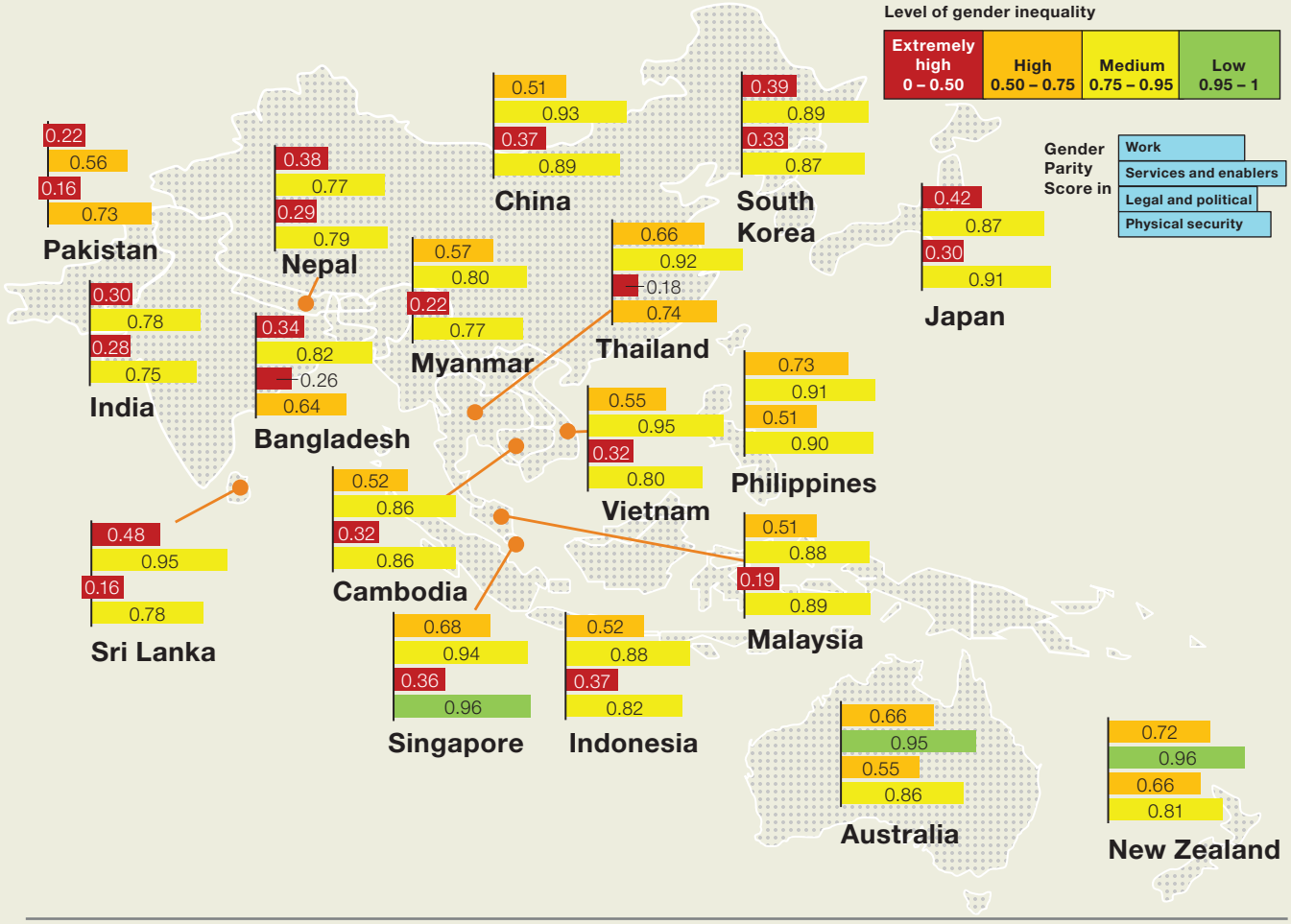
The economic case for gender parity in Asia Pacific

$4.5 trillion

of **additional annual GDP** in 2025 could be added to the economies of Asia Pacific by advancing women's equality

or **12%** above business-as-usual GDP in 2025[1]

Gender inequality is high overall in Asia Pacific, with significant variations among countries[2]



Five areas for change in Asia Pacific

- Focus on higher female labour-force participation in quality jobs as a priority to boost economic growth
- Address the pressing regional and global issue of women's underrepresentation in business leadership positions
- Capture the economic and social benefits of improving women's access to digital technology
- Shift attitudes about women's role in society and work, in order to underpin progress on all aspects of gender equality
- Collaborate on regional solutions, such as financing and knowledge-sharing, as powerful catalysts for gender equality

1 GDP opportunity in scenario where all countries match their best-in-region country in progress towards gender parity.
2 GPS scores are made up of 15 indicators of gender equality in work and society, weighted equally. GPS runs from 0 (no gender equality) to 1.0 (parity); for instance, a 0.95 ratio represents 5% distance from gender parity.
SOURCE: McKinsey Global Institute analysis

THE PATH TO PARITY: AN ASIA PACIFIC OVERVIEW

Asia Pacific is today arguably the most dynamic region in the world, a global engine of growth driven by productivity, investment, technology, and innovation. Women can help—and are helping—to power this engine, making vital contributions to sustaining and enhancing Asia's growth and lifting more people out of poverty. Yet gaps remain large in many countries in the region on gender equality both in work and in society. From an economic perspective, trying to grow without enabling the full potential of women is like fighting with one hand tied behind one's back.

By advancing women's equality, the economies of Asia Pacific could boost their collective GDP by $4.5 trillion a year by 2025, a 12 percent increase over business-as-usual GDP. This additional GDP would be equivalent to adding an economy the combined size of Germany and Austria each year. China and India would benefit most in absolute and relative terms, respectively. Advancing women's equality not only is important from a moral and social perspective, but also delivers a considerable growth dividend.

This research builds on MGI's landmark 2015 report on global gender inequality, *The power of parity: How advancing women's equality can add $12 trillion to global growth*, which found that advancing women's equality could add $12 trillion to annual global GDP by 2025. Every region studied has the potential to increase its GDP by 8 to 16 percent over the next ten years. MGI used 15 economic and social indicators to compile a Gender Parity Score, or GPS, for each country.[1]

Asia Pacific countries are grappling with many of the same challenges and opportunities that we see around the world. But there is no one Asia Pacific story. Rather, there is huge variation throughout the region in both gender outcomes and the drivers of those outcomes, whether economic, cultural, political, or environmental. Yet we believe that using a regional lens to look at these complex, interrelated issues of gender inequality can aid understanding of common challenges, potential solutions, and key differences.

First, the sheer size of the region in population and GDP terms means that regional solutions could be possible and, if initiated, could be rolled out on a significant scale. Second, many multinational businesses operate across national borders within the region, including companies whose global supply chains are heavily dependent on Asia Pacific. They represent a potentially catalytic opportunity, as multinational corporations bring a wider range of organisational practices to individual labour markets within Asia Pacific. Third, there is merit in bringing countries grappling with various gender equality issues into one conversation, so that they can share best practices and learn lessons from one another's experience.

In Chapter 1, we investigate the cross-cutting issue of women in leadership positions in business, an aspect of gender inequality that is highly relevant in the region and globally. We suggest some key measures that would help to raise the number—and share—of women in companies from the entry level to middle management to the boardroom. Then, in Chapters 2 through 8, we focus in greater detail on seven Asia Pacific countries: Australia, China, India, Indonesia, Japan, the Philippines, and Singapore (see Box 1, "Approach to country discussions," and Box 3, "Gender inequality in seven Asia Pacific countries").

[1] *The power of parity: How advancing women's equality can add $12 trillion to global growth*, McKinsey Global Institute, September 2015.

Box 1. Approach to country discussions

The seven countries we focus on in this report are home to more than 80 percent of the region's female population and account for 90 percent of the total $4.5 trillion GDP opportunity in the 18 Asia Pacific countries included in our estimate. They vary widely in their stage of economic development, cultural norms, and performance on different aspects of gender inequality.

For each country, we have highlighted the economic opportunity from advancing women's equality and dimensionalised gender gaps. We have also homed in on key topics in each country chapter, chosen because they are of national interest and importance in those countries and have gender-disaggregated data available. Some of these topics build on current strengths, while others are pockets of continuing gender inequality that need to be addressed. We note that these topics are not exclusively relevant to a particular country. In many cases, they are aspects of gender inequality that will resonate in many countries. The topics we have chosen for each of the seven countries are illustrative, not exhaustive. We have focused more closely on gender equality in work and the direct enablers of economic opportunity, while fully acknowledging the importance of areas such as gender equality in political leadership, and physical safety and security, to help countries move to gender parity.

Measures needed to accelerate progress towards parity differ. For each country, we have identified some of the significant gaps and opportunities in gender inequality and have examined measures to address them through actions by governments, corporations, non-governmental organisations, and individuals. The measures that we discuss are, by definition, not exhaustive—a broader suite of measures will be needed to fully address gender imbalances. We note, too, that approaches relevant to the formal sector may not be effective in the informal or agricultural sectors.[1] For instance, tax measures and workplace policies such as parental leave may be suitable for the formal sector but not for others, and action to open up access to digital technologies and financial services may be most necessary for those at lower income levels who often live in rural areas and work informally.

In Exhibit 9 at the end of this chapter, we summarise recommended measures that are discussed in each subsequent chapter of this report. We identify five areas that countries might prioritise: (1) focus on higher female labour-force participation, with steps to address unpaid care work as a priority to boost economic growth; (2) address the pressing regional and global issue of women's underrepresentation in business leadership positions; (3) capture the economic and social benefits of improving access to digital technology; (4) shift social attitudes about women's role in society and work in order to underpin progress on all aspects of gender inequality; and (5) collaborate on regional solutions as powerful catalysts for gender equality.

[1] Hundreds of millions of women worldwide work informally without social and labour protections in law or in practice. Bringing these women under the protection of regulatory regimes—specifically through measures covering recognition as workers, regulated access to public spaces, freedom of association and collective bargaining, and access to social protection—will be important to addressing gender inequality in countries with large informal sectors, such as India. See *Leave no one behind: A call to action for gender equality and women's economic empowerment*, Report of the UN Secretary-General's High-Level Panel on Women's Economic Empowerment, 2016.

AN ADDITIONAL $4.5 TRILLION A YEAR COULD BE ADDED TO ASIA PACIFIC GDP BY 2025 BY ACCELERATING PROGRESS TOWARDS GENDER PARITY

Today, women account for half of the combined population of Asia Pacific but contribute 36 percent of the $26 trillion of GDP currently generated (Exhibit 1). This is in line with the global figure of 36 percent. We note that current traditional measures of GDP do not capture the very significant economic value that women create through unpaid care work in the home such as looking after children and the elderly, shopping, cooking, and cleaning. Using conservative assumptions, we estimate that the unpaid care work undertaken by women in Asia Pacific, if included in measurement of GDP, would add $3.8 trillion to the regional total, equivalent to roughly 15 percent of the region's GDP.[2]

On the paid work that is measured in GDP statistics, there is significant variation in the share that women contribute among Asian economies. For instance, in China, which generates almost half the region's GDP and accounts for 35 percent of the region's female population, women contribute an above-average 41 percent to GDP. However, in India, which generates almost 10 percent of regional GDP and is home to 33 percent of the region's combined female population, the share is well below average at 18 percent.

MGI's 2015 global report on the power of parity assessed the size of the growth opportunity that could be seized if each country were to narrow its labour-market gender gaps at the same rate as the fastest-improving country in its region.[3] In Asia Pacific, most countries would increase female labour-force participation rates relative to male labour-force participation rates for 25- to 54-year-olds at a rate of 1.1 percentage points a year, in line with the experience of Singapore between 2003 and 2013.[4] At these rates of progress, the region's average labour-force participation rate for prime working-age women would reach 54 percent by 2025, an increase of seven percentage points from 2016. On the second source of additional GDP related to gender equality in work—closing the gap between the paid hours women work compared with men—all countries in the region would bridge the gap by 0.6 percentage point per year, in line with Norway, the country that closed the gap the fastest in the period from 1995 to 2013.[5] Finally, on the migration of workers to higher-productivity sectors, most countries would increase the share of women moving into such sectors at a rate 0.5 percentage point faster than men, matching the performance of Indonesia.[6]

2 This figure is estimated from minimum wage multiplied by time spent on unpaid work.

3 In our calculation of the GDP opportunity, we assumed the same labour productivity for men and women within sectors. We excluded any second-order impact from the increased participation by women, including increased consumption by women, any negative impact on male labour-force participation due to increased female participation, and any drag on productivity due to increased labour supply (see the appendix for more detail).

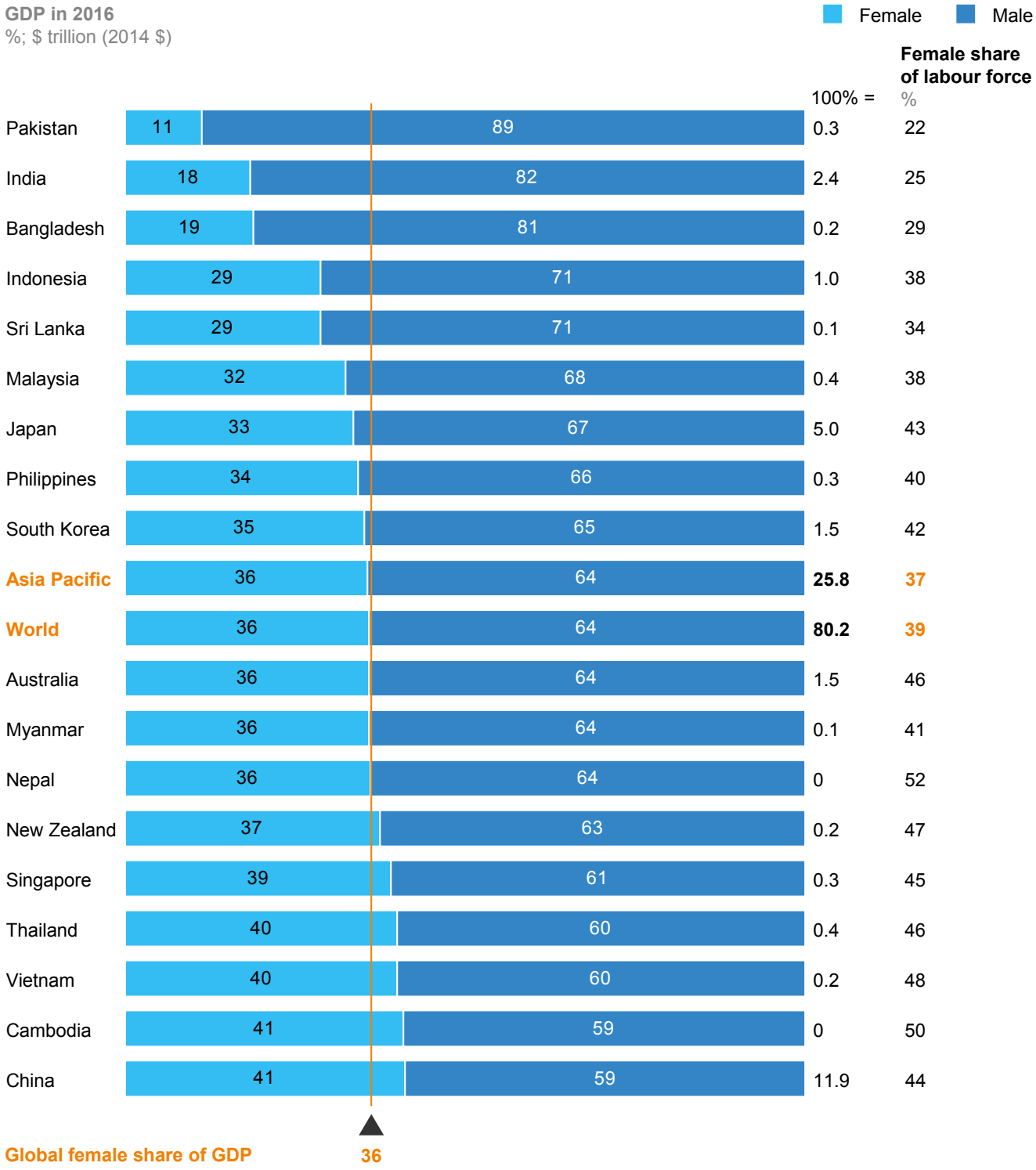
4 This benchmark improvement rate was applied to 11 countries, while different rates were applied to other countries (see the appendix for more detail).

5 We benchmarked to Norway because there were not sufficient regional benchmarks, and therefore we chose a global one. Norway was identified as the best performer in a sample of 30 countries, most of which are developed economies. See the appendix of *The power of parity: How advancing women's equality can add $12 trillion to global growth*, McKinsey Global Institute, September 2015.

6 For women's labour-force participation rate and high-productivity sector mix, different rates of improvement were applied to Australia, Bangladesh, India, Nepal, New Zealand, Pakistan, and Sri Lanka to adjust for local circumstances (see the appendix for further detail).

Exhibit 1

Women's contribution to GDP ranges from 11 to 41 percent across Asia Pacific; the Asia Pacific average is in line with the global average



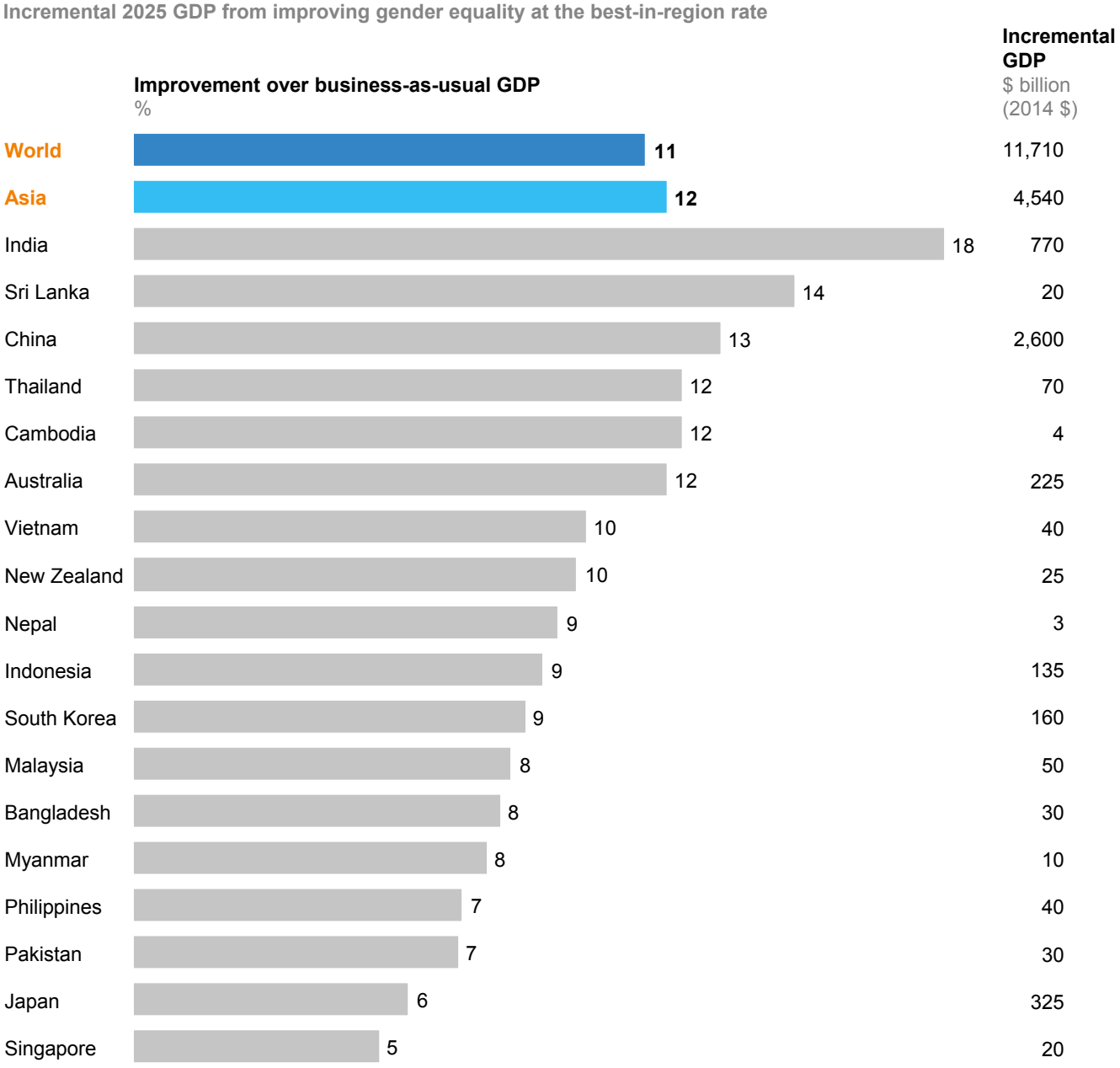
SOURCE: ILO; World Input-Output Database; IHS; national statistical agencies; Oxford Economics; McKinsey Global Growth Model; McKinsey Global Institute analysis

In a best-in-region scenario for Asia Pacific, we estimate that the region overall could add $4.5 trillion of GDP a year by 2025 (Exhibit 2). This represents 12 percent more than would be generated according to current forecasts of GDP for 2025. The largest absolute opportunity is in China at $2.6 trillion, a 13 percent increase over business-as-usual GDP. The largest relative opportunity is in India, which could achieve an 18 percent increase over business-as-usual GDP, or $770 billion.

Exhibit 2

In a best-in-region scenario, Asia Pacific could add $4.5 trillion to annual GDP by 2025, or 12 percent above business as usual

Incremental 2025 GDP from improving gender equality at the best-in-region rate



SOURCE: ILO; World Input Output Database; Oxford Economics; IHS; national statistical agencies; McKinsey Global Growth Model; McKinsey Global Institute analysis

MGI's calculation is a supply-side estimate of the size of the additional GDP available from closing the gender gap in employment. It takes into account labour-force participation rates by gender and age cohorts, the prevalence of part-time vs. full-time work among men and women, and employment patterns for men and women across sectors of the economy (see the appendix for more detail). We acknowledge that the supply-side approach needs to be accompanied by demand-side policies that could influence the ability to create jobs to absorb additional female workers. In addition, education and vocational training systems will need to keep pace with rapid technological changes that are altering the nature of work and creating new types of jobs.

To achieve this significant boost to growth will require the region to tackle three economic levers: increase women's labour-force participation rate, increase the number of paid hours

women work (part-time vs. full-time mix of jobs), and raise women's productivity relative to men's by adding more women to higher-productivity sectors. Of the total $4.5 trillion GDP opportunity, 58 percent would come from raising the female-to-male labour-force participation ratio, in line with the global average contribution. A further 17 percent of the GDP opportunity would come from increasing the number of paid hours women work, and the remaining 25 percent from more women working in higher-productivity sectors.

It is difficult to quantify the mechanisms through which increased women's participation becomes possible (that is, whether it is due to reduced leisure, reduced hours in unpaid work, redistribution of unpaid care work, or the marketisation of that work). However, it is clear that women who are freed from spending some time in unpaid care work would have more opportunity to use and improve their skills and pursue higher-paid professions, boosting GDP. We therefore estimate the economic impact only in GDP terms, while acknowledging that this lens does not measure total welfare and total economic activity. The impact of unpaid work on economic activity and wellbeing warrants further study.

Delivering the power of parity will require investment. Previous MGI research estimated that achieving the $4.5 trillion GDP opportunity in Asia Pacific will require around $1.5 trillion of incremental investment to 2025 to support additional workers, roughly 12 percent higher than the business-as-usual scenario for the region.[7] Beyond capital to support additional jobs, investment will be needed to close gender gaps in health, education, and other services to enable women to participate more fully in the formal economy. In a 2016 paper, MGI estimated that 20 to 30 percent more spending would be required worldwide to tackle these key aspects of gender inequality in society. However, the return on that investment could be six to eight times higher than the additional social spending required.[8]

THE REGION'S ECONOMIES EXHIBIT MAJOR DIFFERENCES IN THE PATTERNS AND EXTENT OF GENDER INEQUALITY

Gender inequality does not exist purely in the workplace—it affects women's life in society, too. Indeed, one influences the other. Progress on gender equality in work is unlikely to be achievable without progress on gender equality in society. Realising the power of parity will require addressing societal drivers of gender inequality in the workplace including education, health, attitudes towards women working outside the home, access to finance, and more access for women to the internet and the benefits of the digital revolution. That is why MGI uses the broadest possible lens to examine gender inequality.

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7 The best-in-region scenario assumes that many women shift out of agriculture into industry and service sectors, narrowing gender productivity gaps, but achieving this shift will require investment: productivity-boosting investment in agriculture (that is, losing workers), and investment to create jobs in the sectors to which women are migrating. Several MGI country studies have discussed measures that can stimulate investment and job creation for inclusive growth. See MGI's reports on Africa, Brazil, Europe, India, and Nigeria, all downloadable free at **www.mckinsey.com/mgi**. Also see *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

8 *Delivering the power of parity: Toward a more gender-equal society*, McKinsey Global Institute discussion paper, May 2016.

In its 2015 global analysis of gender inequality, MGI mapped 15 gender equality indicators to arrive at a Gender Parity Score or GPS that runs from 1 (gender parity) to zero (full gender inequality). We colour code four categories: "low inequality" (green), "medium inequality" (yellow), "high inequality" (orange), and "extremely high inequality" (red).[9] MGI's GPS analysis looks at gender equality in work and in society in the following four dimensions:[10]

- **Gender equality in work:** This includes the ability of women to find employment and be compensated fairly for it, share unpaid care work equitably, have the skills and opportunity to perform higher-productivity jobs, and occupy leadership positions. Five indicators are included in this category: labour-force participation rate, professional and technical jobs, perceived wage gap for similar work, leadership positions, and unpaid care work.

- **Essential services and enablers of economic opportunity:** These include healthcare, education, and financial and digital services that are also vital enablers of social progress. We include five indicators in this dimension: unmet need for family planning, maternal mortality per 100,000 births, education level, financial inclusion, and digital inclusion.

- **Legal protection and political voice:** This includes the right to work, access institutions, inherit assets, be protected from violence, and have the opportunity to participate actively in political life.[11]

- **Physical security and autonomy:** This is the right of women to be safe from bodily harm. We include three indicators: sex ratio at birth, child marriage, and violence against women.

Asia Pacific as a whole has a GPS of 0.56—high gender inequality, according to MGI's GPS analysis—slightly lower than the global average GPS of 0.61. It places Asia Pacific in the middle of the pack globally, comparing favourably with the Middle East and North Africa (0.50) and in line with sub-Saharan Africa (0.57), but lagging behind Latin America (0.63), Eastern Europe (0.67), and Western Europe (0.71). Globally, some aspects of gender equality are persistent problems in most parts of the world, while in others, some regions have made rapid strides relative to others (see Box 2, "Ten impact zones: Five global and five regional").

9 For most indicators, low inequality is defined as being within 5 percent of parity, medium between 5 and 25 percent, high between 25 and 50 percent, and extremely high as greater than 50 percent from parity. For physical security and autonomy indicators, we defined extremely high inequality as greater than 33 percent distance from no prevalence (of child marriage or violence against women). For sex ratio at birth and maternal mortality, given the different range of values for these two indicators, slightly different thresholds were used. See the appendix to this report and, for full details of the methodology used in MGI power of parity reports since 2015, the appendix of *The power of parity: How advancing women's equality can add $12 trillion a year to global growth*, McKinsey Global Institute, September 2015.

10 MGI has aimed to map gender equality as comprehensively as possible. The indicators we chose typically measure the difference between the position of men and women; these are expressed as a ratio of female-to-male data. Exceptions are sex ratio at birth and unpaid care work, which are expressed as male-to-female ratios. For indicators that apply only to females—child marriage, violence against women, family planning, and maternal mortality—we used the absolute level expressed as a prevalence rate in percentage terms.

11 We use a composite index of 11 indicators spanning laws to protect individuals against violence, ensure parity in inheriting property and accessing institutions, and safeguard the right to find work and be fairly compensated.

Box 2. Ten impact zones: Five global and five regional

MGI's global research in 2015 identified ten "impact zones"—concentrations of gender inequality that cover more than three-quarters of the women in the world affected by the gender gap. Five of these impact zones are global: blocked economic potential, time spent on unpaid care work, fewer legal rights, political underrepresentation, and violence against women. As global impact zones, these are present in Asia Pacific in varying degrees—for instance, violence against women is lower in East Asia than in other subregions. Five other impact zones are regional, and appear in parts of Asia Pacific.

Low labour-force participation in quality jobs is particularly problematic in South Asia (except Sri Lanka). Low maternal and reproductive health is an issue in the region's lower-income countries such as Nepal. Unequal education levels are a particular issue in Pakistan. Financial and digital exclusion appears mainly in South Asia (except Sri Lanka) and Myanmar. Finally, girl-child vulnerability, which we measure using the indicators of sex ratio at birth and child marriage, is a pressing issue in China, India, and Vietnam.[1] The recommendations in this report are not exhaustive and therefore do not address all ten impact zones.

[1] *The power of parity: How advancing women's equality can add $12 trillion to global GDP*, McKinsey Global Institute, September 2015.

Within Asia Pacific, all countries have some way to go before attaining gender parity, although the patterns of progress towards that ultimate goal vary (Exhibit 3). Differences in gender equality among countries are greater in work-related indicators than in societal indicators, although the two are closely linked. The Philippines stands out for the extent of its progress towards gender equality in work, followed by New Zealand and Singapore. The six countries that are furthest away from gender parity in work, performing well below the regional average, are Bangladesh, India, Japan, Nepal, Pakistan, and South Korea. The countries that are the closest to gender parity in society are Australia and New Zealand —with the most progress towards parity in essential services and enablers of economic opportunity, and legal protection and political voice—and Singapore, which is most advanced towards parity on physical security and autonomy. Pakistan has room to improve on most aspects of gender equality in society, and its South Asian neighbours Bangladesh, India, and Nepal also have a considerable distance to travel. Legal protection and political voice stands out as an area in which many countries of Asia Pacific have much progress to make.

Exhibit 3

Countries across Asia Pacific have a significant way to go to bridge the gender gap

Gender Parity Score (GPS) **Level of gender inequality** Extremely high High Medium Low

Region		Female population, 2016 Million	Gender equality in work[1]	Gender equality in society: Essential services and enablers of economic opportunity[2]	Gender equality in society: Legal protection and political voice[3]	Gender equality in society: Physical security and autonomy[4]
Oceania	Australia	11.9	0.66	0.95	0.55	0.86
	New Zealand	2.3	0.72	0.96	0.66	0.81
East Asia	China	671.2	0.51	0.93	0.37	0.89
	Japan	65.2	0.42	0.87	0.30	0.91
	South Korea	24.9	0.39	0.89	0.33	0.87
Southeast Asia	Indonesia	125.6	0.52	0.88	0.37	0.82
	Philippines	50.0	0.73	0.91	0.51	0.90
	Vietnam	46.8	0.55	0.95	0.32	0.80
	Thailand	34.3	0.66	0.92	0.18	0.74
	Myanmar	27.6	0.57	0.80	0.22	0.77
	Malaysia	15.5	0.51	0.88	0.19	0.89
	Cambodia	7.9	0.52	0.86	0.32	0.86
	Singapore	2.8	0.68	0.94	0.36	0.96
South Asia	India	612.2	0.30	0.78	0.28	0.75
	Pakistan	90.0	0.22	0.56	0.16	0.73
	Bangladesh	78.4	0.34	0.82	0.26	0.64
	Nepal	14.5	0.38	0.77	0.29	0.79
	Sri Lanka	11.0	0.48	0.95	0.16	0.78
Asia Pacific best			0.73	0.96	0.66	0.96
Asia Pacific average[5]			0.44	0.85	0.32	0.82
Global best			0.73	0.97	0.84	0.97

1 Comprising labour-force participation, professional and technical jobs, perceived wage gap for similar work, leadership positions, and unpaid care work.
2 Comprising unmet need for family planning, maternal mortality, education, financial inclusion, and digital inclusion.
3 Comprising political representation and a legal protection index (including, for example, legislation protecting against domestic violence, providing equal inheritance rights and paternity or parental leave, and mandating non-discrimination in hiring).
4 Comprising sex ratio at birth, child marriage, and violence against women.
5 Weighted by 2016 female population.
NOTE: GPS calculations use a sum of squares method with equal weighting of indicators. Numbers are rounded to two decimal places. Colour coding is based on actual, not rounded, values. For further details on this, and the underlying GPS indicators, see the appendix.

SOURCE: McKinsey Global Institute analysis

At the level of individual indicators, the differences between countries—and the opportunities for improvement—are even clearer (Exhibit 4). Within gender equality in work, the female-to-male ratio in labour-force participation ranges from 0.92 in Nepal to 0.30 in Pakistan, but getting more women into the labour force is a major opportunity in many countries, including Bangladesh, India, Indonesia, Japan, Malaysia, and South Korea. The ratio of women vs. men in professional and technical jobs is above 1.00 in seven countries, including Australia, China, New Zealand, the Philippines, and Thailand, but less than 0.5 in Bangladesh, Nepal, and Pakistan. The low level of women in leadership positions is apparent throughout the region, with only the Philippines achieving a female-to-male ratio of close to 1.00 on this indicator. Unpaid care work is unequally distributed between men and women, not only in countries with low female labour-force participation rates, but also in Australia, China, and New Zealand, where many more women are part of the paid workforce.

Within gender equality in society, gender gaps in education are relatively narrow in most countries, although maternal mortality and financial and digital inclusion are significant improvement opportunities in most parts of South Asia and Southeast Asia. Sex ratio at birth is a stubborn issue in China, India, and Vietnam where the male-to-female ratio exceeds 1.10. Child marriage is a particularly common issue for girls and women in Bangladesh, and violence against women continues to be prevalent in many countries. Most countries of Asia Pacific can also improve substantially on legal protection and political voice.

While gender outcomes vary significantly among Asia Pacific countries, our analysis shows equally large variations within certain countries (Exhibit 5). Countries such as India and Indonesia with significant geographic and economic diversity tend to have the highest internal variations. For example, the female-to-male labour-force participation ratio is approximately 0.8 in the Indian state of Nagaland (higher than in Brazil) but below 0.2 in Chandigarh and Delhi (lower than in Saudi Arabia). In the Indonesian provinces of Sumatera Barat and Lampung, the female-to-male tertiary education ratios are 1.36 and 1.38, respectively—similar to the United States—but 0.69, close to the national average in Kenya, in Nusa Tenggara Barat. Interestingly, subnational variations seem less dramatic in China and the Philippines despite their internal diversity.

Variations in gender outcomes between and within countries appear to be broadly correlated with differences in per capita GDP, but there are clearly non-economic factors at play. Consider China and India, which have marked variations in per capita GDP at the subnational level but very different patterns of gender inequality. Essentially, variations in gender outcomes are much larger in India than they are in China, which may reflect the presence of non-economic factors such as local cultural norms.

The fact that there is large variation in gender outcomes among the region's constituent economies underscores the need for national governments to tailor measures designed to further women's equality to the particular economic and social context of their individual nations. At the same time, the many aspects of gender inequality that countries experience in common indicate that there are opportunities for governments, companies, and non-governmental organisations (NGOs) to collaborate, learning from one another's experiences and spreading best practices (for more, see the final section of this summary on the agenda for change).

Exhibit 4

Asia Pacific's performance varies on gender equality indicators (1 of 2)

Level of gender inequality — Extremely high — High — Medium — Low

Region	Country	Female population, 2016 Million	Per capita GDP, 2016 $, current purchasing power parity	Gender equality in work: Labour-force participation rate F/M ratio	Professional and technical jobs F/M ratio	Perceived wage gap for similar work F/M ratio	Leadership positions F/M ratio	Unpaid care work M/F ratio
Oceania	Australia	11.9	46,790	0.83	1.19	0.60	0.58	0.55
	New Zealand	2.3	39,059	0.85	1.25	0.71	0.67	0.58
East Asia	China	671.2	15,535	0.81	1.07	0.59	0.20	0.39
	Japan	65.2	41,470	0.70	0.66	0.61	0.15	0.21
	South Korea	24.9	35,751	0.70	0.93	0.45	0.12	0.19
Southeast Asia	Indonesia	125.6	11,612	0.61	0.94	0.63	0.30	No data
	Philippines	50.0	7,806	0.64	1.42	0.76	0.96	No data
	Vietnam	46.8	6,424	0.89	1.19	0.58	0.35	No data
	Thailand	34.3	16, 917	0.79	1.31	0.73	0.48	0.56
	Myanmar	27.6	5,773	0.93	1.12	No data	0.40	No data
	Malaysia	15.5	27,681	0.64	0.80	0.76	0.26	No data
	Cambodia	7.9	3,736	0.87	0.57	0.72	0.45	0.25
	Singapore	2.8	87,856	0.76	0.91	0.78	0.52	No data
South Asia	India	612.2	6,572	0.34	No data	0.50	No data	0.10
	Pakistan	90.0	5,249	0.30	0.28	0.48	0.03	0.10
	Bangladesh	78.4	3,581	0.53	0.39	0.46	0.13	0.27
	Nepal	14.5	2,468	0.92	0.43	0.52	0.22	No data
	Sri Lanka	11.0	12,316	0.40	0.97	0.63	0.33	No data
Asia Pacific best				0.93	1.42	0.78	0.96	0.58
Asia Pacific average[1]				0.60	0.95	0.56	0.25	0.25
Global best				1.00	2.66	0.86	1.13	0.85

1 Weighted by 2016 female population.
NOTE: For further details on the indicators used here, see the appendix.

SOURCE: McKinsey Global Institute analysis

Exhibit 4 (continued)

Asia Pacific's performance varies on gender equality indicators (2 of 2)

Level of gender inequality — Extremely high — High — Medium — Low

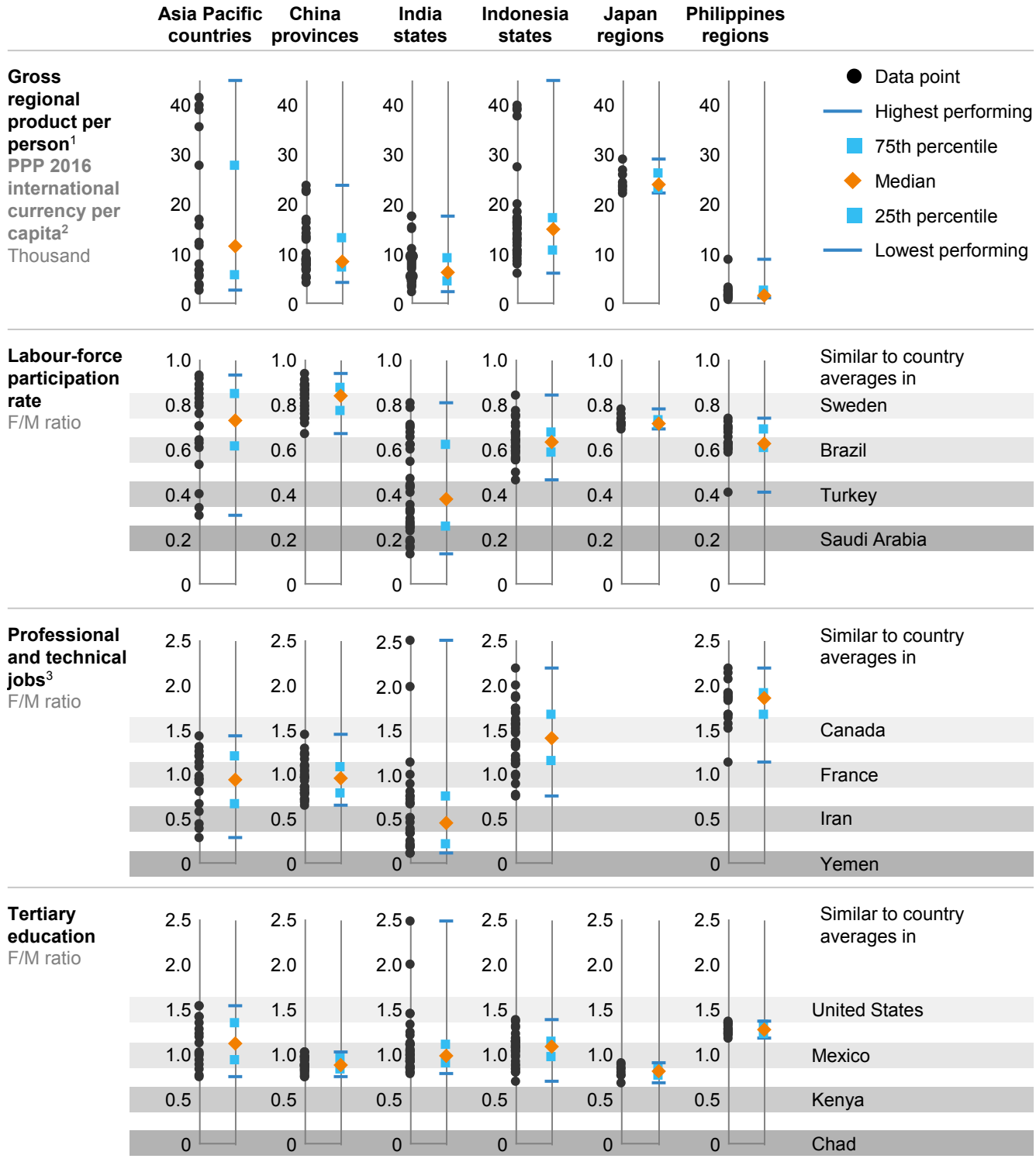
Region	Country	Gender equality in society									
		Essential services and enablers of economic opportunity					Legal protection and political voice		Physical security and autonomy		
		Unmet need for family planning % of women	Maternal mortality Per 100,000 births	Education level F/M ratio	Financial inclusion F/M ratio	Digital inclusion F/M ratio	Legal protection Index	Political representation F/M ratio	Sex ratio at birth M/F ratio	Child marriage % of girls and young women	Violence against women % of women
Oceania	Australia	11	6	1.00	1.00	1.00	1.00	0.36	1.06	1	25
	New Zealand	9	11	1.00	1.00	1.00	0.83	0.55	1.06	1	33
East Asia	China	4	27	0.97	0.87	No data	0.58	0.20	1.16	3	15
	Japan	20	5	0.95	0.80	0.97	0.51	0.14	1.06	1	15
	South Korea	6	11	0.86	0.81	0.93	0.58	0.15	1.07	0	23
Southeast Asia	Indonesia	12	126	0.98	0.81	0.86	0.45	0.29	1.05	26	No data
	Philippines	18	114	1.00	1.00	No data	0.70	0.37	1.06	2	18
	Vietnam	6	54	0.97	1.00	No data	0.47	0.19	1.10	8	34
	Thailand	6	20	0.98	0.84	0.98	0.29	0.09	1.06	11	44
	Myanmar	16	178	0.98	0.60	No data	0.39	0.08	1.03	12	38
	Malaysia	18	40	0.98	0.82	0.96	0.28	0.10	1.06	6	No data
	Cambodia	13	161	0.86	0.80	0.97	0.50	0.17	1.06	20	14
	Singapore	11	10	0.96	1.00	0.96	0.64	0.17	1.07	0	No data
South Asia	India	13	174	0.87	0.66	0.72	0.40	0.18	1.11	21	37
	Pakistan	20	178	0.74	0.17	0.59	0.20	0.12	1.09	27	39
	Bangladesh	12	176	0.84	0.83	0.73	0.39	0.16	1.05	34	53
	Nepal	23	258	0.84	0.74	No data	0.38	0.21	1.05	24	28
	Sri Lanka	7	30	0.99	0.96	No data	0.29	0.05	1.04	9	38
Asia Pacific best		4	5	1.00	1.00	1.00	1.00	0.55	1.03	0	14
Asia Pacific average[1]		10	102	0.92	0.76	0.77	0.47	0.19	1.11	14	28
Global best		4	3	1.00	1.00	1.00	1.00	0.93	1.02	0	6

1 Weighted by 2016 female population.
NOTE: For further details on the indicators used here, see the appendix.

SOURCE: McKinsey Global Institute analysis

Exhibit 5

There is significant variation in gender equality between and within Asia Pacific countries



1 In Asia Pacific, outlier removed for per capita GDP: Singapore ($87,856 PPP 2016 per capita); in Indonesia, outlier removed for per capita GRP: DKI Jakarta ($51,769 PPP 2016 per capita). For display purposes, Australia set to 40,000 ($46,790 PPP 2016 per capita), and Japan set to 40,000 ($41,461 PPP 2016 per capita).

2 Except Japan, which is in PPP 2014 International currency per capita. For display purposes, Kanto region set to 40,000 ($44,104 PPP 2014 per capita), and Chubu region set to 40,000 ($40,985 PPP 2014 per capita).

3 For display purposes, outlier removed for professional/technical jobs in India: Lakshadweep (18.8 F/M), and Chandigarh set to 2.50 (2.52 F/M).

NOTE: Not to scale. Similar countries are representative only. Their values typically fall within or close to the bands depicted here.

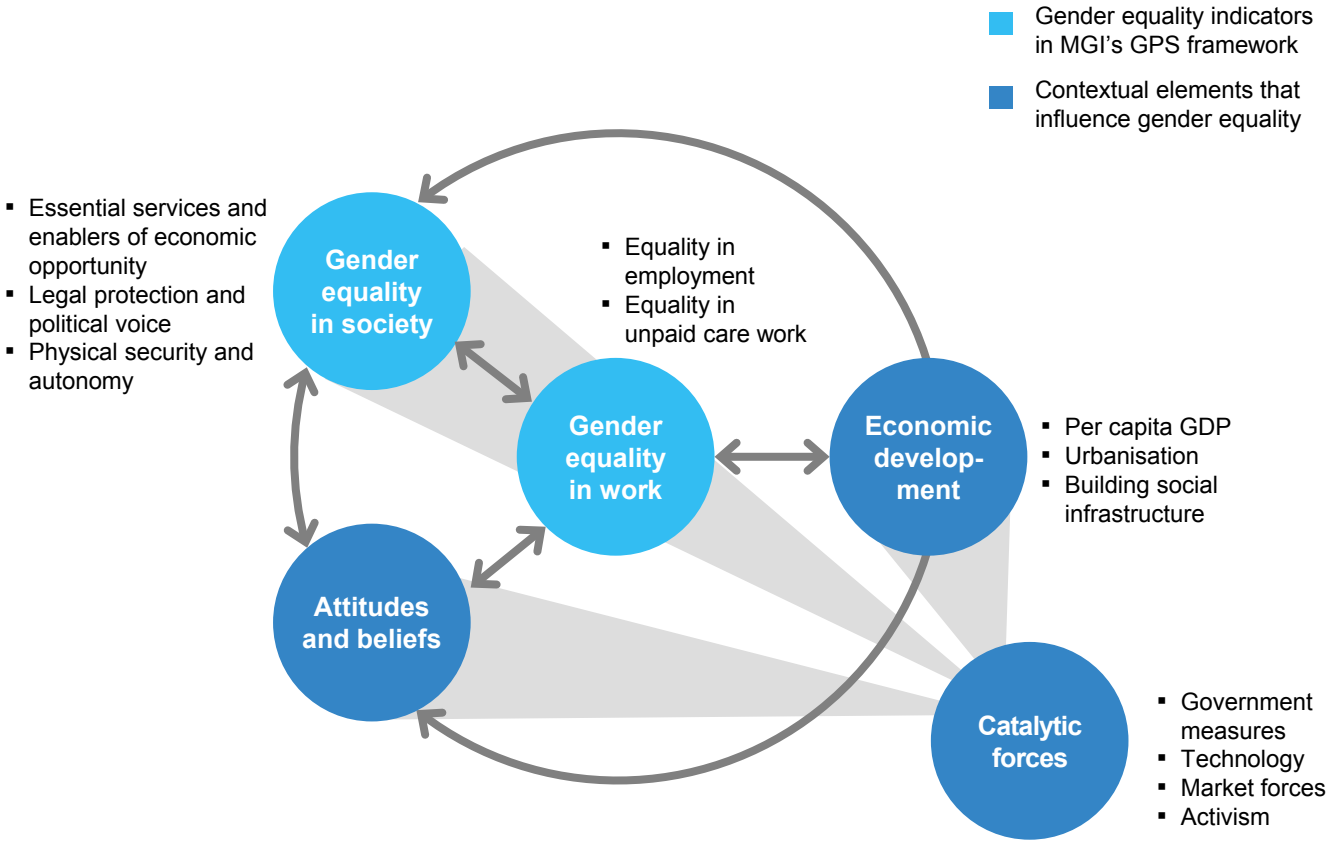
SOURCE: ILOSTAT, 2016; UNESCO STAT, 2016; World Bank, 2016; China National Bureau of Statistics, 2012, 2016; China Ministry of Human Resources and Social Security, 2011; India Ministry of Statistics and Programme Implementation, 2016; India Ministry of Labour and Employment, 2016; India Ministry of Human Resource Development, 2016; Statistics Indonesia, 2013, 2016; Japan Cabinet Office, Government of Japan, 2014; Japan Ministry of Internal Affairs and Communications, 2014, 2016; Obunsha Educational Information Center, 2017; Philippines Statistics Authority, 2015, 2016; IMF World Economic Outlook Database, 2017; McKinsey Global Institute analysis

ECONOMIC DEVELOPMENT HEAVILY INFLUENCES GENDER OUTCOMES IN ASIA PACIFIC, BUT OTHER NON-ECONOMIC FACTORS ARE ALSO SIGNIFICANT

Economic development has a significant influence on gender equality outcomes but does not fully account for differences between and within countries in Asia Pacific. Other factors at work include cultural attitudes and beliefs, and catalysts such as government action, technological development, market forces, and activism. These factors help to explain the significant variations in gender outcomes between—and within—Asia Pacific countries, and are often complex and mutually reinforcing: improvement on any of them is likely to have some positive impact on the others, creating a virtuous cycle (Exhibit 6).

Exhibit 6

Gender equality is shaped by contextual elements like the stage of economic development, attitudes about women, and catalytic forces that provide impetus for change



SOURCE: McKinsey Global Institute analysis

- **Economic development:** Gender outcomes in Asia Pacific appear to be closely tied to the stage of economic development. In its 2015 global report on the power of parity, MGI conducted a correlation analysis suggesting that per capita GDP is strongly linked to almost all aspects of gender equality in society.[12] Economic development in itself can create momentum towards a further narrowing of gender gaps, provided countries use the dividend of higher GDP growth to boost investment in social infrastructure, for example education and healthcare. However, relying on economic development alone is a slow process. The fact that some aspects of gender inequality are present

[12] While gender equality in society outcomes do improve with economic development, this does not mean that countries with high per capita GDP have "solved" gender equality in society issues. The evidence for this includes global impact zones of violence against women, underrepresentation of women in politics, and weak legal protection for women.

in both developing and advanced economies is testament to the fact that economic development alone cannot solve these complex issues. Moreover, there is a nuanced correlation between economic development and indicators of gender equality in work. Women's labour-participation rates dip in middle-income countries and rise again in more advanced economies, reflecting not only cultural barriers and personal choices, but also changes in the opportunity cost of women working as opposed to caring for children and the elderly.[13] The relationship between urbanisation and progress on gender inequality is also nuanced. While urbanisation generally correlates with growth in per capita GDP and improved gender outcomes, in the short term urbanisation may make it more difficult for some women to work for pay because employment in cities is more regulated and less flexible, and childcare is more expensive.

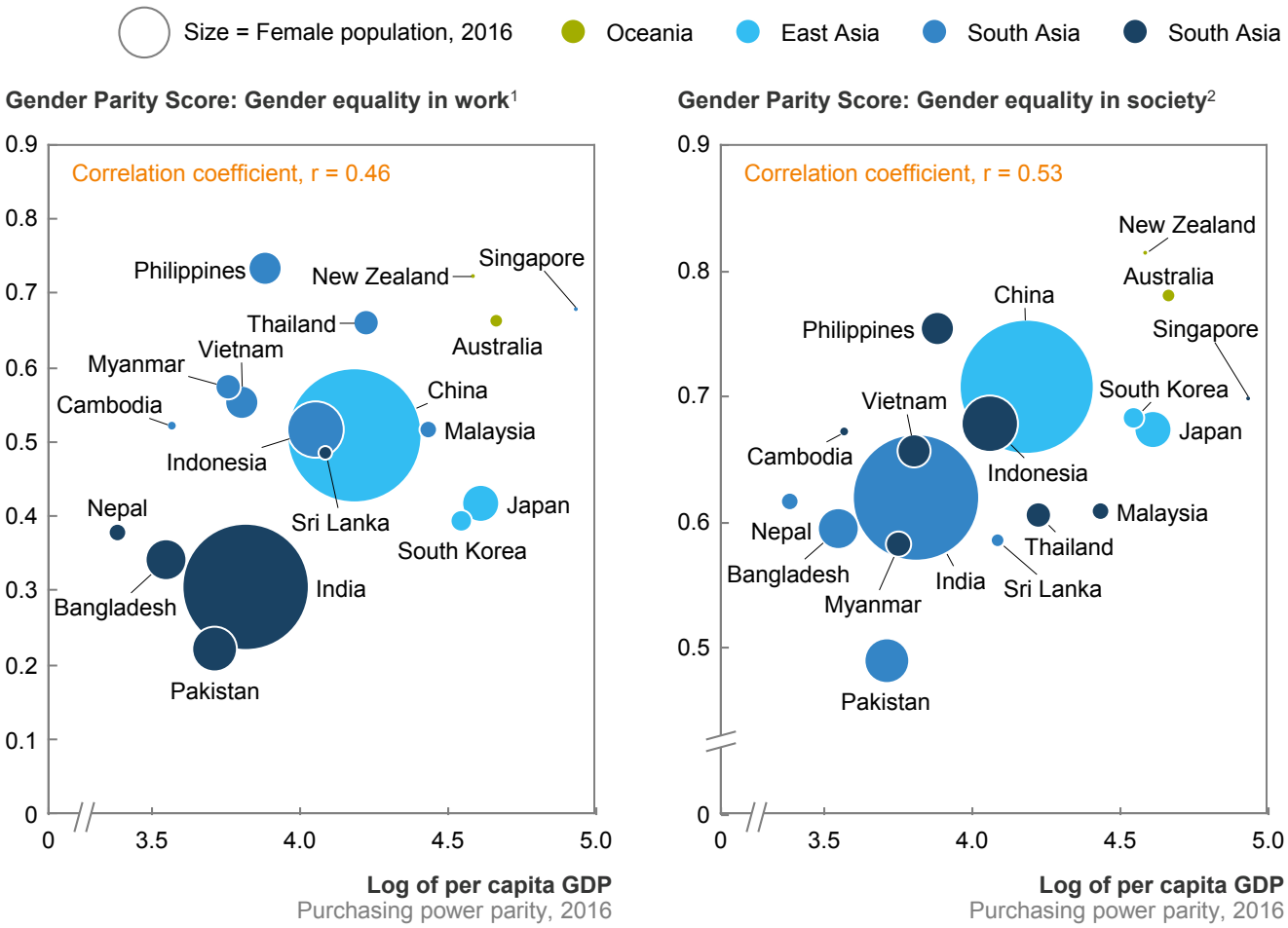
In Asia Pacific, economic development has a significant influence on gender equality outcomes but does not fully account for differences between countries (Exhibit 7). The correlation between economic development and progress towards gender parity is much clearer in the case of gender equality in society than in gender equality in work. In the case of gender equality in society, countries tend to cluster quite clearly into subregions broadly aligned with per capita GDP—South Asia, Southeast Asia, East Asia, and, finally, Australia and New Zealand in their own cluster. Yet the scores on gender equality in society in Japan, Singapore, and South Korea are more similar to those in China, Indonesia, and Vietnam than to those in other advanced economies in the region such as Australia and New Zealand. This highlights the influence of non-economic factors on gender outcomes.

On gender equality in work, countries in South Asia have the furthest to go before achieving parity, but Southeast Asian countries have generally advanced further than higher-GDP East Asian countries. The Philippines stands out for its achievements on narrowing gender gaps in work.

[13] There is a U-shaped curve relationship between the participation of women of prime working age and per capita GDP. See Exhibit 8 in *The power of parity: How advancing women's equality can add $12 trillion to global growth*, McKinsey Global Institute, September 2015.

Exhibit 7

Equality in work and society tends to increase with per capita GDP, but with some variations



1 Includes labour-force participation rate, professional and technical jobs, perceived wage gap for similar work, leadership positions and unpaid care work.
2 Includes essential services and enablers of economic opportunity, legal protection and political voice, and physical security and autonomy.

SOURCE: McKinsey Global Institute analysis

- **Cultural attitudes and beliefs:** Attitudes can affect gender outcomes in work and in society. We have analysed the World Values Survey and Organisation for Economic Co-operation and Development (OECD) data and found a strong link between societal attitudes that limit women's potential and gender-equality outcomes in a given region.[14] On average in Asia (excluding Australia and New Zealand), cultural attitudes reflected in the World Values Survey are similar to global averages. On women's role in the workplace, for instance, 45 percent of respondents in Asia agree that men should have more right to a job than women when jobs are scarce, compared with 39 percent of respondents globally. Nearly half of respondents both in Asia and globally agree that children suffer when a mother works for pay. Cultural attitudes can reinforce expectations about the roles women are best equipped to play. In Indonesia, for example, the concept of *kodrat* embodies society's expectation that women are nurturing and should take care of domestic commitments before engaging in any other activities.[15] Beyond affecting the role of women in work, cultural attitudes can impact more fundamental notions of the value of women and girls in society. One example is the phenomenon of "son bias" or

[14] Throughout this report, we refer to the 2010–14 World Values Survey. See *WVS Wave 6 (2010–2014)*, (http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp).

[15] Sari Andajani, Olivia Hadiwirawan, and Yasinta Astin Sokang, "Women's leadership in Indonesia: Current discussion, barriers, and existing stigma", *Indonesian Feminist Journal*, volume 4, number 1, March 2016.

the preference for the male child. It results in a skewed male-to-female sex ratio at birth in countries such as China (1.16) and India (1.11), driven by sex-selective abortions and sometimes by younger girls being neglected in favour of their male siblings.[16] Changing societal attitudes can play an important role in changing gender outcomes, but the link may not be obvious or sufficient. For example, the Philippines' proportion of female political leaders is more than double that of Japan, despite the fact that twice as many Filipinos as Japanese agree with the statement that men make better political leaders than women. This may be driven by factors including legislated gender quotas at the subnational level in the Philippines since 1991—which have in turn influenced political parties to adopt their own voluntary quotas—underscoring the potential impact of catalytic forces such as government action on gender outcomes.[17]

- **Government measures:** Government measures—whether in the form of legislation, fiscal measures, programmatic change, or public-private partnerships—have the potential to influence gender outcomes directly, or indirectly by targeting society's economic development or attitudes and beliefs. Asia Pacific offers many examples of government initiatives, often in conjunction with the private sector, and legislation leading to significant progress on certain gender equality indicators. For instance, the government of Singapore has clearly contributed to the city-state's progress on inequality in labour-force participation through a range of policies that help women to balance family responsibilities and work. Measures in place include paid maternity leave, paid and unpaid childcare leave, increased tax relief, tax rebates, and childcare subsidies. As far back as 1978, the government put in place a Foreign Domestic Servant Scheme, enabling employment of women from other countries. This raised the rate of labour-force participation among married women by 145 percent between 1970 and 2016.[18] In the Philippines, the government set up the Philippines Commission of Women to ensure the inclusion of gender policies at all levels of government. The commission also implemented gender and development budgeting, or GAD, which requires a minimum of 5 percent of the national government budget be allocated for gender and development initiatives such as microfinance pilot programmes to help informal-sector workers open bank accounts, and providing legal support to improve workplace safety and access to jobs. Australia's federal Workplace Gender Equality Agency (WGEA) reviews compliance of employers with the Workplace Gender Equality Act 2012, including reporting on workforce representation and pay by gender, and offers support in designing gender initiatives. Similarly, legislation enacted in Japan in 2015 requires large companies (with more than 300 employees) to report on gender diversity and improvement plans. Action can also be taken by governments working together. For example, Asia-Pacific Economic Cooperation (APEC) has a number of gender initiatives, including collecting and reporting on regionwide gender-disaggregated data and helping member economies to develop Individual Action Plans for the Enhancement of the Ratio of Women's Representation in Leadership, including voluntary targets.

- **Technology:** In the digital age, technological developments are likely to be a major factor in accelerating progress towards parity if their full power is harnessed. On digital inclusion of women, Asia Pacific has a GPS of 0.77, somewhat behind the global

[16] A review of literature on sex ratio at birth found that the natural male-to-female ratio at birth is typically in the neighbourhood of 1.06. See Stephan Klasen and Claudia Wink, "Missing women: Revisiting the debate", *Feminist Economics*, volume 9, issue 2–3, 2003.

[17] *Enacting a women's political participation and representation law,* policy brief number 4, Philippine Commission on Women (http://www.pcw.gov.ph/wpla/enacting-women%E2%80%99s-political-participation-and-representation-law).

[18] While foreign workers in Singapore are offered protections under local laws, the ILO notes that Singapore is the only country in the Association of Southeast Asian Nations that has yet to ratify its Convention on Domestic Workers.

average of 0.85. GSMA has estimated that there are 1.1 billion unconnected women in low- and middle-income countries in the region.[19] Yet use of digital technologies is truly transformative—it unlocks doors to finance and even healthcare, saves cost and time, and helps drive access to information and marketplaces, for instance.[20] Just as mobile banking enables women to avoid long journeys to the ATM or bank, technology-enabled healthcare delivered via phone or tablet can reach women even in the remotest areas and save them time travelling to see a doctor. In both cases, there is an impact on the time women spend on unpaid household or family tasks, and, for some women, access to services that were previously out of reach.[21] Digital technologies offer channels to new customers and business models. Women-owned micro, small, and medium-sized enterprises (MSME) generate 35 percent of e-commerce revenue, compared with only 15 percent of offline MSME revenue.[22] Digital technologies enable individual microentrepreneurs and even one-woman micromultinationals to sell to global markets at a low cost and with a high degree of flexibility—attractive characteristics for women balancing home and work responsibilities.[23] And digital technologies give women a low-cost and easy way to network and to have their voices heard as never before. In India, the rapid adoption of cable television—150 million individuals gained access between 2001 and 2006—has been identified as a potential driver of positive changes in attitudes towards women's role in the household and reductions in domestic violence.[24]

- **Market forces:** Competitive market forces can also be a positive catalyst for change. In technology, for example, market forces can make the internet more accessible to women. In 2015, 72 percent of women in India did not own a phone, compared with 57 percent of men, and in one survey half of Indian women said that the cost of a handset was the major reason.[25] But prices are heading downwards—the average cost of a smartphone in India has already fallen 45 percent in the past five years, opening up the possibility of owning one for many more women and giving them a gateway to a range of services, from finance to healthcare and education. A key reason for prices dropping has been competition. In India, for instance, Reliance Jio was able to reduce prices of data and voice packages by investing heavily in 4G, and other companies cut their prices in order to compete. Market forces in the skills market can also play a role in driving towards gender parity. In Australia, the shift from resource-intensive to service-based industries has been highlighted as a potential driver of faster growth in women's labour-force participation relative to men.[26] Throughout the region, the emergence of ride-hailing services may significantly improve women's mobility, thus enabling greater economic, social, and civic participation and reducing the time they spend doing household chores. Almost one-quarter of women in one survey said ride-hailing

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19 *Bridging the gender gap: Mobile access and usage in low- and middle-income countries*, GSMA, 2015.

20 MGI research in 2016 found that two billion people and 200 million businesses in emerging economies lack access to savings and credit, and that digital technologies can help to close this gap. The research found that financial services delivered via mobile phones and the internet could provide access to finance for 1.6 billion people in emerging economies, more than half of them women. Overall, widespread use of digital finance could boost the annual GDP of all emerging economies by $3.7 trillion by 2025, a 6 percent increase vs. a business-as-usual scenario. We should note that although digital technologies help connect people to financial institutions, they do not guarantee improved credit—and that it is important that any increased access to credit does not result in unsustainable indebtedness. See *Digital finance for all: Powering inclusive growth in emerging economies*, McKinsey Global Institute, September 2016.

21 *Digital China: Powering the economy to global competitiveness*, McKinsey Global Institute, December 2017.

22 McKinsey survey of Indonesian e-commerce merchants, 2017. N = 700.

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

24 Robert Jensen and Emily Oster, "The power of TV: Cable television and women's status in India", *Quarterly Journal of Economics*, volume 124, issue 3, August 2009.

25 *Accelerating affordable smartphone ownership in emerging markets*, GSMA, July 2017. Unconnected women are those who do not own a mobile phone but may borrow one. See *Bridging the gender gap: Mobile access and usage in low- and middle-income countries*, GSMA, 2015.

26 *More jobs. Great workplaces: Annual report 2015–16*, Australian Government Department of Employment, 2016.

increases their sense of independence; 9 percent of Indonesian women said that ride-hailing enables them to go out at night when they otherwise could not.[27]

- **Activism:** Social movements and organisations mobilising the grassroots have historically been a powerful catalyst for change, from the suffragettes in the United Kingdom over a century ago to the current #MeToo movement. Indeed, social media and mobile internet devices have only amplified the reach and pace of social activism. Beyond global movements such as #MeToo, local activist campaigns have achieved significant change in Asia Pacific in recent years. Popular outrage over the brutal rape and murder of an Indian girl in 2012 spurred legal reforms regarding sexual offences, for instance.[28] In Bangladesh, the mobilisation of self-help groups has helped to improve the economic situation of many poor people, including women.[29]

  To ensure Asia Pacific's continued progress towards gender parity, the virtuous cycle needs to be working well, powered by continued economic development. In addition, we see positive catalytic forces through government measures, market forces, new technologies, and activism playing a significant role in shaping gender outcomes. Government action, in particular, will be necessary both to accelerate progress and to achieve measurable change in globally consistent areas of inequality such as female leadership representation, which have proven persistent irrespective of economic development.

ASIA PACIFIC COUNTRIES HAVE MADE PROGRESS ON GENDER EQUALITY IN RECENT YEARS, BUT THERE IS STILL A LONG WAY TO GO

The past decade has seen many advances in addressing gender inequality in society in Asia Pacific. South Asia and Southeast Asia in particular have achieved significant improvements in health and education outcomes, which are generally correlated with economic development. However, the picture on indicators of gender equality in work is more mixed, particularly on women's participation in the labour force, on which some countries have advanced but others have regressed (Exhibit 8).[30]

[27] *Driving toward equality: Women, ride-hailing, and the sharing economy*, International Finance Corporation, Accenture, and Uber, 2018.

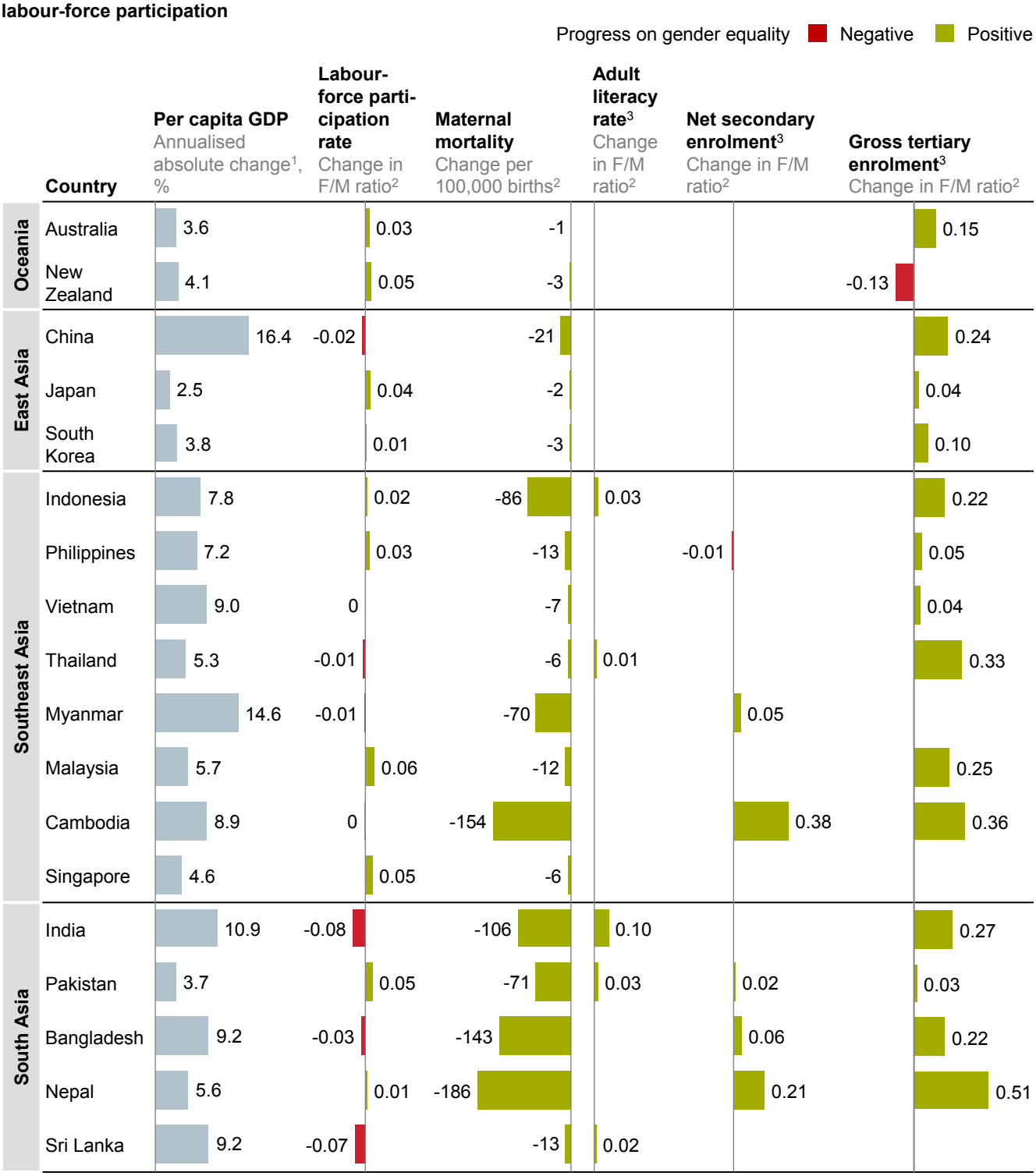
[28] The Criminal Law (Amendment) Act, 2013, Government of India.

[29] M. Mahmudul Hasan and Mizan Rahman, "Self-help groups in Bangladesh", *Review of Enterprise and Management Studies*, volume 2, number 1, 2015.

[30] Trend figures are for ten-year changes, but the exact period measured may vary slightly by country and indicator, depending on data availability.

Exhibit 8

There has been significant progress towards gender equality in Asia Pacific over the past decade, except on labour-force participation



1 Total GDP percentage change divided by number of years.
2 Change in indicator is defined as the value in the latest year subtracted by the value ten years ago. Note that measures are not comparable across indicators, since units and timeframes vary.
3 Length and starting point of period vary based on the availability of data.
NOTE: Within each subregion, countries have been ordered according to their 2016 female population. No data are available for the countries where no values are shown.

SOURCE: McKinsey Global Institute analysis

In the sphere of women's health, maternal mortality, measured as maternal deaths per 100,000 live births, has dropped across the board. In 2016, Nepal was the lowest-performing country in the region on this indicator, and over the past ten years it achieved the largest fall in maternal mortality—a drop of 186 deaths per 100,000 live births, or 42 percent. Other countries registering large improvements were Cambodia (minus 154), Bangladesh (minus 143), and India (minus 106). All countries in Asia have some way to go on tackling unmet need for family planning. China, the best-performing country in the region, stands out for its progress on this front. The proportion of women with unmet family planning needs has dropped consistently over the past decade—by 12 percentage points in Cambodia, five percentage points in Pakistan, and four percentage points in Bangladesh and the Philippines. Cambodia and Vietnam have regressed on sex ratio at birth, which may reflect increased availability of early diagnosis of foetal sex and abortion services.[31]

Indicators related to women's education have improved significantly over the past decade. The female-to-male adult literacy ratio has risen markedly in South Asia—by 0.10 in India, 0.03 in Indonesia and Pakistan, and 0.02 in Sri Lanka, according to UNESCO. The female-to-male ratio in net secondary enrolment rates has risen significantly in several countries, including Cambodia (0.38) and Nepal (0.21). Finally, the female-to-male ratio of gross tertiary enrolment has increased in almost every country in Asia Pacific. The largest rise was in Nepal at 0.51, followed by Cambodia (0.36), India (0.27), Malaysia (0.25), and China (0.24). Gender equality in educational attainment has a moderate or strong correlation with three out of five work equality indicators and several indicators of gender equality in society. For instance, women who enjoy parity in education are more likely to share unpaid work with men more equitably, to work in professional and technical occupations, to assume leadership roles, and to have higher status in the family, reducing the prevalence of child marriage and violence against women. Higher education and skills training can help raise women's labour participation.[32]

While these improvements in health and education outcomes are closely correlated with economic development, progress can also be attributed to positive measures by governments and NGOs. For example, the Cambodia Health Equity Fund launched a voucher programme in 2007 to provide poor pregnant women with access to free pre- and postnatal care and delivery, while the government implemented a nationwide scheme to incentivise healthcare workers for live births in hospitals and healthcare centres.[33]

The female-to-male labour-force participation ratio has increased in some developed economies, climbing 0.05 in New Zealand and Singapore, 0.04 in Japan, 0.03 in Australia, and 0.01 in South Korea. Government measures have facilitated some of these improvements. For instance, Singapore extended its parental leave scheme in 2013 to allow sharing of leave by working fathers, and Australia mandated 18 weeks of paid parental leave in 2011. In contrast, several South Asia countries have registered declines on this indicator, with the ratio falling by 0.08 in India, 0.07 in Sri Lanka, and 0.03 in Bangladesh. These changes in developing economies may be associated with an improvement in per capita GDP, as lower-income women are no longer forced into the workforce, and younger women are staying in school longer and joining the workforce later.

Many countries in the region have experienced increases in women's political representation. This may reflect the introduction of gender quotas in government and public service, which have boosted women's political participation. In India, which has a 33 percent quota for female representation in local government, many states have attained 50 percent representation.

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31 *Gender equality and women's empowerment in Asia and the Pacific: Perspectives of governments on 20 years of implementation of the Beijing Declaration and platform for action*, UNESCAP, 2015.

32 *The power of parity: How advancing women's equality can add $12 trillion a year to global growth*, McKinsey Global Institute, September 2015.

33 Andrew D. Mason et al., *Toward gender equality in East Asia and the Pacific: A companion to the World Development Report*, World Bank, 2012.

Box 3. Gender inequality in seven Asia Pacific countries

Australia. Australia's best-in-region annual GDP opportunity by 2025 is $225 billion, or 12 percent above business-as-usual GDP. Australia has advanced further than the Asia Pacific average towards gender equality in work and on all three elements of gender equality in society. It scores higher than the regional average on almost all of the 15 gender inequality indicators. It is near best in region on female-to-male ratio in professional and technical jobs, maternal mortality, and child marriage, and is best in region on educational level and financial and digital inclusion. Nevertheless, as in the rest of the region, inequality on political representation is still a major issue. Progress has stagnated in recent years on key indicators such as female labour-force participation, gender wage gaps, and women's political representation. Increasing female labour-force participation is crucial to delivering the GDP opportunity. Achieving this—especially for Australian mothers—will require action on three fronts: improving marginal financial incentives to work, spreading best practices in workplace policies, and shifting attitudes about gender roles.

China. In a best-in-region scenario, China could add $2.6 trillion—or 13 percent above business as usual—to annual GDP by 2025. China's position on gender equality in work is above the average of Asia Pacific, with a relatively high female-to-male labour-force participation ratio and share of women in professional and technical jobs. China is best in region on unmet need for family planning and is near best in region on female-to-male ratio of educational attainment and on child marriage. However, China has some way to travel towards parity in leadership positions, unpaid care work, political representation, and sex ratio at birth, which is heavily skewed towards male children, a legacy of China's one-child policy. Overall, there has been no substantial advance in women's equality in recent years. China can build on its emerging strength in women's entrepreneurship in the e-commerce and technology sectors to continue to encourage more women into professional and technical fields and into leadership positions. It should also consider looking carefully at the high share of unpaid care work undertaken by women, a share that is likely to increase as the number of children rises—the fertility rate is expected to stop declining over the longer term—and the elderly population swells.

India. In a best-in-region scenario, India could add $770 billion to annual GDP by 2025, or 18 percent above business as usual. India has a considerable way to travel to reach the Asia Pacific average on female-to-male labour-force participation rate, maternal mortality, financial and digital inclusion, sex ratio at birth, and violence against women. In education, by contrast, gender gaps are narrowing fast. India also has some significant opportunities, such as access to digital technologies—and, largely through their use, access to financial services and credit. In unpaid care work in the home—women do roughly ten times as much as men—India has made advances in rolling out household infrastructure that helps women. Building on this momentum and sharpening focus on how women can achieve greater economic empowerment are high potential priorities for India to consider.

Indonesia. Our analysis finds that Indonesia could add $135 billion to annual GDP by 2025, or 9 percent above business as usual. Indonesia exceeds the Asia Pacific average on gender equality in work but lags significantly behind best in region in areas including labour-force participation and leadership positions. Indonesia's position on the three dimensions of gender equality in society is in line with the Asia Pacific average but, again, some distance from best in region. There are some bright spots. For instance, Indonesia is near best in region on education. Potential priorities for Indonesia to consider are unleashing the full potential of its existing strength in female entrepreneurship and boosting female labour-force participation by investing in household and transport infrastructure in order to reduce women's share of unpaid work.

Japan. Japan could add $325 billion to annual GDP by 2025, or 6 percent above business as usual, in a best-in-region scenario. Japan's progress towards gender parity in work is below the Asia Pacific average and considerably lower than best in region. There is considerable scope to boost the female-to-male ratio of labour-force participation and other indicators of gender equality in work. As the economy ages and the workforce shrinks, tapping the economic potential of women by increasing women's representation in higher education, and subsequently in professional and technical jobs and company leadership positions, is vital. Transforming the work culture in Japanese organisations and shifting attitudes about gender roles will be essential. A particular area to address is the lack of women in leadership, which partly reflects underrepresentation of women in Japan's top universities. The government is leading from the front on addressing gender issues, introducing many potentially effective policies, but there is now an imperative to ensure that legislation and policies are implemented effectively to achieve more rapid change.

The Philippines. In a best-in-region scenario, the Philippines could add 7 percent to GDP above business as usual, or $40 billion a year, by 2025. The Philippines is a traditionally matriarchal and egalitarian society whose government has proactively legislated to close gender gaps. Consequently, it is Asia Pacific's best performer on indicators of gender equality in work, such as participation in professional and technical jobs and women in leadership positions, and near best in region on perceived wage gap for similar work. On gender equality in society, the Philippines is in line with the regional average on essential services and enablers of economic opportunity and on physical security and autonomy, but is above average on legal protection and political voice. Looking at individual indicators, the Philippines is in line with best in region on education and financial inclusion, and near best in region on sex ratio at birth and child marriage. But there is scope for improvement. The experience of women in the Philippines still depends largely on their socioeconomic status. Lower-income women still confront considerable gender gaps and less opportunity. For educated women, there is scope for higher representation and equal pay in professional and technical fields—already a strength. Another priority is to increase women's access to finance.

Singapore. In a best-in-region scenario, Singapore could boost its GDP by $20 billion a year, or 5 percent. It has achieved an above-average level of gender equality in work. The women's labour-force participation rate doubled from 28 percent in 1970 to 58 percent in 2016, reflecting a range of policies helping women to achieve work-life balance, including paid maternity leave, paid and unpaid childcare leave, increased tax relief, tax rebates, and childcare subsidies. Singapore's level of gender equality in essential services and enablers of economic opportunity and in legal protection and political voice is in line with the Asia Pacific average. It is best in region on physical security and autonomy. Singapore is at or near best in region on financial and digital inclusion and on education. The number of women with at least secondary education rose from 57 percent in 2011 to 71 percent in 2015. Singapore still has a significant gap to best in region on leadership positions and legal protection, and much to do to erase gender inequality in political representation. Two potential priorities are supporting women in balancing work and family life by shifting societal attitudes and providing family-friendly workplace programmes, and boosting the number of women working in higher-growth sectors and higher-paying roles by encouraging participation in STEM fields and addressing skills shortages.

FIVE PRIORITY AREAS COULD BE THE BACKBONE OF AN EFFECTIVE AGENDA FOR CHANGE IN ASIA PACIFIC

What should the road ahead look like as Asia Pacific countries move to capture the considerable economic and social opportunity from greater gender equality? Here we briefly summarise key areas that we believe could usefully form the backbone of an Asia Pacific agenda for change. Each of them applies across the region to differing degrees, and therefore merits being prioritised by policy makers, companies, and NGOs. Some aspects, namely female labour-market participation, are crucial for securing the potential economic benefits we have identified in most countries. Others, including the role that digital technologies can play, offer an opportunity to raise economic participation and earning while potentially improving gender equality in society. The imperative to shift societal attitudes towards women's role in society and work appears in virtually all countries and can enable—or hold back—progress on all other aspects of gender inequality. Measures described here are broadly relevant throughout the region, but they may not be equally applicable to all countries, and indeed to regions within countries. Some approaches are more suitable for the formal economy, others for the informal economy. Broadly, measures need to be tailored to the cultural and economic context of each country, based on decision makers' judgment—and experience—of what will be most effective. As examples of this tailoring, we have developed a menu of potential actions in seven countries (Exhibit 9).

Exhibit 9

Overview of potential measures to improve gender equality across Asia Pacific (1 of 6)

Measures are primarily

- Government-driven
- Company-driven

Overarching priorities for action

- P Raise female participation in quality jobs
- L Lift female leadership representation
- DF Improve digital and financial inclusion
- A Shift attitudes on gender roles

	P	L	DF	A
Women in business leadership (all countries)				
Government				
Invest in skills training programmes for women in industries where they are underrepresented	●	●		●
Improve transport infrastructure to make commuting less burdensome and safer for women	●	●		
Use public spending to enable better and more affordable childcare, and rationalise taxes to remove disincentives for second earners	●	●		●
Implement workplace legal protections (e.g., antidiscrimination laws, protection from sexual harassment)		●		●
Set a publicly declared national agenda and target for women's representation in leadership	●	●		●
Work with companies in broad coalitions to share experience and foster a collective effort towards parity	●	●		●
Corporations				
Show top management commitment and accountability by, for instance, setting metrics and targets for gender equality supported by gender-based talent pipeline planning		●		●
Offer and encourage uptake of flexible working arrangements such as part-time positions and homeworking, supported by technology such as videoconferencing	●	●		●
Introduce inclusion programmes that, for instance, challenge conscious and unconscious bias in the talent management process, from recruitment to performance evaluation		●		●
Introduce formal and explicit sponsorship and mentorship programmes		●		●
Run leadership skills workshops and networking events to help women bolster aspirations and push for higher positions		●		●
Individuals (men and women)				
Actively pursue methods to reduce personal negative perceptions and unconscious biases		●		●
Participate in well-designed diversity and inclusion measures		●		●
Partnerships				
Create partnerships between governments to set goals, share best practices, and make gender parity a priority		●		●
Create partnerships between organisations and institutions (public, private, local, or foreign) to share gender data transparently and commit to initiating inclusion programmes		●		●
Australia				
Articulate case for change: macroeconomic, company, and individual				
Develop a clear macroeconomic and social case for policies promoting female participation	●	●		●
Communicate the individual and family benefits of workforce parity through awareness campaigns	●	●		●
Make a strong case for gender balance in the organisation, linked to purpose and business goals	●	●		●

SOURCE: McKinsey Global Institute analysis

Exhibit 9 (continued)

Overview of potential measures to improve gender equality across Asia Pacific (2 of 6)

Measures are primarily

- Government-driven
- Company-driven

Overarching priorities for action

- P Raise female participation in quality jobs
- L Lift female leadership representation
- DF Improve digital and financial inclusion
- A Shift attitudes on gender roles

	P	L	DF	A
Australia (continued)				
Ensure economic incentives exist for all mothers to work				
Ensure long-term budgetary support for more universal childcare	●	●		
Adjust means testing for childcare-related benefits to retain incentives for middle-class women to work	●	●		
Increase equal provision, uptake, and acceptance of flexible policies and life-transition support for women				
Encourage equal uptake of leave by making it more financially attractive, flexible, and understood	●	●		●
Increase support including services and networks during life transitions	●	●		●
Foster acceptance of flexibility (for both genders) through role models and positive communication	●	●		
Invest in shifting attitudes about the role of women in society and work				
Launch public-awareness campaigns on the economic and societal benefits of women being free to pursue careers and of parents sharing childcare	●	●		●
Normalise male child rearing through role modelling by key influencers	●	●		●
Further strengthen existing institutions and policy action focused on gender				
Expand participation in coalitions (e.g., Male Champions of Change) across sectors and geographies	●	●		
Increase policy impact through gender budgeting and gender-impact analysis	●	●		
Consider strengthening national mandates for employers and encourage greater gathering and use of data to shape practices	●	●		
China				
Increase opportunities for women to reduce time spent on unpaid work				
Provide subsidised childcare from birth to age five (pre-school)	●	●		
Improve auditing and enforcement of childcare regulatory standards to ensure quality care	●	●		
Mandate minimum nationwide paternity leave and encourage uptake by male workers	●	●		●
Increase focus on and accelerate provision of elderly care to respond to aging population	●	●		
Mandate minimum nationwide elderly-care leave for male and female employees	●	●		
Encourage and implement family-friendly work practices such as remote and flexible working, and permanent part-time roles that enable parents to accommodate their care requirements	●	●		●
Invest in shifting attitudes about the role of women in society and work				
Launch public-awareness campaigns on the economic and societal benefits of women being free to pursue careers and of parents sharing unpaid care work	●	●		●
Encourage male and female leaders (“champions”) to role model and advocate for change	●	●		●
Mandate public reporting of data on women in employment and leadership in state-owned and other companies		●		●
Raise minimum female representation in parliament and be transparent about progress in provinces		●		●

SOURCE: McKinsey Global Institute analysis

Exhibit 9 (continued)

Overview of potential measures to improve gender equality across Asia Pacific (3 of 6)

Measures are primarily

- Government-driven
- Company-driven

Overarching priorities for action

- P Raise female participation in quality jobs
- L Lift female leadership representation
- DF Improve digital and financial inclusion
- A Shift attitudes on gender roles

	P	L	DF	A
China (continued)				
Encourage and enforce equal treatment of women in the workplace				
Remove barriers to women continuing to work past the age of 50 and 55 (in blue-collar and white-collar work, respectively), and align with male retirement age of 60	●	●		
Encourage equal treatment at work and strengthen enforcement of regulation by, for instance, reducing male-only advertised roles, addressing unequal pay between men and women, and prohibiting questions on intention to become a parent in interviews	●	●		●
Develop women's entrepreneurial and digital skills and networks, particularly in rural areas				
Create partnerships with the private sector to provide training and networking events for women, particularly in the e-commerce and technology sectors	●		●	
India				
Make a concerted effort to expand job opportunities for women				
Stimulate jobs creation and skills training in sectors where women are established, including textiles, garments, healthcare, beauty, IT-enabled services, tourism, electronics assembly, and manufacturing	●	●		
Enhance commitment to, and policies for, gender balance in the corporate sector among employees and in supply chains	●	●		●
Accelerate digital and financial inclusion of women and link with economic empowerment				
Accelerate roll-out of digital literacy initiatives and innovative financial products for female entrepreneurs	●		●	
Expand business training and connectivity to markets for individual women, collectives, and producer companies through digital platforms targeting female entrepreneurs	●		●	
Continue to expand access to infrastructure to reduce unpaid care work				
Sustain the roll-out of household infrastructure and services (e.g., water, sanitation, and clean cooking fuel)	●			
Increase utilisation through supply and demand levers (e.g., quality, cost, education, and awareness)	●			●
Increase accessibility and uptake of childcare				
Increase investment in and scale up existing initiatives (e.g., national flagship scheme, mobile crèches)	●	●		
Strengthen and enforce national standards on childcare quality, including more training for carers	●	●		
Invest in high-quality employer-provided childcare and share best practices	●	●		
Invest in shifting attitudes about the role of women in society and work				
Intensify public-awareness campaigns to communicate the value of girls and women in society				●
Put the spotlight on gender data, with a new focus on women in the workforce, across states, sectors, and organisations				●
Engage community leaders and individuals on women's digital and financial empowerment			●	●
Educate individuals on the value of childcare (e.g., children's cognitive, emotional, and health outcomes)	●	●		●

SOURCE: McKinsey Global Institute analysis

Exhibit 9 (continued)

Overview of potential measures to improve gender equality across Asia Pacific (4 of 6)

Measures are primarily

- Government-driven
- Company-driven

Overarching priorities for action

- P Raise female participation in quality jobs
- L Lift female leadership representation
- DF Improve digital and financial inclusion
- A Shift attitudes on gender roles

	P	L	DF	A
Indonesia				
Continue to expand access to infrastructure to reduce unpaid care work				
Build a robust economic case for increased investment in infrastructure, with a gender-budgeting lens	●			
Work with NGOs and foundations to develop infrastructure and services in remote areas	●			
Introduce innovative products and services to help women reduce time spent on household chores	●			
Drive digital access, skills development, and business training for female entrepreneurs				
Increase instruction in digital skills in the early years of secondary school	●		●	
Scale up digital skills-building programmes for female entrepreneurs	●		●	
Improve tailoring of digital platforms, products, services, and marketing to women's needs	●		●	
Invest in shifting attitudes about the role of women in society and work				
Encourage community learning on how to manage a career in addition to family	●	●		●
Educate and activate networks of male champions	●	●		●
Run public-awareness campaigns to encourage recognition and redistribution of unpaid care work	●	●		●
Legislate and enforce greater protection for women				
Pass workforce laws to enforce part-time options, grant more paternity leave, and tackle sexual harassment	●	●		●
Strengthen enforcement of gender protections (e.g., training, measurement, and accessibility of courts)	●	●		●
Promote diversity policies in business organisations				
Make a strong case for gender balance in the organisation, linked to purpose and business goals	●	●		●
Offer and encourage uptake of flexible working arrangements (e.g., part-time and home-based assignments)	●	●		●
Set diversity targets and boost acceptance by men and women of diversity goals and programmes	●	●		●
Train and equip women as entrepreneurs in supply chains and distribution channels	●	●	●	
Japan				
Accelerate implementation of specific existing recommendations and policies				
Accelerate policy change and public services to match market needs (e.g., expanding public provision of childcare, more flexible labour contracts, and tax and social disincentives for second-income earners)	●	●		
Use organisational change best practices to accelerate implementation (e.g., top management commitment and linking diversity to business objectives)	●	●		
Increase cross-institutional collaboration to foster gender equality				
Create national and local coalitions of public and private institutions to facilitate sharing of best practices, broaden advocacy, and collaborate on societal issues	●	●		●

SOURCE: McKinsey Global Institute analysis

Exhibit 9 (continued)

Overview of potential measures to improve gender equality across Asia Pacific (5 of 6)

Measures are primarily

- Government-driven
- Company-driven

Overarching priorities for action

- P Raise female participation in quality jobs
- L Lift female leadership representation
- DF Improve digital and financial inclusion
- A Shift attitudes on gender roles

	P	L	DF	A
Japan (continued)				
Invest in shifting attitudes about the role of women in society and work				
Run campaigns to celebrate top-performing women professionals and those at top universities	●	●		●
Facilitate networks, mentorship, and sponsorship of women from high school through the talent pipeline	●	●		●
Increase corporate and public-sector efforts to cultivate female talent from the start of the talent pipeline				
Provide scholarships for women to attend Japan's top universities	●	●		
Expand search for female talent beyond the top ten universities and ensure that women are included in management development programmes	●	●		
Increase the number of women attending top universities				
Legislate to promote women's representation in top universities (e.g., requiring targets and action plans)	●	●		
Provide safe and affordable housing for female students in top universities outside their home prefecture	●	●		
Review plans to change National Center Test and entrance conditions for applicants to non-STEM majors, to remove gender bias	●	●		
Create a coalition of top universities to develop understanding of gender issues and address them by, for instance, surveying, analysing, and sharing data	●	●		
Increase focus on improving female performance in STEM at high school				
Review STEM outcomes at the high school level and create action plan to improve female participation, scores, and motivation in mathematics and science	●	●		
Philippines				
Increase access and equal provision of family-friendly policies in the workplace				
Mandate gender-equal provision of parental leave	●	●		●
Increase flexible work options and part-time options for all workers	●	●		●
Increase access to employer-assisted or employer-provided childcare options	●	●		
Introduce policies and programmes to improve gender balance in male-dominated industries				
Revise elementary school curricula to remove gender biases	●			●
Develop mentorship programmes to encourage women to pursue careers in male-dominated industries	●	●		
Strengthen economic incentives for women to remain in the workplace				
Improve on equal remuneration clause for men and women	●			
Audit employee pay to identify gender wage gaps in similar roles	●			
Reduce barriers to labour-force participation for young mothers and single parents				
Improve childcare support for single parents and young mothers	●			
Provide employment and education support programmes for young mothers	●			

SOURCE: McKinsey Global Institute analysis

Exhibit 9 (continued)

Overview of potential measures to improve gender equality across Asia Pacific (6 of 6)

Measures are primarily

- Government-driven
- Company-driven

Overarching priorities for action

- P Raise female participation in quality jobs
- L Lift female leadership representation
- DF Improve digital and financial inclusion
- A Shift attitudes on gender roles

	P	L	DF	A
Philippines (continued)				
Use financial products and services to increase economic empowerment for less-educated women				
Scale up existing measures targeting unbanked areas to expand women's financial inclusion	●		●	
Provide adjacent services to improve financial access for women farmers and microentrepreneurs	●		●	
Accelerate implementation of programmes to improve maternal health in rural and isolated areas				
Improve access to maternal healthcare and information for women in rural areas	●			
Engage local government units in tracking health outcomes of expectant mothers	●			
Singapore				
Invest in shifting attitudes about the role of women in society and work				
Run public-awareness campaigns to foster recognition and redistribution of unpaid care work	●	●		●
Create forums of corporate leaders to share best practices on moving closer to gender equality	●	●		●
Increase access and equal provision of family-friendly policies in the workplace				
Increase availability of flexitime and teleworking options for full-time workers	●	●		●
Develop programmes to ease the transition for mothers returning to the workplace	●	●		
Expand leave options to include family sick leave and elderly-care leave	●			
Make parental leave policies more gender-balanced	●	●		●
Increase economic incentives for women to remain in the workforce				
Audit employee pay to identify gender wage gaps between similar roles	●			
Create an equal remuneration clause for men and women	●			
Encourage higher representation in STEM fields				
Develop programmes to inspire girls and young women to pursue STEM careers	●			
Review university policies to encourage women to participate in STEM fields	●			
Adjust policies to reduce barriers to women interested in applying for jobs in STEM	●			
Promote skills development for women working in lower-growth sectors and/or lower-paying roles				
Create incentives to participate in SkillsFuture for women in need of reskilling or skills development	●			
Help provide digital access to women who do not use mobile phones or the internet	●		●	

SOURCE: McKinsey Global Institute analysis

1. Focus on higher female labour-force participation in quality jobs with steps to address unpaid care work as a priority to boost economic growth

Improving female labour-force participation represents 58 percent of the total GDP opportunity in Asia Pacific that we estimate is available. Enabling women to juggle their home and work responsibilities—an issue in advanced and developing economies alike—would help women who choose to work for pay outside the home to do so. The emphasis of such efforts should be to open the way for women not only to work, but to work in quality jobs. Today, women are underrepresented in many Asia Pacific countries in higher-paying professional and technical jobs, particularly in high-growth science, technology, engineering, and mathematics (STEM) jobs.

Women undertake four times the unpaid care work as men on average—and this hinders their freedom to choose to work for pay outside the home. In some countries, shifting demographics risk exacerbating this issue. In China, for instance, the time spent by women looking after their children and elderly relatives may even rise in the years ahead as fertility rates bounce back because of the shift from a one-child to a two-child policy, and as the population ages rapidly. Many women get deep satisfaction from caring for their children and aging relatives, and the time they choose to spend may reflect personal choice. But true equality of opportunity and freedom of choice still eludes many women who would be able to earn more money outside the home if household responsibilities were recognised, reduced, or redistributed.[34]

A lack of childcare clearly deters many women from participating more fully in the labour market. The scarcity of quality, affordable childcare in major Indian cities has been cited as a barrier to women participating in the workforce. Even in Australia, an advanced economy, many women struggle to balance childcare with paid work because of a lack of affordable childcare. Net childcare costs were 20 percent of average family income in 2015, compared with the 12 percent average in OECD economies. Even if provision of childcare is sufficient and affordable, uptake will be limited unless women's incentive to work in terms of salary and tax rate is set at the right level. Many countries have recognised the importance of addressing this issue and have responded with a combination of public subsidies and mandates on employer provision.[35]

There are other ways to reduce the time that women spend on unpaid work. Improved transport infrastructure and services such as ride-hailing can reduce the time it takes to shop or visit a doctor. There is every prospect that digital technologies will enable widespread use of remote healthcare via mobile phone and internet, saving women a great deal of time.[36] Other types of "household infrastructure" can also reduce time pressure on those working in the home. Today, many households lack water supply, necessitating considerable time collecting water. Unpaid care work can also be shared more equally between men and women in the household, facilitated by policies to promote paternity leave and flexible work models for male as well as female workers. Family leave policies that include men have the potential to provide better recognition for care work and to redistribute it among men and women, thereby potentially helping women to participate more actively in the world of work: however, steps are needed to encourage men to take up these offers.

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[34] Gaëlle Ferrant, Luca Maria Pesando and Keiko Nowacka, *Unpaid care work: The missing link in the analysis of gender gaps in labour outcomes*, OECD Development Centre, December 2014.

[35] For example, Australia provides government subsidies to help cover childcare costs, while India's Maternity Benefit Act requires companies with 50 or more employees to provide crèche facilities.

[36] In China, a combination of healthcare big data, treatment powered by artificial intelligence, and Internet of Things–enabled services can create a more efficient, higher-quality system that puts the patient at its centre. See the discussion in *Digital China: Powering the economy to global competitiveness*, McKinsey Global Institute, December 2017. For more on the use of digital technologies in healthcare, see, for instance, *India's technology opportunity: Transforming work, empowering people*, McKinsey Global Institute, December 2014, and *What's now and next in analytics, AI, and automation*, McKinsey Global Institute briefing note, May 2017.

Unpaid care work can also be "marketised" to external providers, creating jobs in the care services industry.

A number of initiatives are being pursued in the region to give women a more solid platform for higher-quality careers. In response to reluctance among girls in Singapore to pursue STEM careers, non-profit 21C has started to provide free coding classes for girls.[37] In Japan, where women are markedly underrepresented at the top universities that are the source of a large share of the country's business and political leaders, the institutions are taking some new approaches. For instance, Nagoya University has established a centre for gender equality and instituted female-only positions to open up opportunities to women academics.

2. Address the pressing regional and global issue of women's underrepresentation in business leadership positions

A lack of women in top management positions—an issue in advanced and developing economies around the world—not only stunts the ability of women to have fulfilling careers and earn higher incomes, but negatively affects companies' bottom lines. McKinsey's latest research on the impact of diversity in business shows that companies in the top quartile for gender diversity on their executive teams are 21 percent more likely than other firms to report above-average profitability; the figure three years earlier was 15 percent.[38] We note that correlation does not prove causation, but we would argue that the correlation at least indicates that companies with gender-diverse leadership are more successful.

The global GPS on this metric, which includes women in leadership positions in both business and politics, is 0.37, indicating extreme gender inequality—there are fewer than four women for every ten men in leadership positions. The average GPS on women in leadership in Asia Pacific is only 0.25: women hold only one in four positions at the manager level and above. Asia Pacific has made some progress in recent years. Across the region, the share of women sitting on company boards doubled between 2011 and 2016 from 6 to 13 percent, but that is still a very low share.

Most countries have similar barriers to women rising to leadership roles in business. They include cultural expectations that women should prioritise childcare over their careers, a lack of suitable or affordable childcare, unconscious bias in the workplace, a lack of role models and sponsors, and, perhaps critically, a failure by many companies to offer flexible working options. The fact that the barriers are similar suggests that measures that have proved successful in raising the share of women in leadership in individual companies could be the template for businesses in the region.

Governments, companies, and NGOs all have a role to play in tackling this issue. Policy makers have the power to influence the talent pipeline through education and training systems, legislation, fiscal measures, and political leadership. They can also improve diversity in public services in their capacity as employers and can encourage gender diversity in companies in their supply chains through their procurement practices. Companies need to embed gender diversity into their operations from top to bottom, with clear managerial commitment to equality in the workplace, processes to back up that standard, the provision of flexible working to ensure that employees can achieve work-life balance, and programmes that explicitly provide mentorship, skills building, and networking for women. NGOs can provide similar programmes. It is vital that men play a central role in efforts to promote gender equality. In the home, if they undertake a greater share of family responsibilities, women will be freer to work for pay if they so choose. In work, men are still

[37] Lakshmi Ramachandran, *Small steps to big changes towards gender equality in science*, National University of Singapore, May 2017.

[38] *Delivering through diversity*, McKinsey & Company, January 2018; *Women Matter: An Asian perspective: Harnessing female talent to raise corporate performance*, McKinsey & Company, 2012; and *Women Matter: Time to accelerate: Ten years of insights into gender diversity*, McKinsey & Company, October 2017.

often in positions of authority and therefore have control over decisions to promote women, offer them flexible work practices, and provide them with mentoring and sponsorship.

3. Capture the economic and social benefits of improving women's access to digital technology

Globally, a digital divide separates rich and poor but also men and women. Most countries have some distance to travel to open up access to digital technologies for women. Yet access to and use of digital technologies is a powerful enabler of economic advancement for both individuals and entire economies, and it can have a positive impact on a number of aspects of gender inequality. On digital inclusion of women, Asia Pacific has a GPS of 0.77, somewhat behind the global average of 0.85. GSMA has estimated that there are 1.1 billion unconnected women in low- and middle-income countries in the region.

Access to technology can open many economic doors to women. For instance, digital businesses can enable female entrepreneurs by reducing many of the barriers they face offline. The rise of e-commerce and the online "gig economy" offer many women flexibility in terms of their working hours and where they work, helping them to balance work with their family commitments.[39] There is widespread evidence that digital technologies connect women with larger markets far more effectively than if they are offline. In Indonesia, for instance, women-owned MSMEs generate 35 percent of e-commerce revenue, compared with only 15 percent of offline MSME revenue.[40] Digital technology–based startups also tend to require less capital than more traditional startups, reducing entry barriers for women who, on average, have less access to capital than men.[41] In a 2015 report, Alibaba stated that starting a Tmall store typically costs 210,000 renminbi, 96 percent less than setting up an offline business.[42]

Digital banking levels the playing field between men and women in terms of access to financial services, and it enables financial institutions to serve more customers profitably. MGI research has found that mobile payments can lower the cost of providing financial services by 80 to 90 percent, enabling providers to serve people with lower incomes in rural areas. Overall, digital finance has the potential to provide access to financial services for 1.6 billion people in emerging economies, more than half of them women. Today, an estimated 57 percent of women are financially excluded in South Asia, 54 percent in China, and 49 percent in Southeast Asia.[43]

Digital technologies can also encourage higher labour-force participation by women. They can, for instance, reduce the hours women spend on unpaid work. For example, if women have access to digital payments, they can save an enormous amount of time spent travelling to a physical bank or ATM and waiting in line. MGI has estimated that Indians (men and women) lose more than $2 billion a year in income because of travel time to and from a bank.[44] The adoption by many businesses of telecommuting also makes it easier for women to remain in the workforce if they so choose.

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39 *Independent work: Choice, necessity, and the gig economy*, McKinsey Global Institute, October 2016.

40 McKinsey survey of Indonesian e-commerce merchants, 2017. N = 700.

41 David Halabisky, *5 ways policy could close the gender gap in entrepreneurship*, World Economic Forum, October 19, 2017.

42 *Women in the era of Internet Plus*, AliResearch, 2015.

43 *Digital finance for all: Powering inclusive growth in emerging economies*, McKinsey Global Institute, September 2016.

44 Ibid.

Finally, the internet offers the potential for women to make their voices heard. The #MeToo movement against sexual harassment that erupted on social media in late 2017 and early 2018 is just one example. One study found that half of the women surveyed in developing countries said that the internet had made it safer for them to express their views.[45] Yet powerful attitudes and beliefs inhibit women and girls from accessing the internet. In India, for instance, male relatives reportedly prohibit girls from using the internet.[46] Many digitally excluded people may need help to overcome digital literacy and numeracy issues. In an initiative from Tata Trust and Google India, for instance, women ride a bicycle carrying two smartphones and two tablets around villages to teach women how to use them.[47] It may not always be possible for the digitally excluded to take advantage of these technologies without assistance given that many will continue to have literacy and numeracy issues. Therefore, there is a case for providing digital access through intermediaries. Again in India, in late 2016, the government set up Common Service Centres in a public-private partnership with local entrepreneurs. Entrepreneurs run these kiosks, where people can go online, and the government allows them to be used for e-government services and applying for jobs.[48]

We acknowledge that digital technologies are a double-edged sword. If the gender gap in digital inclusion and capabilities is not closed, there is a risk that women will be left out of the wave of change rolling through societies and economies driven by the rapid penetration of these technologies. Digital technologies can accelerate progress towards parity for women who are digitally included but leave those who are not even further behind.

4. Shift attitudes about women's role in society and work, in order to underpin progress on all aspects of gender inequality

In essence, progress towards gender parity in Asia Pacific and around the world relies on women and men having equality of opportunity and the freedom to choose how they balance the different parts of their lives: home and work, children and career. But even today in many countries, societal attitudes hold women back. Shifting those attitudes—a complex and long-term effort—can unlock progress on many aspects of gender inequality.

Defeating gender biases is critical to achieving equality in the workplace, where Asia Pacific countries generally exhibit an extremely high level of inequality. Attitudes regarding women's role as family caregivers are key reasons that women undertake a disproportionate amount of unpaid care work, choose to step out of the workforce, and face conscious and unconscious discrimination in the workplace. This holds true even in relatively advanced economies—in Australia, for instance, one in two women reported experiencing discrimination related to pregnancy or parental leave.[49] Selecting and equipping male champions to lead cultural change within organisations can be an effective way to address the attitudes underlying this bias. For example, the Australian Male Champions of Change group of CEOs and public-sector leaders recently committed to eliminating "everyday sexism" in workplaces through role modelling, tone setting, and training.[50]

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45 *Women's rights online: Translating access into empowerment*, World Wide Web Foundation, October 2015.

46 Feminist Approach to Technology (http://www.fat-net.org/). Restrictions are even more common in terms of limiting (rather than prohibiting) use. More than half of men in one survey in New Delhi agreed that men have the responsibility to restrict what women access on the internet, and 65 percent agreed that women should be restricted from using the internet in public places on their own. See *Women's rights online*, World Wide Web Foundation (https://webfoundation.org/our-work/projects/womens-rights-online/).

47 "Google, Tata Trusts to expand Internet Saathi programme", *The Hindu Business Line*, December 5, 2017.

48 Anandita Jumde, *How Common Service Centres are revolutionising e-governance in rural India*, The Better India, May 31, 2016.

49 *Supporting working parents: Pregnancy and return to work national review—report*, Australian Human Rights Commission, 2014.

50 *We set the tone: Eliminating everyday sexism*, Male Champions of Change, October 2017.

Shifting attitudes is also an important part of improving women's political representation, which is currently an area of extremely high inequality in most countries in Asia Pacific. The average female-to-male ratio of elected leaders is only 0.19. In countries in the region, an average of 44 percent (not weighted for population) of World Values Survey respondents agreed that men make better political leaders than women. Even when countries attempt to increase female representation, women are judged more harshly than men. For example, in India, a study of women-led villages showed that levels of dissatisfaction among constituents were higher where council representatives were women, despite the fact that outcomes on some key services were, on average, better.[51] Part of tackling this problem is increasing the visibility of female candidates, their track records, and the importance of women's representation in government. One example of this approach is the global #makeithappen campaign, which involved female parliamentarians raising awareness of these issues.

A change in attitudes is also crucial to solving the pervasive global issue of violence against women, a widespread problem that does not diminish even as countries develop economically. Campaigns can be effective. The Indian government's Beti Bachao Beti Padhao social campaign has raised public awareness of girl-child welfare in an effort to combat "son bias" and a skewed sex ratio at birth. Hollaback, an international initiative, targets women's attitudes. It asks women to share their stories of harassment so that other women don't feel alone and may be more empowered to report the problem to authorities. In countries including China and India, changing attitudes is an important part of addressing sex-selective abortion and child marriage. Humanising the issue to prompt discussions can be effective. For example, the Meena cartoon series, a television programme supported by UNICEF and shown in South Asian languages, presents a South Asian girl character, tailored to resonate with the audience's background, who faces a range of discriminatory obstacles.

Governments, companies, the media, and individuals in every community can help to change attitudes towards women by using cutting-edge and innovative approaches. Leading from the front, the Victoria state government in Australia has invited international behavioural insights experts to design strategies to address the societal attitudes and biases that drive gender inequality.

5. Collaborate on regional solutions as powerful catalysts for gender equality

Programmes and policies will largely be developed in each country with an eye to its particular context, pockets of high inequality, areas of strength, and cultural norms. But pan–Asia Pacific policies could give national efforts a powerful following wind, enabling change. Two forms of pan-Asian intervention could prove particularly effective, and regional and global bodies might consider exploring their feasibility:

- **Improve financing mechanisms to address gender outcomes:** Improving the financing of initiatives designed to tackle gender equality could improve outcomes. One approach is gender-lens investing—encouraging retail and institutional investors to direct funding to gender-diverse or women-owned businesses or to companies that advance gender equality through their product and service offerings.[52] There is renewed momentum behind corporate social responsibility and ethical investing. For instance, BlackRock recently urged CEOs to ensure that their companies make a positive contribution to society.[53] Changes in investor behaviour can be facilitated by regional or global rating or accreditation systems for companies that improve gender outcomes, such as Bloomberg's Gender-Equality Index. Further work can be done to continue

[51] Ray Fisman, "It takes a village … to fail to thank its female leader, no matter how good she is", Slate, November 27, 2007.

[52] BNY Mellon and the UN Foundation explored this issue in a joint report: *Return on equality: Investment opportunities to help close the global gender gap*, January 2017.

[53] Larry Fink, *Larry Fink's annual letter to CEOs: A sense of purpose*, BlackRock, January 2018.

improving the sophistication and the uptake of such indices. Another approach to explore is social financing through, for instance, development impact bonds that attract private funding to support organisations or initiatives pursuing gender outcomes. Since the Banking on Women bond issued by the International Finance Corporation in 2013, many similar bonds have been developed. One example is the Women's Livelihood bond, which is estimated to have impacted 385,000 women in Cambodia, the Philippines, and Vietnam. In this case, the bond was partially guaranteed by USAID and Australia's Department of Foreign Affairs and Trade.[54]

- **Explore greater regional collaboration on knowledge-sharing:** Given the wide variation in gender equality outcomes in Asia Pacific, it is vital that best practices already in place, as well as cutting-edge ideas, be widely shared. Asia Pacific institutions could consider creating a unified regional learning or knowledge agenda on gender issues, backed by regular, practitioner-level forums in a "'network of networks". Such collaboration may work most effectively within the framework of existing regional institutions such as APEC, whose Women and the Economy Dashboard seeks to measure and share progress in the region and its constituent countries. Regional and international organisations could also collaborate more with one another and with governments to build a comprehensive and up-to-date fact base of gender data to enable more effective design and implementation of gender initiatives. There may also be potential for strategic cooperation, including in procurement, to reduce operating costs and free up funds for investment in gender initiatives.[55]

[54] *USAID supporting Women's Livelihood Bond to benefit 385,000 women in Southeast Asia*, USAID press release, August 7, 2017.

[55] An analogous example is the Joint Procurement Agreement between 24 EU countries to ensure more equitable access to vaccines, antivirals, and other medical countermeasures.

Asia Pacific is home to some of the fastest-growing and increasingly innovative economies in the world. The region is forging an exciting new future and an ever-greater role on the world stage. Yet women are not yet playing an equal part—a gap in the narrative that many leaders now recognise. The economic dividend from advancing women's equality is significant in every country of the region. We know that diverse workforces are good for the bottom line, and that educated, healthy, fulfilled women with the freedom to choose both a family life and a career are good for growth. Now is the time to step up efforts to accelerate progress towards gender parity—and harness its power for growth and the wellbeing of society.

1. OPPORTUNITIES FOR WOMEN IN BUSINESS LEADERSHIP

The relative lack of women leaders—both in business and in politics—is a marked source of gender inequality around the world. In Asia Pacific, the number of women in top jobs in both spheres is even lower than the global average. Large gender gaps on women's leadership are evident in all countries despite some progress in recent years. This is a waste of talent that the region can ill afford, especially when many economies are aging, labour pools are eroding, and skills shortages are on the rise.[56]

In this chapter, we look at the issue of leadership positions throughout Asia Pacific with a specific focus on the business talent pipeline from education to board-level positions. We examine the root causes of bottlenecks that prevent women from becoming leaders, and offer thoughts on measures that could be taken and adapted to each country's context. We base our findings on attitudes revealed in proprietary surveys and more than 20 interviews with female leaders across the region.

DESPITE RECENT PROGRESS, WOMEN STILL LAG SIGNIFICANTLY BEHIND MEN IN LEADERSHIP POSITIONS IN BUSINESS AND POLITICS

Women's relatively low representation in leadership positions—measured using the female-to-male ratio—is a global issue. Worldwide, slightly fewer than four women hold leadership positions to every ten men in business and politics.[57] In Asia Pacific, there is only one women in leadership positions for every four men. In some countries in East Asia, there are only 12 to 20 women leaders for every 100 men (Exhibit 10).

Most countries in the region have female-to-male ratios of less than 0.5. Even in Australia, New Zealand, and Singapore, three of the region's more advanced economies, the gender imbalance is notable. The Philippines, a traditionally matriarchal society whose government has been proactive in narrowing gender gaps, is the country in the world nearest to gender parity. However, even there, only 15 percent of board members are women, signalling that there is some way to go before parity.[58] The standing of women in the Philippines still depends heavily on their income level. Many women in upper income brackets are almost equal to men in terms of education, and this opens up similar opportunities to companies. However, for many women with lower incomes, such opportunities are not nearly as widely available.

[56] Globally, there will be an estimated shortage of about 40 million graduates. See *The world at work: Jobs, pay, and skills for 3.5 billion people*, McKinsey Global Institute, June 2012.

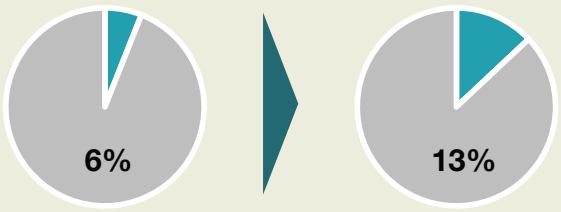
[57] We use International Standard Classification of Occupations (ISCO-08) of ILO system definitions under major group 1 (managers) and submajor group 11 (chief executives, senior officials, and legislators).

[58] J. Benjamin C. Alvarez and Patricia M. Alvarez, "The Filipino family-owned business: A matriarchal model", *Philippine Studies*, volume 20, number 4, fourth quarter 1972.

Female business leaders

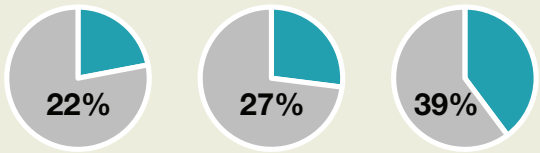
Women's representation in leadership has improved, but there is still a gender gap

Women's representation in boards has improved in Asia Pacific . . .



. . . but is still lower than Western counterparts (2016 estimates)

28% Average of most Western countries



There are bottlenecks throughout the talent pipeline in each country

Percentage of women[1]	Tertiary educated graduates	Entry-level professionals[2]	Senior management[3]	Board members
Australia	56	44	21	18
China	53	51	11	10
India	43	25	4	11[4]
Indonesia	52	45	13	5
Japan	46	49	1	3
Philippines	53	43	33	15
Singapore	53	49	25	8

Comprehensive measures should be considered with all stakeholders contributing

Government

- Investment in training
- Improved transport infrastructure
- Legal protections in workplace
- Fiscal policies to balance work and home
- National target for women leaders
- Work with companies towards parity

Corporations

- Management commitment and accountability
- Flexible working arrangements
- Inclusion programmes across talent management process
- Sponsorship and mentorship
- Skills workshops and networking events

Individuals

- Participation in diversity interventions
- Self-help activities to reduce negative self-perceptions and unconscious bias

Partnerships

- Government partnerships to make gender parity a priority
- Partnerships between local institutions: public, private, local, and foreign

1 Women as a percentage of the total men and women at the respective stage of the talent pipeline.
2 Entry positions in jobs occupied by graduates.
3 Company management/executive committee (CEO and direct reports to CEO).
4 Increase in proportion due to legal mandate for one woman board member for all listed companies.
SOURCE: McKinsey Global Institute analysis

Exhibit 10

The share of women in leadership positions is low across Asia Pacific

	Country	Female population, 2016 Million	Leadership positions Female/male ratio[2]
Oceania	Australia	11.9	0.58
	New Zealand	2.3	0.67
East Asia	China	671.2	0.20
	Japan	65.2	0.15
	South Korea	24.9	0.12
Southeast Asia	Indonesia	125.6	0.30
	Philippines	50.0	0.96
	Vietnam	46.8	0.35
	Thailand	34.3	0.48
	Myanmar	27.6	0.40
	Malaysia	15.5	0.26
	Cambodia	7.9	0.45
	Singapore	2.8	0.52
South Asia	India	612.2	No data
	Pakistan	90.0	0.03
	Bangladesh	78.4	0.13
	Nepal	14.5	0.22
	Sri Lanka	11.0	0.33
Overall score	Asia Pacific average[1]		0.25
	Global average[1]		0.37

Level of gender inequality
- Extremely high
- High
- Medium
- Low

1 Weighted by 2016 female population.
2 Leadership positions defined as manager level and above in private- and public-sector organisations (e.g., includes legislators, chief executives, and middle managers).

SOURCE: McKinsey Global Institute analysis

WOMEN'S REPRESENTATION HAS IMPROVED—PARTICULARLY IN BUSINESS LEADERSHIP—BUT INEQUALITY REMAINS HIGH

The business case for companies in the region to increase the share of women in leadership roles is a strong one. Increasing women's representation throughout a company and in the top team is strongly correlated with value creation (see Box 4, "Gender diversity is linked to company performance").

Box 4. Gender diversity is linked to company performance

There is compelling evidence of a correlation between gender diversity in companies and their performance. McKinsey's latest research on the impact of diversity in business shows that companies in the top quartile for gender diversity on their executive teams are 21 percent more likely than other firms to report above-average profitability; the figure three years earlier was 15 percent.[1] McKinsey has also found that companies with three or more women on their executive committees scored higher on organisational health, on average, than companies with no women at this level.[2] We acknowledge that correlation does not prove causation: diversity does not automatically equal more profit, but companies that commit to diverse leadership have been more successful. Several factors could explain this:

- **Better decision making and innovation:** Gender-diverse top teams can offer more problem-solving tools and more effective solutions by bringing different perspectives.[3] Inherent (gender and ethnicity) and acquired (from experience) diversity can help companies innovate and perform better than others.[4]
- **Stronger customer orientation:** Women are heavily represented among companies' customers. For instance, they tend to control household finances—in Indonesia, Japan, the Philippines, and Vietnam, in more than half of all households.[5] By increasing gender diversity in their top teams, companies can better understand large numbers of customers.
- **Broader leadership styles:** Women and men tend to have different leadership styles, and incorporating both can help performance. Specifically, there is evidence that women apply five out of nine types of positive behaviour in business—people development, expectations and rewards, role models, inspiration, and participatory decision making—more often than men.[6]

We also acknowledge that the correlation may not be sufficient evidence to convince companies of the positive business effects of gender diversity. It is therefore important for companies to build their own business case based on their own situations. For example, Minerals Australia uses BHP data to show that more inclusive and diverse groups have higher performance in both safety and operations.[7] Aurizon in Australia found that diversity and inclusion programmes can help reduce potential long-term costs associated with retention issues. The company reported that between March 2012 and 2013, turnover rates for female employees fell from 13 percent to 7.2 percent.[8]

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1 *Delivering through diversity*, McKinsey & Company, January 2018; *Women Matter: An Asian perspective: Harnessing female talent to raise corporate performance*, McKinsey & Company, 2012; and *Women Matter: Time to accelerate: Ten years of insights into gender diversity*, McKinsey & Company, October 2017.

2 McKinsey's Organizational Health Index measures the performance and health of a company using nine criteria including quality of leadership team, ability to communicate a vision and clear direction, and the work environment.

3 Vivian Hunt, Dennis Layton, and Sara Prince, *Diversity matters*, McKinsey & Company, February 2015.

4 Sylvia Ann Hewlett, Melinda Marshall, and Laura Sherbin, "How diversity can drive innovation", *Harvard Business Review*, December 2013.

5 *Women in Asia's emerging markets take reins of household finances: MasterCard survey*, MasterCard press release, March 27, 2013.

6 *Women Matter: Time to accelerate: Ten years of insights into gender diversity*, McKinsey & Company, October 2017.

7 *Women in leadership: Lessons from Australian companies leading the way*, McKinsey & Company, Workplace Gender Equality Agency, and Business Council of Australia, November 2017.

8 *Case study: Gender diversity at Aurizon*, Aurizon (https://www.aurizon.com.au/~/media/aurizon/files/sustainability/diversity/aurizon%20diversity%20case%20study.ashx).

There has been progress in recent years. On average in the region, women's representation on boards increased from 6 percent in 2011 to 13 percent in 2016.[59] This appears partly to reflect regulations and corporate policies instituted during this period. For instance, India has made it mandatory for companies to have at least one female director, and the Australian Securities Exchange Corporate Governance Council tracks gender diversity in its constituent companies. On the specific issue of women's representation on boards, an upwards trend is apparent in every country of the region. In Australia and Indonesia, women's representation more than doubled, from 13 to 27 percent and from 6 to 14 percent, respectively. In Japan, the share tripled from 2 to 6 percent, but remains very low. All of these numbers are low compared with the average share in advanced economies of 28 percent.[60] Twenty-two percent of board members in the United States are female, 27 percent in Canada, and 39 percent in France.[61]

Women CEOs are even rarer than board members. In 2016, only 5 percent of CEOs in Singapore and 6 percent of CEOs in Australia were women.[62] These are the countries that are closest to parity in the region.[63] In Indonesia and China, the share was only 2 percent, and in Japan zero. Even in the Philippines, just 3 percent of CEOs are female. Shares of women reporting directly to CEOs are somewhat higher, at 30 percent in the Philippines, 27 percent in Australia, and 21 percent in Singapore, but only 6 percent in India and 4 percent in Japan.

BOTTLENECKS FACING WOMEN IN THE TALENT PIPELINE FROM EDUCATION TO THE BOARDROOM VARY AMONG COUNTRIES AND SECTORS

The lower share of women in company leadership isn't all about the glass ceiling—the famous point at which women's careers appear to come to a halt. The relative lack of women in the top positions in business has its roots far earlier in the talent pipeline that runs from enrolment in tertiary education to entry-level positions, middle management, and the boardroom. In the seven countries we highlight in this research, the share of women erodes the further they are along this pipeline, with different patterns and bottlenecks among countries (Exhibit 11).

India and Japan have a relatively lower proportion of women enrolled in tertiary education at 44 percent and 47 percent of the total of men and women enrolled, respectively, which creates a smaller pool of female talent early in the pipeline. In some countries, there is a significant drop from the share of women who graduate from college to the share taking entry-level positions. The decline in share at this stage is greatest in three countries: India, where the share falls from 43 percent of tertiary-level graduates to only 25 percent of entry-level professionals; the Philippines, 53 to 43 percent; and Australia, 56 to 44 percent.[64]

59 This is the average of the seven countries featured in this report.

60 This is the 2016 average of the estimated board representation of women based on G20 country samples (only Western countries). See *Women Matter: Time to accelerate: Ten years of insights into gender diversity*, McKinsey & Company, October 2017.

61 *Women Matter: Time to accelerate: Ten years of insights into gender diversity*, McKinsey & Company, October 2017.

62 These data are based on the top 100 public companies by market capitalisation. Australia's Workplace Gender Equality Agency reports that the share of female CEOs was 16.5 percent in 2017 based on 4,000-plus organisations. See *All industries summary for 2017*, WGEA Data Explorer (http://data.wgea.gov.au/industries/1#gender_comp_content).

63 Data from annual report of top 100 public companies for each country by market capitalisation.

64 The talent pipeline results from an analysis that combines information from multiple data sources. However, we acknowledge the difficulties of combining different data sets.

Exhibit 11

Bottlenecks in the talent pipeline vary among countries

ESTIMATES

Women drop out at all stages of the employment "funnel"[1]
% women[2]

Potential major bottleneck in pipeline (~50% drop from previous stage of pipeline except in the first enrolment stage)

	Tertiary education, enrolled	Tertiary education, graduates	Entry-level professionals[3]	Middle management[4]	Senior management[5]	Board members
Australia	57	56	44	36	21	18
China	52	53	51	22	11	10
India	44	43	25	16	4	11[6]
Indonesia	51	52	45	n/a	13	5
Japan	47	46	49	9	1	3
Philippines	55	53	43	n/a	33	15
Singapore	51	53	49	n/a	25	8

1 Does not include data on women entrepreneurs.
2 Women as a percentage of total men and women.
3 Entry positions in jobs occupied by graduates.
4 Managerial (midlevel) positions.
5 Company management/executive committee (CEO and direct reports to CEO).
6 Increase in proportion due to legal mandate for one woman board member for all listed companies.
NOTE: Comparable middle management data not available for Southeast Asia.

SOURCE: McKinsey proprietary database 2015; Women in Leadership Australia 2017; World Bank; published reports; McKinsey Global Institute analysis

The largest drops in share of women between the entry level and middle management are in Australia, China, and, most significantly, Japan, where a 49 percent share becomes only 9 percent. In all seven countries that we examined, the share of women then declines further between middle and senior management. The share dwindles further between senior management and board positions, with one exception. In India, the share of female senior managers is only 4 percent, but 11 percent of board members are women; however, we note that women's board-level representation in India is relatively low compared with other countries in the region. The largest drops between senior management and the boardroom are in Indonesia, the Philippines, and Singapore.

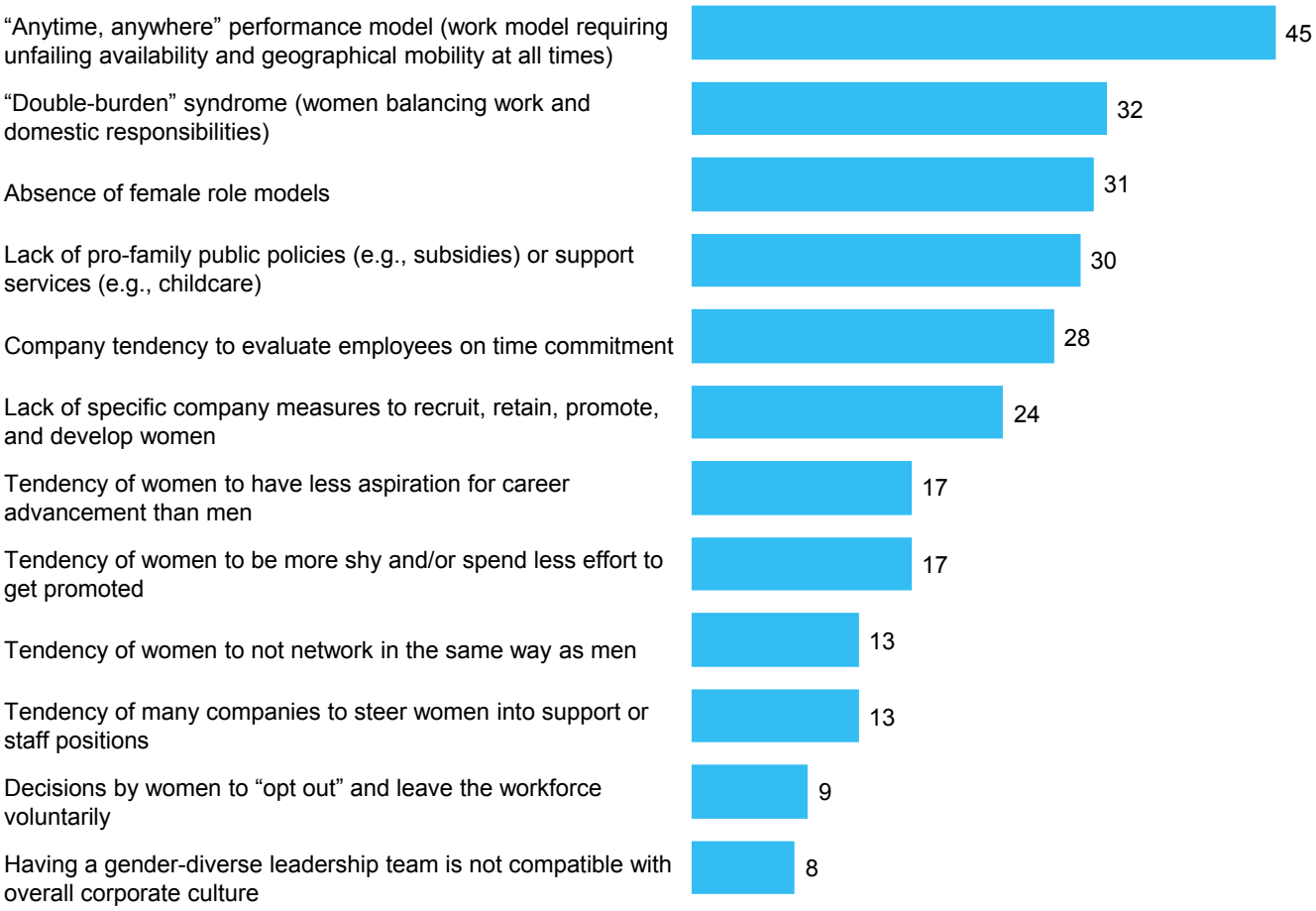
The question is what causes the bottlenecks where women drop out of the business talent pipeline? We have drawn on the Asia results of a McKinsey survey carried out in 2015 across the world that revealed a number of barriers to women's advancement into leadership roles; these barriers appear throughout Asia Pacific (Exhibit 12).

Exhibit 12

Top barriers for women across Asia Pacific include flexibility in work, work-life balance, female role models, and childcare

Women's views of barriers to improving gender diversity vary across Asia Pacific
% of respondents who selected the barrier (Asia Pacific average)

"In your opinion, which are the top three high-level barriers, if any, to increasing gender diversity within the top management of your organisation?"



SOURCE: McKinsey proprietary database—Women Matter survey 2015; McKinsey Global Institute analysis

The survey found that by far the largest barrier to women moving into senior roles cited by executives—45 percent—was the "anytime, anywhere" performance model. The second biggest—cited by 32 percent of respondents—was the "double burden" of women holding down a job while looking after their families, particularly in societies where women are still expected to take sole responsibility for family and household duties. Third was an absence of female role models, followed by a lack of pro-family public policies and support, including childcare; 30 percent of respondents cited the latter factor. Other barriers—all selected by more than 20 percent of respondents—were companies' tendency to evaluate employees on the basis of time commitment (rather than performance and outcomes), and a lack of specific measures to recruit, retain, promote, and develop women. For some women, further barriers included their own tendency to have lower aspirations for their careers than men, being shyer than men, and spending less effort on winning promotion.[65]

[65] This McKinsey survey covered some 700 senior managers in ten markets (the seven countries that we focus on in this report plus Malaysia, South Korea, and Thailand).

These barriers are present in most countries in Asia Pacific, with some variations. For example, respondents in India say the lack of specific company measures to recruit, retain, promote, and develop women is the most important barrier to increasing gender diversity in their organisations' top management. Among Japanese respondents, the anytime, anywhere performance model is cited as the top barrier, followed by companies' tendency to evaluate employees on their time commitment.

The double burden on women is perpetuated by a lack of workplace flexibility and the anytime, anywhere workplace culture

Evidence suggests that failure to normalise flexible work options has the strongest correlation with women dropping out of the talent pipeline, because this perpetuates and entrenches women's double burden. Across Asia Pacific, many interviews and the McKinsey Women Matter survey in 2015 reveal that it remains the norm for women to be the primary caregiver in the household, and that this is very often the main reason women opt out of the talent pipeline. In some parts of Indonesia, women who become mothers and stay at home to take care of children are prized more highly than those who have successful careers outside the home. The concept of *kodrat*, which is unique to Indonesia, encompasses the expectation that women will take care of domestic commitments before engaging in any other activities.[66]

One Australian study highlighted ten key elements that companies need to address in order to increase women's representation.[67] They include making a case for change and role modelling a commitment to diversity. An important factor is flexible working. In Australia, financial services company Suncorp redesigned the operating model of its contact centre to enable flexible scheduling through "work at home hubs" that combine home workstations and working spaces in regional shopping centres, and the firm offers a range of positions that are based in the home. Also in Australia, mining company Rio Tinto has a flexible work policy offering the option to work part time and job share, and giving mothers the choice to work four-hour shifts supported by contractors to fill gaps.[68] In Indonesia, a huge, dispersed archipelago, women tend to stay close to home because of family responsibilities, and many women will turn down work if it means that they are relocated far from home.[69] In China, many women are thriving in the e-commerce and technology sectors because, by their nature, these fields allow flexible and remote work.

The Australian study found that the element most correlated with higher ratios of women in top roles was action to normalise flexible working. Providing ways to work flexibly is not, in itself, sufficient—uptake of these options should be encouraged so that they become normal practice. Women may be reluctant to take advantage of flexible working because of a perception that doing so may hurt their chances of promotion.[70] Companies taking steps to remedy this include Unilever, which has striven to make working flexibly acceptable. Among the practical steps that the company has taken are explicitly encouraging employees to work from home and urging managers to counter negative views of employees without children taking advantage of flexible options.

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66 Sari Andajani, Olivia Hadiwirawan, and Yasinta Astin Sokang, "Women's leadership in Indonesia: Current discussion, barriers, and existing stigma", *Indonesian Feminist Journal*, volume 4, number 1, March 2016.

67 *Women in leadership: Lessons from Australian companies leading the way*, McKinsey & Company, Workplace Gender Equality Agency, and Business Council of Australia, November 2017.

68 Jane Nelson et al., *A path to empowerment: The role of corporations in supporting women's economic progress*, Harvard Kennedy School and U.S. Chamber of Commerce, April 2015.

69 Ilhaamie Abdul Ghani Azmia, Sharifah Hayaati Syed Ismailb, and Siti Arni Basir, "Women career advancement in public service: A study in Indonesia", *Procedia—Social and Behavioral Sciences*, volume 58, October 12, 2012.

70 *The CPA Australia workplace flexibility survey 2016*, CPA Australia, 2016; and George Nott, *Is flexible working bad for your career?* CIO, May 30, 2017.

Motherhood—with its associated societal attitudes—is a major point at which women drop out of the talent pipeline

Throughout Asia Pacific, it is clear that many women leave the workforce when they become mothers, and many never return. Many women choose to care for their families full time. Others leave the workforce while their children are young but then find it hard to return. Others would like to go back to work but have difficulty securing affordable childcare. The attrition of women from the talent pipeline can start even before employees become mothers, as societal attitudes militate against women pursuing a career and instead prioritise looking after their families and households. We fully acknowledge that such attitudes are not always "imposed" on women—many women take the view that their primary role is as mothers and caregivers who run households.

In China, 53 percent of tertiary education graduates are women, and many of them move into entry-level positions—there is only a slight decline, to 51 percent, at this stage. But the share of women is less than half that at the middle-management level. One factor appears to relate to difficulties that accompany managing motherhood with a career. One 2017 survey found that 40 percent of women were reluctant to have children and 63 percent of women did not want a second child, citing concerns that becoming mothers (especially a second time) would compromise their ability to rise through the ranks in their company.[71] Indeed, 63 percent of women said that having a child would have a significant impact on their career. In the same survey, 53 percent of women said that they were concerned about difficulties returning to work, and 49 percent said that they were worried that they would be replaced in their job by someone else. There appears to be a monetary disincentive, too. In the survey, 33 percent of respondents said that they had experienced a salary decline when they returned from having a child, and 36 percent returned to a lower position than the one they had left. Both figures were somewhat higher than in the same survey in 2016. Another survey also showed economic pressure as a top concern for women when having a second child.[72] The UN Human Rights Council has highlighted discrimination against women in China when they become mothers.[73]

India and Japan have a relatively lower proportion of women at the start of the pipeline (enrolled in tertiary education), with 44 and 47 percent, respectively. In India, 43 percent of graduates are women, but they hold only 25 percent of entry-level positions. In the World Values Survey, the proportion of respondents in India agreeing that "a university education is more important for a boy than for a girl" was 63 percent; the country with the next-highest share of respondents holding this view had 51 percent.[74] In the World Values Survey, 70 percent of Indian respondents agreed with the statement "When a mother works for pay, the children suffer". The next-highest share in the region was 44 percent. We conducted a number of interviews to find out what factors are persuading so many women to stay at home. They include a lack of accessible childcare in the workplace, long commuting times resulting in too little time with their children, and finally a desire to help their children's education by giving them hands-on tutoring.

In Japan, the pipeline starts with women making up 47 percent of students enrolled in tertiary education. However, the average share of female students in Japan's top ten universities, including the University of Tokyo and Waseda University, was only 28 percent in 2017. This may limit the number of Japanese women rising to higher echelons in companies,

[71] *Zhaopin report found China's working women less keen on childbearing*, Zhaopin Limited, May 11, 2017.

[72] *Lean In China: 2016 women, work and happiness white paper*, Lean In, November 2016 (http://www.leaninchina.com.cn/col.jsp?id=141).

[73] In 2014, the UN noted a "prevalence of discrimination on the grounds of maternity, with employers avoiding their obligation to pay maternity leave benefits by employing only women who already have children, not paying the statutory 98-day maternity leave, or dismissing women during pregnancy or when they are breastfeeding". See *Report of the working group on the issue of discrimination against women in law and in practice on its mission to China (12–19 December 2013)*, UN General Assembly, June 2014.

[74] Data up to 2014 depending on the country.

given the correlation between attending top universities and holding leadership positions. Although 49 percent of entry-level positions are taken by women in Japan, there is a very sharp drop to only 9 percent in middle management, narrowing even further to only 1 percent in senior management. This erosion appears partly to reflect the fact that women do not want to become managers. A 2015 Intelligence HITO Research Institute survey found that 75 percent of female respondents said that they were not interested in managerial positions for two reasons: a lack of confidence in being leaders or a lack of role models, and the longer hours and more burdensome work that would come with promotion.[75] Japanese working hours are relatively long, perhaps explaining this reluctance. Men in Japan work 46 percent more hours than their US counterparts, OECD data show.

In the Philippines, the 33 percent share of female senior managers is more than twice the 15 percent share at the board level. This appears partly to reflect women's attitudes. In the many interviews we conducted, we heard Filipinas express the view that they had already done well to achieve a certain position and were satisfied not to advance further. This suggests that, even if attractive job opportunities are available, many women may choose to put their effort into the family instead. A far higher share of Filipinas view being a housewife as just as fulfilling as working for pay—80 percent in the World Values Survey, compared with 60 percent of their counterparts in most other countries in the region.

Childcare arrangements vary, but they represent a significant challenge for women's careers in virtually all countries in the region. In East Asia, Japanese women have difficulties finding childcare despite support from the government.[76] Even in Australia, childcare is a major issue because it is so expensive. Net childcare costs (the amount paid by two-earner families) were 20 percent of an average family's income in 2015, compared with the 13 percent average in OECD economies.[77] In such cases, in the short term it can make economic sense for the parent earning the lower wage—likely to be the woman—to leave the labour force to save money on formal childcare.

Other factors that vary by country contribute to lower representation of women along the pipeline

A number of factors act as barriers that keep women from climbing to leading positions in particular countries. For instance, China's statutory retirement age of 55 for women but 60 for men leaves less time for women to climb through the ranks. Severe mobility issues in Indonesia due to traffic congestion and a lack of efficient public transport pose a considerable challenge to women working while also looking after their families.[78]

In Singapore, it is typical for companies to appoint candidates for promotion from within the social circles of board members—more of them men than women—rather than through formal processes.[79] If women do rise to senior positions, they are less likely to see fostering gender equality as their responsibility than women in other Asian countries: only 54 percent of women in Singapore believe this to be the case, compared with around 70 percent in Indonesia and Malaysia.[80] One survey of female executives also revealed that although 75 percent of respondents said it is important to give advice and training to other women, only 16 percent had actually done so. At the same time, 65 percent of respondents in the World Values Survey agreed that it causes problems if a woman earns more than her

[75] Ken Moriyasu, "75% of Japanese women not interested in management," *Nikkei Asian Review*, May 14, 2015.

[76] Tomohiro Osaki, "Day care crisis stuck in vicious cycle", *The Japan Times*, April 17, 2016.

[77] For two children aged two and three, and assuming a two-parent household both earning average Australian wages. See *Starting strong IV: Monitoring quality in early childhood education and care*, OECD, October 28, 2015.

[78] Kang Hang Leung, *Indonesia's summary transport assessment*, ADB Papers on Indonesia, number 15, Asian Development Bank, 2016.

[79] Chor Kheing Yuit, *Why aren't more women on Singapore company boards?* Channel New Asia, October 24, 2015.

[80] *Mind the gaps: Perceptions of gender equality in corporate Southeast Asia*, Economist Intelligence Unit, 2016.

husband, which may contribute to women's leaving employment in the later stages of the pipeline. Finally, even if women make it to the board level, they are paid an average of 43 percent less than their male counterparts, which acts as a disincentive to push for the highest positions in companies.

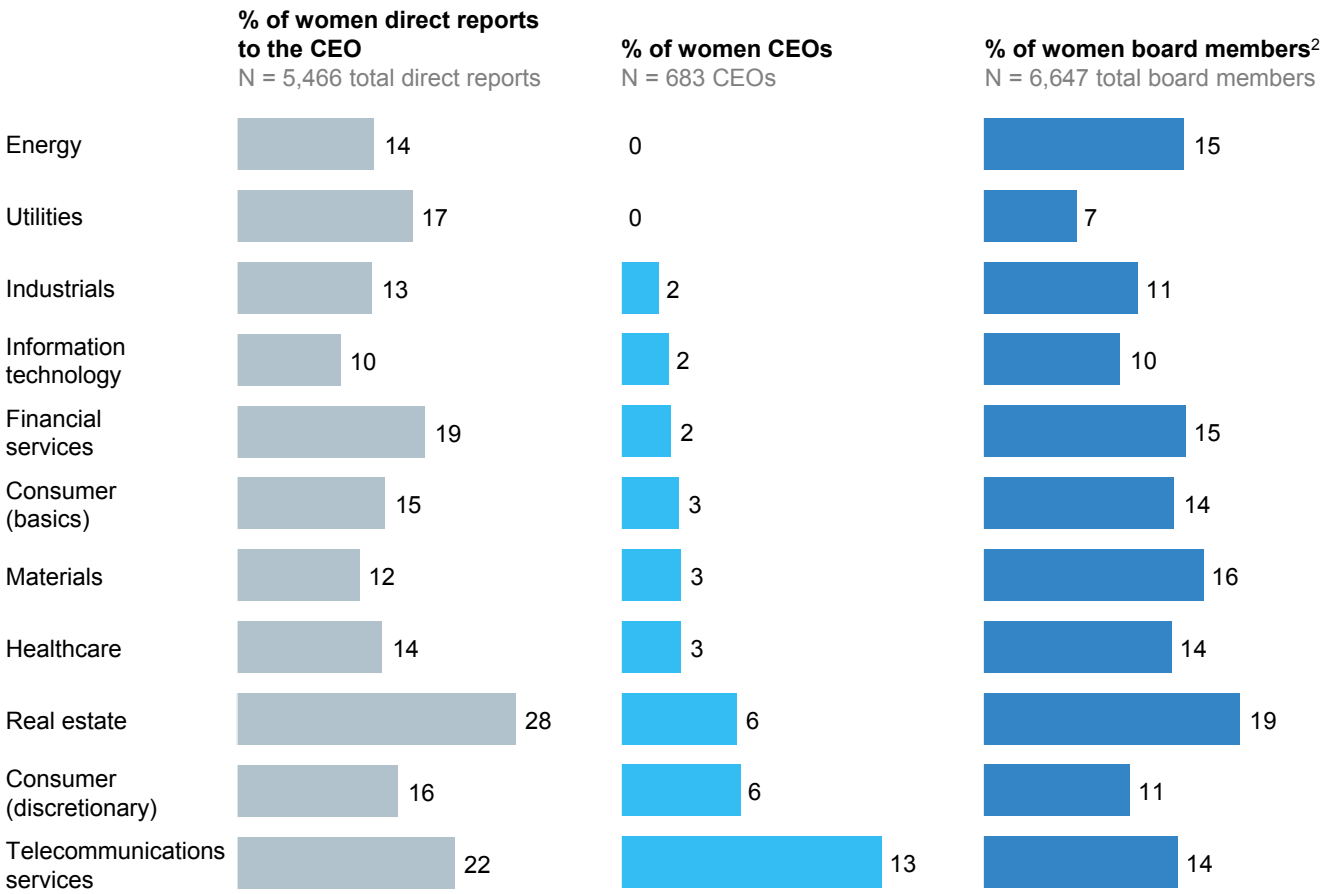
WOMEN'S REPRESENTATION IN LEADERSHIP POSITIONS VARIES BY SECTOR

Looking at women in leadership at the sector level, we also find variation (Exhibit 13). The data show that women's representation in leadership positions is markedly low in energy, finance, industrial sectors, information technology, and utilities. Telecommunications has a higher share of women CEOs, senior executives, and board members—across Asia Pacific, 13 percent of CEOs, 22 percent of executives reporting directly to CEOs, and 14 percent of board members are female. Real estate has the highest share of women direct reports, at 28 percent, and board members, at 19 percent. In energy and utilities, there are so few women CEOs that the share rounds to zero for the top 100 public companies in 2016 by market capitalisation in our seven focus countries.

Exhibit 13

Women's representation in business in Asia Pacific varies by sector

Women's representation by sector in Asia Pacific[1]
Top 100 companies per country



1 Data for focus countries only (Australia, China, India, Indonesia, Japan, Philippines, and Singapore).
2 The board is made up of the representatives of the shareholders in the company; in Indonesia, it is known as the Board of Commissioners.

SOURCE: Annual reports; investor presentations; McKinsey Global Institute analysis

Global McKinsey research identifies three archetypes of industries where the attrition of women from the talent pipeline is similar. Patterns in Asia Pacific align with these archetypes. They are:

- "Low entry" industries where there is a small proportion of women even in entry-level positions; these industries include technology, information technology, automotive, energy, and basic materials.
- "Middle barrier" industries where there is a significant drop-off in the share of women in middle management compared with the entry level; these industries include healthcare, infrastructure, logistics, and travel and transport.
- "Glass ceiling" industries where the share of women in top leadership roles is low; these industries include financial services (asset management, banking, and insurance) and other professional services.

Different factors appear to be in play depending on the sector. In male-dominated industries such as construction and mining, women may be underrepresented because working conditions are not attractive to them.[81] Some large companies in these sectors have acted to mitigate this situation. In mining, for instance, BHP announced that it aims for women to account for half of its workforce by 2025. This is against a 15 percent share in the Australian mining industry as a whole as of August 2017. A year after its announcement, BHP said that the share of women had increased by 2.9 percent, just shy of the company's target of 3.0 percent, and that its female turnover rate had fallen from 8.4 percent higher than that of male employees in 2016 to 4.7 percent higher in 2017. The company put these advances down to a combination of recruiting based on skills as well as experience in the mining industry, flexible work options for employees based in offices and on-site, and encouraging suppliers to offer the same flexibility.[82] In construction, Australia company Mirvac has made advances in normalising flexible work after introducing a programme called "My Simple Thing" in 2016. The company asks all employees to publicly declare a simple change that can improve their work lives, and they are then supported by their teams to make it happen. Examples of these simple changes are finishing work early one day a week to attend sports training, and starting the day late to drop off children at school. The uptake of flexible working arrangements increased to 76 percent of employees in 2017 from 44 percent in 2015.[83]

Another industry where women's representation is low, especially in managerial positions, is healthcare and pharmaceuticals. In Japan, pharmaceutical company Takeda launched a range of initiatives in 2016 to improve women's inclusion, including an internal women's network, a flexible programme that gives employees the choice of work times and location, and a drive to encourage faster promotion for employees who perform well early in their careers. As a result of these efforts, the company has hit its target of 30 percent of new managers being women, from only 6.2 percent in 2015.[84]

In the technology sector, a shortage of women in STEM-related jobs may be due not only to lower enrolment in these subjects by girls, but also to early-career barriers. In academic research, for instance, short-term contracts lead to career instability. A 2014 report by the Science and Technology Committee in the House of Commons in the United Kingdom

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81 Phiona Martin and Antoni Barnard, "The experience of women in male-dominated occupations: A constructivist grounded theory inquiry", *SA Journal of Industrial Psychology*, volume 39, number 2, 2013.

82 *No silver bullet but great progress on gender balance*, BHP press release, September 18, 2017.

83 Mirvac 2017 annual report.

84 Chalya Freeman et al., *Footprints: Taking strides toward gender parity and sustainable diversity and inclusion*, Takeda Pharmaceuticals International (https://www.hbanet.org/sites/hba.cms.memberfuse.com/hba/files/docs/Corporate/Annual_Conference/Posters/P07-Freeman_et_al_Takeda.pdf).

found that a lack of a permanent job when starting a family deters more women than men.[85] One survey of women in STEM fields found that more than nine out of ten respondents experienced in-group bias, and seven out of ten strongly agreed that unconscious bias had affected their opportunities to network.[86]

Leading companies in the United States, including Airbnb, Asana, and Google, have all taken steps to increase women's representation (especially in engineering roles) and have started publicly publishing data in order to reinforce change. Pinterest reports that it boosted the share of women in technical roles from 21 to 26 percent in 2016; this was somewhat short of the company's 30 percent target for that year but considerably higher than the 16 percent average in the industry.[87]

Perhaps one way to improve women's representation in leadership in technology industries is to involve women at the startup stage. In China, for example, women are relatively well represented at e-commerce giant Alibaba, where six out of 16 senior managers are female, a relatively high share of about 38 percent. Alibaba's founder Jack Ma has led from the front on this issue and has consistently been vocal about the importance of having women in leading positions; it is notable that one-third of the team that founded the company was female. The company makes a number of provisions for women at work, including express lanes and relaxation room for pregnant employees.[88] Ctrip, an online service provider in China, has a female CEO, chief operating officer, and chief financial officer, and has a nursery and breastfeeding rooms at its Shanghai headquarters. At Didi Chuxing, China's top ride-hailing company, women hold 37 percent of tech-related jobs, more than double the 15 percent at Uber worldwide. In 2017, Didi launched a women's network that aims to cultivate managers through tutoring from senior executives, rotation in different departments, and mentorship from business leaders in China and overseas.[89]

With the importance of technology as a sector rising the world over, countries in Asia Pacific have a significant opportunity to boost women's entry into tech and achieve sustained growth in the share of women in leadership positions in business (see Box 5, "India should now consider how to build on advances in women's representation in STEM fields").

[85] *Women in scientific careers: Sixth report of session 2013–14*, House of Commons Science and Technology Committee, February 6, 2014.

[86] *Unconscious gender bias in the STEM professions*, Professionals Australia, 2015.

[87] *Oh, how Pinteresting! A 2016 update on diversity at Pinterest*, Pinterest, December 16, 2016; Sohan Marthy, *Women in software engineering: The sobering stats*, LinkedIn Talent blog, March 20, 2014; and Candice Morgan, "What we learned from improving diversity rates at Pinterest", *Harvard Business Review*, July 11, 2017.

[88] Kia Kokalitcheva, "Female executives are Alibaba's 'secret sauce,' founder Jack Ma says", *Fortune*, May 20, 2015; and Charles Clover, "Women of 2014: The women of Alibaba", *Financial Times*, December 12, 2014.

[89] *In China, Didi speeds far ahead of Uber in gender diversity*, Tech in Asia, March 31, 2017; *Didi launches Women's Network, introducing leadership programs for its 40 percent women workforce*, Didi Chuxing press release, March 29, 2017.

Box 5. India should now consider how to build on advances in women's representation in STEM fields

The iconic image of a group of smiling Indian women scientists celebrating the success of their project to launch Mangalyaan, the Mars space probe, is symbolic of a larger phenomenon: India has made impressive strides in raising the share of female graduates in STEM subjects and women in STEM careers. It can now build on this progress by ensuring that more women STEM graduates advance through the talent pipeline to the most senior positions in Indian companies. Many women in India have already reached the top at companies such as Intel, Capgemini, HP, Facebook, and IBM.

In 2012, India's share of women graduates from STEM courses was 42 percent, far higher than in many advanced economies, including the United States (35 percent), the United Kingdom (32 percent), and Norway (30 percent).[1] Shares vary by subject. For instance, about 50 percent of Indian graduates in sciences are women, but the figure is only about 30 percent in engineering and technology courses.[2] For purposes of comparison, in the United States the share of women science graduates was also about 50 percent, but the share of engineering and technology graduates only 20 percent in 2012.[3]

In Indian tech, women continue to be underrepresented, especially in engineering roles up to the C-suite. Only an estimated 26 percent of engineers in the tech industry are women. Of these, half move onto different roles, and only 7 percent reach top positions, after approximately 12 years. Men take six years plus to reach the managerial level; women take eight or more.[4]

In science fields, women account for only 25 to 30 percent of PhDs, and the share of female faculty members is only 15 to 20 percent.[5] In high-profile institutions such as the Tata Institute of Fundamental Research and the Council of Scientific and Industrial Research, women account for between 14 and 30 percent of scientists, while at top educational institutions such as IISc Bangalore and Delhi University, women account for between 8 and 20 percent of professors.

Women in India appear to face barriers that are particular to STEM roles. In tech, for instance, a 2015 report found that 59 percent of women in STEM report a "testosterone-laced" culture, compared with 25 percent in the United States, and 57 percent a "late-night geek/hacking culture", compared with 31 percent in the United States. Sixty-six percent of women responded that "a female at my company would never get a top position no matter how able or high-performing".[6]

A report from NASSCOM, India's industry association for the information technology and business process management sector, published survey data showing that employee referrals and on-campus recruitment are more gender-balanced modes of recruitment than, for instance, online job portals.[7] Policies relating to parenthood also play an important role in promoting gender diversity. The survey found that the cost of maternity leave was not the key issue, but rather the low rate of return to work and managing changing work patterns after returning. This suggests that targeted support for women when they become mothers is important to raise retention and enhance their career progression.

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1 *UNESCO science report: Towards 2030*, UNESCO, 2015; *All India survey on higher education (2012–2013)*, Government of India, Ministry of Human Resource Development, Department of Higher Education, 2015; and 2012 OECD data.

2 *All India survey on higher education (2012–2013)*, Government of India, Ministry of Human Resource Development, Department of Higher Education, 2015.

3 *Dataset: Graduates by field of education*, OECD, 2012.

4 Mohita Nagpal, *Women in tech: There are 3 times more male engineers to females*, Belong Technologies India, August 31, 2017.

5 Rohini M. Godbole and Ramakrishna Ramaswamy, "Women scientists in India", in *Women in science and technology in Asia*, The Association of Academies and Societies of Sciences in Asia, 2015.

6 *Women in STEM: How and why an inclusive strategy is critical to closing the science, technology, engineering, and maths talent gap in Europe*, Kelly Services, 2015.

7 Parvati Raghuram et al., *Women and IT scorecard—India: A survey of 55 firms*, NASSCOM and The Open University UK, spring 2017.

ALL STAKEHOLDERS NEED TO WORK TOGETHER TO DRIVE CHANGE

A comprehensive approach to the issue of women's leadership in business is needed, with all stakeholders—governments, companies, and NGOs—playing their parts to achieve change. Partnerships among stakeholders can be highly effective.

The approach of individuals counts, too. In order for the many initiatives that are possible to be effective, individuals must work on their own attitudes. In 2016, one study found that a simple writing exercise to affirm personal values and reduce negative self-perceptions narrowed the performance gap between men and women.[90] Another study in 2016 found that participating in well-designed measures such as diversity workshops has the potential to increase awareness, reduce subtle gender bias, and increase the propensity to take action to address diversity challenges.[91]

Men need to play their full part in changing the status quo to increase women's representation in work and their share of leadership positions. In the home, unless men take on a greater share of domestic responsibilities, many women will drop out of the labour force.[92] At work, men continue to dominate leadership positions, and they therefore have the means to support women in their careers through promotions, mentoring, and sponsoring. A number of equality-promoting initiatives explicitly involve both men and women. One is the HeForShe movement, which provides a systematic approach and targeted platform where men and boys can engage and become change agents in favour of gender equality. Senior executives can lead by example. A well-known example is the announcement by Facebook CEO Mark Zuckerberg that he was taking two months of paternity leave. More male managers can serve as mentors to women, the focus of Lean In's #MentorHer movement.

Narrowing the leadership gender gap will take time and concerted effort, but we are already seeing examples of initiatives in the region that are steps in a positive direction. We now highlight some of these, focusing on governments and companies.

Government can use policy and legislation to influence women's representation at all stages of the talent pipeline

A number of government initiatives could set the stage for genuine advances in women's representation in leadership positions, and we mention several here (our list is by no means exhaustive):

- **Investment in skills training programmes for women in industries where they are underrepresented:** Governments can put in place initiatives targeted at women, including programmes that equip them with the skills they need to have successful careers in industries where they are underrepresented. In the Philippines, the Technical Education and Skills Development Authority's Women's Center offers vocational training to women to equip them for work in industrial sectors traditionally dominated by men. Courses include electrical installation and maintenance, motorcycle and small engine servicing, and plumbing. In its 2015 annual report, the authority said that it had achieved a 60.3 percent employment rate six months after completion of its training courses.

[90] Zoe Kinias and Jessica Sim, "Facilitating women's success in business: Interrupting the process of stereotype threat through affirmation of personal values", *Journal of Applied Psychology*, volume 101, number 11, November 2016.

[91] The study took the form of a "scientific diversity" workshop that took deliberate design choices to systematically increase its effectiveness, such as trained facilitators, using empirical evidence rather than intuition, and a rigorous evaluation to assess the efficacy of the intervention. See Corinne A. Moss-Racusin et al., "A 'scientific diversity' intervention to reduce gender bias in a sample of life scientists", *CBE—Life Sciences* Education, volume 15, number 3, September 2016.

[92] *The role of men and boys in promoting gender equality*, Women 2000 and beyond, United Nations, December 2008.

- **Improve transport infrastructure to make commuting less burdensome and safer for women:** Governments can improve public infrastructure to make work less burdensome for women. Finding ways to shorten commuting times and making travel safer for women can reduce one particular type of challenge they face. In India and Indonesia, whose cities suffer from traffic congestion, bus rapid transit projects have had some success.[93] Expanded and higher-quality household infrastructure can reduce the amount of time women spend on chores in the home.

- **Use public spending to enable better and more affordable childcare, and rationalise taxes to remove disincentives to second earners:** Government can use public spending and the tax system to incentivise measures to help women better balance their home and work responsibilities. In Japan, for instance, the government approved a ¥2 trillion ($17 billion) package in 2017 to finance free education and childcare services, with the aim of increasing capacity to 320,000 children and eliminating waiting lists for daycare centres. Faced with a shortage of workers, Japanese companies are also taking action to provide more daycare facilities, taking advantage of government subsidies that can cover as much as 75 percent of the cost of starting a nursery and up to 80 percent of its operational expenses. By early 2017, 500 companies had received subsidies to open 600 childcare centres providing places for 14,000 children.[94] The Japanese government is also seeking to revisit a spousal tax deduction that encourages limited earnings by the spouse of the main breadwinner.[95] In Australia, the government has provided funding so that four-year-olds can have 15 hours per week of kindergarten.[96]

- **Implement workplace legal protections (for example, antidiscrimination laws, protection from sexual harassment:** Antidiscrimination laws are vital to ensure that companies take a gender-neutral approach to recruitment and working practices.[97] China has a range of laws that theoretically offer women comprehensive legal protection, but in practice gender discrimination is still widespread in Chinese companies (see Chapter 3 for further discussion).[98] In the Philippines, the government requires mass media to abide by gender equality principles and encourages the media to disseminate positive messages about women leaders, raising the profile of female role models.[99] The Philippine Commission on Women implements such regulations.[100] Legislation can also prohibit gender pay gaps by, for instance, protecting the identity of those who share compensation information. The law can also protect women who report sexual harassment in the workplace.

- **Set a publicly declared national agenda and target for women's representation in leadership:** Governments can establish a national agenda for pursuing the goal of gender equality and set targets for organisations to support more women in leadership positions. In Japan, Prime Minister Shinzō Abe set a target for of filling 30 percent (later revised to 15 percent) of leadership positions with women by 2020. In Singapore,

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93 Nadja Kogdenko, *Successfulness of bus rapid transit systems in Asia: Ex-post evaluation*, Energy Research Center of the Netherlands, February 2011.

94 Yoshiaki Nohara, *Worker shortage drives Japanese companies into child care*, Bloomberg, February 27, 2017; and Yoshiaka Nohara, *Firms tap state subsidies to start day care facilities to woo working moms*, Bloomberg, March 2, 2017.

95 If the spouse earns less than ¥1.03 million a year, the family is eligible to claim a tax deduction. Japan's ruling Liberal Democratic Party is seeking to increase the cap to ¥1.50 million to encourage more women to work.

96 Miranda Stewart, ed., *Tax, social policy and gender: Rethinking equality and efficiency*, Australian National University Press, 2017.

97 In Iceland, a mandatory pay equality certification system took effect in January 2018 that makes it illegal to pay men more than women.

98 Sadie Yang and Ao Li, "Legal protection against gender discrimination in the workplace in China", *Gender and Development*, volume 17, number 2, July 2009.

99 Andrew D. Mason et al., *Toward gender equality in East Asia and the Pacific: A companion to the World Development Report*, World Bank, 2012.

100 *Towards a gender fair media*, Philippine Commission on Women, 2013.

the Diversity Action Committee has targets of 20 percent female representation on boards by 2020, 25 percent by 2525, and 30 percent by 2030. The committee's six-step plan includes educating companies on the benefits of diversity, implementing diversity disclosure requirements, and encouraging investors to promote diversity on company boards.

- **Work with companies in broad coalitions to share experience and foster a collective effort towards parity:** Governments can work with companies to advocate for women's equality in work. In Germany, for instance, Chancellor Angela Merkel backed the *Chefsache* initiative in which leaders from industry, science, the public sector, and the media explore ways of promoting gender balance in top management. In the United Kingdom, the WISE campaign manages a portfolio of initiatives aimed at increasing female representation in STEM. This campaign has helped to increase the UK female STEM workforce, which grew by 15 percent from 2014 to 2015.[101] The Philippine Commission on Women supports a local initiative called local learning hubs. The government of Davao City established community child-minding centres in 1998, and by 2012, these centres had been rolled out to *barangays*—smaller local units in the city—to enable parents to work.[102]

Companies in Asia Pacific can implement a range of initiatives that have been effective in other regions in advancing women's careers

Companies can promote gender diversity and equality in the workplace in many ways, a topic that McKinsey & Company has explored for a decade through its Women Matter initiative.[103] Here we focus on just a few concepts that companies in Asia Pacific could consider that have proved effective around the world:

- **Show top management commitment and accountability by, for instance, setting metrics and targets for gender equality supported by gender-based talent pipeline planning:** From the very top, companies need to make a clear business case for gender equality that is tailored for their organisation, and be visible in their support for initiatives that promote pro-gender-equality practices. Companies should then consider planning for a gender-based talent pipeline supported by setting transparent diversity targets, putting in place tracking of these targets, and holding executives accountable for meeting them. Some companies tie compensation to meeting targets through a scorecard system, while others opt for peer-to-peer accountability (voluntary commitments coupled with regular review). As we have noted, the Australia Securities Exchange's Corporate Governance Council has tracked diversity targets since 2010; while there has been some progress, constituent companies of the ASX200 need to continue the effort to reach 30 percent female representation in board positions by 2018.[104] Also in Australia, BHP made a strong case for change by using its own company data to show that "more diverse and inclusive groups have higher performance both on safety and operational performance".[105]

- **Offer and encourage uptake of flexible working arrangements such as part-time schedules and homeworking, supported by technology such as videoconferencing:** Flexible working arrangements such as part-time or homeworking options supported by technology such as videoconferencing have proved effective in

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[101] *Annual report April 2015–March 2016*, The Wise Campaign, 2016.

[102] *Gender and development local learning hubs: Davao City*, Philippines Commission on Women (http://www.pcw.gov.ph/sites/default/files/documents/studies/Davao%20GAD%20LLH%20Write%20up.pdf).

[103] McKinsey research on gender equality can be found at https://www.mckinsey.com/global-themes/gender-equality.

[104] The ASX corporate governance council gives a recommendation for listed entities to set measurable objectives for achieving gender diversity, disclose policies and objectives, and monitor progress.

[105] *Women in leadership: Lessons from Australian companies leading the way*, McKinsey & Company, Workplace Gender Equality Agency, and Business Council of Australia, November 2017.

retaining women in companies even after they become mothers. In India, pharmaceutical company Dr. Reddy's has a range of initiatives, including Comeback Careers for Women, which offers full-time roles for women returning after a career break; six to seven months of paid maternity leave; and an hour off every day to care for a baby for up to a year. In 2017, Japanese cosmetics company Shiseido announced a new collaboration with childcare-services company JP-Holdings to set up and operate in-house nurseries.

- **Introduce inclusion programmes that, for instance, challenge conscious and unconscious bias in the talent management process, from recruitment to performance evaluation:** Companies can have programmes for inclusion that challenge conscious and unconscious bias and long-established ways of working. In Australia, Kmart's Diversity Walk initiative uses role-play to help leaders understand how their decisions affect women, and Microsoft rolled out a programme called "dialogue across the differences" in which actors present different scenarios to illuminate unconscious bias. Some companies have put in place formal criteria and processes for recruiting and performance evaluations to help take gender bias out of them. Overall, it would be useful for companies to recognise the need to build a truly inclusive organisational culture and then create a portfolio of initiatives that will deliver on it.[106]

- **Introduce formal and explicit sponsorship and mentoring programmes:** Sponsors actively use their influence to help women advance in their careers, while mentors typically provide advice and coaching.[107] Evidence suggests that sponsorship programmes have a significant impact on women's success in the workplace. Citibank, which has a presence across Asia Pacific, launched Women Leading Citi in 2009. It pairs senior women with executive sponsors to act as their advocates and increase their visibility. As of 2015, 173 women around the world had participated.[108] The Dell Women in IT Executive Mentoring programme has been running in Australia since 2005. The government of Australia has partnered with Dell on this initiative since its inception and had become a channel for 120 government protégés as of 2015.[109] However, the fear of sexual harassment can sometimes deter women from taking part in mentorship programmes (see Box 6, "Sexual harassment can be a barrier to women's advancement").[110]

[106] *Delivering through diversity*, McKinsey & Company, January 2018.

[107] *Sponsorship/mentoring*, Catalyst (http://www.catalyst.org/knowledge/topics/sponsorshipmentoring).

[108] "Diversity", in 2015 *Citi global citizenship report*, Citigroup, 2016 (http://www.citigroup.com/citi/about/citizenship/download/2015/global/2015-citi-global-citizenship-factsheet-diversity-en.pdf).

[109] Andrew Woolf, *WITEM 19 & 20 launch 8 April 2016, Women in IT Executive Mentoring (WITEM) Program*, Australian Government Department of Finance, April 8, 2016.

[110] *Sponsoring women to success*, Catalyst Knowledge Center, August 17, 2001; and Sylvia Ann Hewlett et al., "The sponsor effect: Breaking through the last glass ceiling", *Harvard Business Review*, January 12, 2011.

Box 6. Sexual harassment can be a barrier to women's advancement

Sexual harassment in the workplace is a major issue and a highly sensitive topic around the world, with the groundbreaking social-media-driven #MeToo campaign making headlines in late 2017 and early 2018. One study found that as many as 40 percent of women workers in Asia Pacific had responded to surveys by saying they had experienced some type of harassment—verbal, physical, or sexual.[1] Globally, an estimated 35 percent of women have experienced some form of sexual harassment, although some studies suggest that the figure could be as high as 70 percent over women's lifetimes.[2]

Sexual harassment can have a negative impact on efforts to increase the number of women leaders in business by, for instance, making men and women reluctant to be included on mentorship programmes. Data from a partnership between Lean In and SurveyMonkey shows that male managers are now more hesitant to engage in mentoring activities with female colleagues: 30 percent of male managers say they are uncomfortable working alone with a women, double the previous share, and senior men are 3.5 times more likely to hesitate about having a working dinner with a junior woman, and five times more likely to hesitate about travelling for work with a junior woman.[3] One way to overcome this issue is to establish formal programmes with standard procedures to ensure transparency. Lean In has launched a campaign called #MentorHer that encourages more people, especially men, to provide mentorship for women despite their concerns about performing this role.

More broadly, sexual harassment can disrupt women's careers. One 2017 study gave examples of women leaving a company to escape sexual harassment or because of frustration about their employer's inadequate response.[4] The same study found that women who opt to stay can be ostracised by co-workers.

Companies can take practical steps to guard against sexual harassment. There is a robust case for them to institute clear policies on sexual harassment and respond to instances of sexual harassment by, for example, establishing an internal complaints procedure.[5] At the same time, national governments can establish their own initiatives. In Australia, the Human Rights Commission conducts national sexual harassment prevalence surveys every five years with the aim of documenting harassment in the workplace.[6]

1 *Stopping sexual harassment at work*, International Trade Union Confederation, April 2008.

2 *Facts and figures: Ending violence against women*, UN Women, August 2017.

3 *Sexual harassment in the workplace: Key findings*, Lean In and SurveyMonkey, 2018 (https://leanin.org/sexual-harassment-backlash-survey-results/).

4 Heather McLaughlin, Christopher Uggen, and Amy Blackstone, "The economic and career effects of sexual harassment on working women", *Gender & Society*, volume 31, issue 3, June 2017.

5 The Australian Human Rights Commission has published a detailed report containing practical measures to tackle sexual harassment in the workplace. See *Ending workplace sexual harassment: A resource for small, medium, and large employers*, Australian Human Rights Commission, 2014.

6 *Sexual harassment. Know where the line is*, Australian Human Rights Commission, May 21, 2014.

- **Run leadership skills workshops and networking events to help women bolster their aspirations and push for higher positions:** Skills workshops and networking events can help women to push for higher positions, and companies and NGOs can each make a contribution. In India, Tata Group, which aims to have more than 1,000 women leaders by 2020, has in place programmes including iExcel, a cross-company initiative that provides mentoring with 18 senior executives and 35 CEOs from 45 firms in the group; Network to Win, which assigns mentors to small groups of junior female employees; and the Diversity and Women's Network, a support group for women and minorities that provides access to senior leadership, mentoring, workshops, and wellness sessions. These initiatives have already had an impact. In 2016, 50 percent of direct recruits to Tata Administrative Services were women, up from about 30 percent in 2013. The share of women leaders in Tata Communications increased by 10 percent between 2015 to 2016, compared with the 4 percent average at all Indian companies. The Tanmatra programme launched by Catalyst, IBM, and the Indian Institute of Management Bangalore offers women leaders with at least 15 years of work experience a nine-month cross-industry leadership-development programme. Lean In (with which McKinsey & Company has collaborated on Women in the Workplace, a research initiative) is active in more than 150 countries, offering networking opportunities as well as producing a library of expert videos and publishing discussion guides for women. In the Philippines, the Filipina CEO Circle organises forums aimed at building a bridge between one generation of woman CEOs and the next.

Partnerships between different actors are effective at driving gender initiatives

Cooperation and partnership among different players can be a highly effective way to push advances towards gender parity in work.[111]

- **Partnerships between governments to make gender parity a priority:** APEC coordinates activities through the Policy Partnership on Women and the Economy.[112] The partnership works towards five key pillars, including women's leadership. Its activities include encouraging and monitoring the action plans of individual members to promote women's leadership. In 2017, the partnership released the second edition of its Women and the Economy Dashboard, which helps APEC member countries track and communicate progress on reducing barriers to women's advancement using 75 indicators.

- **Partnerships between organisations and institutions (public, private, local, or foreign) to initiate inclusion programmes:** NASSCOM aims to develop an inclusive work environment for women through a range of diversity initiatives on which it cooperates with the government and others. In 2017, NASSCOM partnered with the United Kingdom's Open University on a Women and IT Scorecard in India to demonstrate the differences in participation between men and women in the sector. Local companies can also foster industry partnerships that actively advocate for gender parity.[113]

[111] Kweilin Ellingrud, Mekala Krishnan, Anu Madgavkar, and Tracy Nowski, *Opinion: How cross-sector collaborations can accelerate progress toward gender equality*, Devex, November 2017.

[112] *Policy partnership on women and the economy working group*, Asia-Pacific Economic Cooperation (https://www.apec.org/Groups/SOM-Steering-Committee-on-Economic-and-Technical-Cooperation/Working-Groups/Policy-Partnership-on-Women-and-the-Economy).

[113] *Delivering through diversity*, McKinsey & Company, January 2018.

Across Asia, there has been progress on increasing the representation of women in leadership positions in companies, but there are still significant gaps to fill and opportunities to explore. Many effective measures in the region can be more widely emulated and developed further by governments and companies, often working in partnership. The benefits of enhancing the career prospects of women are considerable, not only for women but for companies and the economies in which they work.

2. SINGAPORE

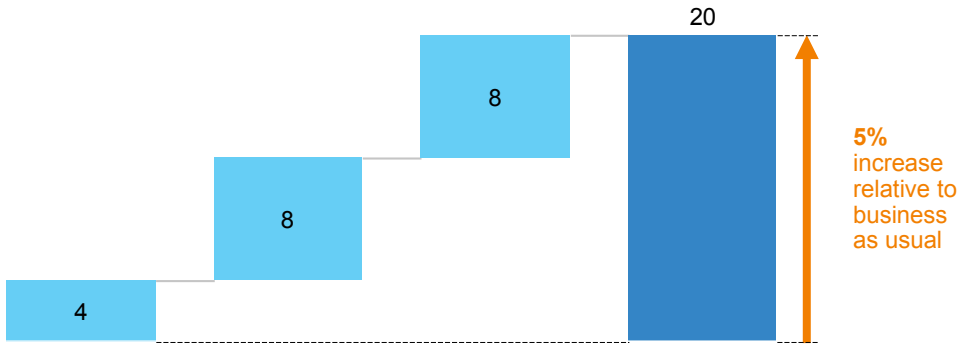
Singapore is a unique economy—a city-state with a small geographic area, a modest population, but a dynamic and relatively large economy. Given the country's limited land area, the state has tended to prioritise making the most of its people to develop the economy further; this is a distinctly meritocratic society.[114] Singapore's rapid industrialisation, the spread of public education, changing attitudes towards the employment of women, delayed marriage, and governmental support of working women are all factors that have helped establish Singapore as one of the most progressive countries on gender equality in Asia Pacific.[115]

Nevertheless, Singapore is not as advanced on the journey towards gender parity as other advanced economies, and there is still significant scope to boost growth from narrowing gender gaps further. Singapore could increase its annual GDP by $20 billion a year in 2025, or 5 percent above business-as-usual GDP in a best-in-region scenario (Exhibit 42).

Exhibit 42

Singapore could add $20 billion to annual GDP by 2025—5 percent above business as usual

Incremental 2025 GDP from improving gender equality in the best-in-region scenario, relative to the business-as-usual scenario
$ billion, in 2014 dollars



Share of total opportunity
%

Labour-force participation rate[1]	Hours worked[2]	Productivity[3]	Total opportunity
21	41	38	100

1 Implies female labour-force participation rate increasing from 60% in 2014 to 64% in the 2025 best-in-region scenario.
2 Implies full-time equivalent rate for females increasing from 95% in 2014 to 99% in the 2025 best-in-region scenario.
3 Implies weighted productivity for females increasing from $95,000 in 2014 to $125,000 in the 2025 best-in-region scenario.
NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

[114] Karen Mui-Teng Quek and Carmen Knudson-Martin, "A push toward equality: Processes among dual-career newlywed couples in collectivist culture", *Journal of Marriage and Family*, volume 68, issue 1, February 2006.

[115] Lee, "Perception of women managers in Singapore: A media analysis", *Asia Pacific Business Review*, volume 11, number 2, June 2005.

Singapore

GDP opportunity from advancing women's equality[1]

$20 billion added to annual GDP by 2025 **or** **5%** over business-as-usual GDP by 2025

Gender inequality today[2]

Level of gender inequality	Extremely high 0 – 0.50	High 0.50 – 0.75	Medium 0.75 – 0.95	Low 0.95 – 1.00

	Singapore	Asia Pacific best	Asia Pacific average	Global best
Gender equality in work	0.68	0.73	0.44	0.73
Gender equality in society				
Essential services and enablers of economic opportunity	0.94	0.96	0.85	0.97
Legal protection and political voice	0.36	0.66	0.32	0.84
Physical security and autonomy	0.96	0.96	0.82	0.97

Potential measures to capture the GDP opportunity

Government

- Introduce equal remuneration laws
- Expand family-friendly leave options, including gender-balanced parental leave
- Encourage digital access for women without mobile phones
- Invest in shifting attitudes about the role of women in society and work (e.g., awareness campaigns)

Companies

- Analyse and resolve gender pay gap, including by sharing best practice
- Increase availability of flexible work options and return-to-work programmes
- Offer incentives for women to participate in SkillsFuture
- Reduce university and workforce barriers to women participating in STEM fields

1 GDP opportunity in scenario where all countries match their best-in-region country in progress towards gender parity.
2 GPS scores are made up of 15 indicators of gender equality in work and society, weighted equally. GPS runs from 0 (no gender equality) to 1.0 (parity); for instance, a 0.95 ratio represents 5% distance from gender parity.
SOURCE: McKinsey Global Institute analysis

An increase in the number of hours worked by women accounts for 41 percent of the GDP potential, a higher share of women in higher-productivity sectors 38 percent, and increased women's participation in the labour force 21 percent. The relatively low contribution to the GDP opportunity from women's participation reflects the fact that Singapore has already made some progress on this front. For this reason, in this chapter we focus on measures to capture the economic opportunity from improving gender equality. We home in on two specific aspects. First, we look at what can be done to help women balance their family responsibilities with work more effectively so that they can participate in the labour market if they so choose—and in full-time, rather than part-time, jobs. Second, we explore the need to improve efforts to equip women with the skills they need to increase their representation in high-paying jobs and high-growth sectors such as ICT, transport, and construction.

SINGAPORE HAS LOW OR MEDIUM GENDER INEQUALITY ON MOST INDICATORS, YET STILL LAGS BEHIND OTHER ADVANCED ECONOMIES

Singapore has achieved above-average progress towards gender equality in work and essential services and enablers of economic opportunity. Its progress on legal protection and political voice is in line with the Asia Pacific average, but Singapore is further advanced than the average on physical security and autonomy—on this dimension, it is best in region (Exhibit 43).

Exhibit 43

Singapore has low gender inequality on five indicators out of 15, but has high or extremely high gender inequality on three

Level of gender inequality: Extremely high | High | Medium | Low

	Singapore	Asia Pacific best	Asia Pacific average[1]	Global best
Gender equality in work	**0.68**	**0.73**	**0.44**	**0.73**
Labour-force participation rate F/M ratio	0.76	0.93	0.60	1.00
Professional and technical jobs F/M ratio	0.91	1.42	0.95	2.66
Perceived wage gap for similar work F/M ratio	0.78	0.78	0.56	0.86
Leadership positions F/M ratio	0.52	0.96	0.25	1.13
Unpaid care work M/F ratio	No data	0.58	0.25	0.85
Gender equality in society				
Essential services and enablers of economic opportunity	**0.94**	**0.96**	**0.85**	**0.97**
Unmet need for family planning % of women	11	4	10	4
Maternal mortality Per 100,000 births	10	5	102	3
Education level F/M ratio	0.96	1.00	0.92	1.00
Financial inclusion F/M ratio	1.00	1.00	0.76	1.00
Digital inclusion F/M ratio	0.96	1.00	0.77	1.00
Legal protection and political voice	**0.36**	**0.66**	**0.32**	**0.84**
Legal protection index	0.64	1.00	0.47	1.00
Political representation F/M ratio	0.17	0.55	0.19	0.93
Physical security and autonomy	**0.96**	**0.96**	**0.82**	**0.97**
Sex ratio at birth M/F ratio	1.07	1.03	1.11	1.02
Child marriage % of girls and young women	0	0	14	0
Violence against women % of women	No data	14	28	6

1 Weighted average based on 2016 female population.

SOURCE: McKinsey Global Institute analysis

There is scope for progress on three indicators—women's share of leadership positions in business, legal protection, and political representation:

- **Leadership positions:** Looking at the female-to-male ratio of individuals in leadership positions, Singapore has half as many women as men (0.52). As discussed in Chapter 1, the main bottlenecks for Singapore are at the senior management and board levels. Singapore has started to address underrepresentation of women at the board level through initiatives such as BoardAgender, which seeks to increase the number of women serving at this level by raising awareness of the benefits of gender-balanced businesses and by encouraging more women to contribute their expertise in the boardroom.[116]

- **Legal protection:** In 2017, the Convention on the Elimination of Discrimination Against Women noted that Singapore has not created a legal definition for direct and indirect discrimination against women.[117] The World Bank Women Business and Law database also shows that the country currently does not have laws mandating non-discrimination based on gender in hiring or laws stipulating equal remuneration for women and men for work of equal value.[118] Moreover, a 2014 ruling by Singapore's Supreme Court declared that the constitution does not prohibit discrimination on the grounds of sex or gender.[119]

- **Political representation:** Women account for only 24 percent of members of parliament and 9 percent of ministerial or Cabinet roles.[120] These outcomes may be linked with attitudes about women's roles. In the World Values Survey, 45.6 percent of Singaporean respondents agreed with the statement "On the whole, men make better political leaders than women do". This compares with 21.9 percent of respondents in Australia and 15.1 percent in New Zealand. However, more women have run for political office in Singapore in recent years, and the country installed its first women president in 2017. The share of parliamentary seats held by women has increased since 2000.[121]

Although there are still large gender gaps in Singapore, the city-state has made considerable advances, too.[122] The women's labour-force participation rate doubled from 28.2 percent in 1970 to 59.7 percent in 2016 (see Box 17, "Foreign domestic workers have helped enable the increase in female labour-force participation in Singapore"). During the 1970s and the 1980s, Singapore posted robust growth in export-oriented manufacturing, and many women joined the labour force to work in factories. In the 1990s, new employment opportunities for women opened up in banking, finance, and telecommunications. In recent years, the government has put in place a range of policies to help women manage the competing demands of family responsibilities and paid work, including paid maternity leave, paid

116 BoardAgender (http://www.boardagender.org/about/background).

117 *Reporting status for Singapore*, UN Office of the High Commissioner for Human Rights (http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Countries.aspx?CountryCode=SGP&Lang=EN).

118 World Bank Women, Business, and Law database, 2016.

119 In Article 12(2) of the constitution, the Supreme Court did not prohibit discrimination on the grounds of gender, while in Article 12(1), discrimination is explicitly defined only for religion, race, descent, and place of birth. To date, discrimination has not been incorporated into a general, overarching provision of the constitution. See *Reporting status for Singapore*, UN Office of the High Commissioner for Human Rights (http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Countries.aspx?CountryCode=SGP&Lang=EN).

120 Women held 24 out of 101 parliamentary positions as of January 1, 2017, according to the Inter-Parliamentary Union database. As of December 2017, Singapore had two female Cabinet members out of 21.

121 Andrew D. Mason et al., *Toward gender equality in East Asia and the Pacific: A companion to the World Development Report*, World Bank, 2012.

122 Lenore Lyons, "Singapore: Contradictions in the work/care regime", in *Women, work and care in the Asia Pacific*, Marian Baird, Michele Ford, and Elizabeth Hill, eds., Routledge, 2017; and Michelle M. Lazar, "Equalizing gender relations: A case of double-talk", *Discourse and Society*, volume 4, issue 4, October 1, 1993.

and unpaid childcare leave, increased tax relief, tax rebates, and childcare subsidies.[123] Nevertheless, Singapore's female-to-male labour participation ratio still lags behind those of other advanced economies in the region. Singapore is more advanced towards parity on participation than the Asia Pacific average of 0.60, but less so than Australia and New Zealand.

[123] Ibid; and *Population trends*, 2016, Singapore Department of Statistics, 2016 (http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/population_and_population_structure/population2016.pdf). This has contributed to nearly 110 girls per 100 boys enrolled in tertiary education and up. See *Projected gender impact of the ASEAN Economic Community*, UN Women Asia and the Pacific, 2016.

Box 17. Foreign domestic workers have helped enable the increase in female labour-force participation in Singapore

As Singapore industrialised and more women entered the workforce, demand for additional help in the home increased. In 1978, the government responded with the Foreign Domestic Servant Scheme. This enabled women from other countries to be employed as domestic help, facilitating an increase in Singaporean women's labour-force participation.[1] Among married women, the participation rate rose from 26 percent in 1970 to 64 percent in 2016, a 145 percent increase.[2] Experts estimate that the 1978 legislation increased the labour participation of women by 3.1 to 6.2 percent.[3]

From a base of 5,000 in the 1970s, the number of foreign domestic workers grew 4,700 percent to 243,000 in 2017.[4] Today, one of every seven households in Singapore employs a domestic worker, the majority of whom are migrants.[5] Demand is expected to grow further, to 300,000 by 2030.[6] Singapore offers these foreign workers protection under the Employment of Foreign Manpower Act.[7] Protection includes a requirement that employers pay salaries promptly and provide food, rest days or compensation in lieu of rest days, accommodation, medical care, and safe working conditions. However, the ILO notes that Singapore is the only country in the Association of Southeast Asian Nations yet to ratify its Convention on Domestic Workers. Doing so would help to assuage concerns in countries that source these workers, including the Philippines, which have hinted that they will stop sending live-in maids abroad unless they are guaranteed better working conditions.

1 Brenda S. A. Yeoh, Shirlena Huang, and Joaquin Gonzalez III, "Migrant female domestic workers: Debating the economic, social and political impacts in Singapore", *The International Migration Review*, volume 33, number 1, spring 1999.

2 *Census of population, 1980—release no. 9*, Singapore Government, Department of Statistics, Ministry of Culture, press release, October 24, 1981 (http://www.nas.gov.sg/archivesonline/speeches/record-details/7b87587c-115d-11e3-83d5-0050568939ad); and *Report: Labour force in Singapore 2016*, Ministry of Manpower, January 26, 2017.

3 Tiago Freire, "How the 1978 foreign domestic workers law increased the labor supply of Singaporean women", *Singapore Economic Review*, volume 61, issue 05, December 2016.

4 *Foreign workforce numbers*, Ministry of Manpower.

5 *A passage to hope: Women and international migration*, State of World Population 2006, UNFPA, 2006.

6 *Projection of foreign manpower demand for healthcare sector construction workers and foreign domestic workers*, occasional paper, Singapore National Population and Talent Division, November 2012.

7 *MOM statement on Research Across Borders study*, Ministry of Manpower, December 2017.

Singapore has increased its female-to-male ratio in professional and technical jobs by 0.07 over the past decade, to 0.91 today. In the past, many women were not sufficiently qualified to fill these jobs, but the government has helped raise levels of female educational attainment. The share of women with at least a secondary education increased from 57 percent in 2011 to 71 percent in 2015. But Singapore lags behind the region's other advanced economies—namely Australia and New Zealand—on progress towards parity on women's representation in professional and technical jobs.

Singapore has closed gender gaps considerably on digital inclusion, according to MGI's GPS analysis, that which uses a composite measure of the female-to-male ratios of individuals using the internet and using mobile phones, but there is scope to do more. Australia, New Zealand, and the Philippines have all reached gender parity on digital inclusion, and this should be Singapore's aim given the government's strategy to capitalise on Industry 4.0—the use of new technologies like artificial intelligence and the Internet of Things to transform manufacturing and other industries.[124] Today, 88.7 percent of women use a mobile phone, compared with 96.6 percent of men, and 77.7 percent of women use the internet vs. 80.1 percent of men.[125]

HELPING WOMEN TO BALANCE FAMILY AND WORK IS NECESSARY TO ENABLE THEM TO PARTICIPATE IN THE LABOUR FORCE AND PURSUE FULL-TIME OPTIONS

Singapore has already made strides on women's participation, but it now has an opportunity to match the performance of other advanced economies in the region. This imperative is likely to become more pressing as Singapore's population ages, raising the pressure on women to care for elderly relatives and potentially affecting their ability to engage in paid employment (see Box 18, "An aging population may hinder increased women's participation").

Education cannot explain why Singapore still lags somewhat behind other advanced economies on the female-to-male labour-force participation ratio. In 2015, the female-to-male ratio on adult literacy for residents over the age of 15 years was 0.96. In 2016, 74 percent of men and 68 percent of women over the age of 25 had secondary or higher educational qualifications, and 31 percent of men and 27 percent of women were educated to the university level.

Moreover, the pattern of participation in Singapore is rather unusual. The gap between women and men on labour-force participation shrinks from the ages of 25 to 29 to reach parity, but then the gap widens again when women are in their 30s and beyond. In contrast, the ratio in OECD countries takes a small dip when women are in their 30s but rises again when women enter their 40s and return to the workforce, likely after starting families (Exhibit 44). The rate of decline in Singapore's female-to-male ratio of labour-force participation is also steeper than in other advanced economies.

[124] Johan Aurik, *Which countries are best prepared for the future of production?* World Economic Forum, January 2018.

[125] ITU World Telecommunication/ICT indicators database 2017.

Box 18. An aging population may hinder increased women's participation

Singapore's population is aging. The number of people aged 65 years and over could almost triple to 588,000 by 2025 from 193,000 in 2005 as life expectancy is expected to increase.[1] The old-age-dependency ratio is expected to fall from 5.2 in 2014 to 2.1 in 2030, suggesting that more time will be needed to care for the elderly. Women have traditionally taken on this role.[2] In one survey of Singaporeans outside the labour force who cited caring for family or relatives as the main reason for not working, 84.3 percent were women.[3] Although the government has taken several measures to expand elderly-care options outside the home, many families still find it hard to afford or access care. In many households, especially those unable to employ foreign domestic workers, young female relatives leave work or cut down their hours to care for elderly relatives.[4] This is a risk to women's higher participation as they add looking after the elderly to caring for their children.[5]

Singapore has another demographic pressure on its labour force in addition to aging—declining fertility rates. The total fertility rate has declined continuously over the past decade and is now one of the lowest in the world (1.2 in 2015) according to the World Bank.[6] If this continues, it could both hold back growth in the labour force and put further pressure on dependency ratios. The government has instituted programmes to try to reverse this trend.[7] It is important to note that improving female labour-force participation rates need not come at the expense of improving fertility rates.[8]

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1 Lenore Lyons, "Singapore: Contradictions in the work/care regime", in *Women, work and care in the Asia Pacific*, Marian Baird, Michele Ford, and Elizabeth Hill, eds., Routledge, 2017; and Michelle M. Lazar, "Equalizing gender relations: A case of double-talk", *Discourse and Society*, volume 4, issue 4, October 1, 1993. Note that the size and share of the population aged 65 years and over have increased sharply across OECD economies. See *MTI occasional paper on population and economy*, Ministry of Trade and Industry, 2012.

2 National Population and Talent Division data from 2012. The old-age dependency ratio refers to the number of residents aged 20 to 64 years old per resident 65 years and over.

3 Breaking down shares of women who cited caregiving for family or relatives as the main reason for not working by age group, 29.8 percent were women aged 60 and over, 21.8 percent women aged 50 to 59, and 22.1 percent women aged 40 to 49. See *Family and work*, Insight Series paper number 4, Ministry of Social and Family Development. 2017.

4 The government is hoping to increase the number of nursing beds for the elderly by 50 percent by 2020. Currently, only 2 percent of all elderly are in institutionalised elderly-care homes, which are often oversubscribed with long waiting lists. Note that most foreign domestic workers lack skills or training in physical and mental healthcare needs, which means that many individuals still find available care as sufficient. See Lenore Lyons, "Singapore: Contradictions in the work/care regime", in *Women, work and care in the Asia Pacific*, Marian Baird, Michele Ford, and Elizabeth Hill, eds., Routledge, 2017.

5 Linda Y. C. Lim, "Beyond gender: The impact of age, ethnicity, nationality and economic growth on women in the Singapore economy", *Singapore Economic Review*, June 2015.

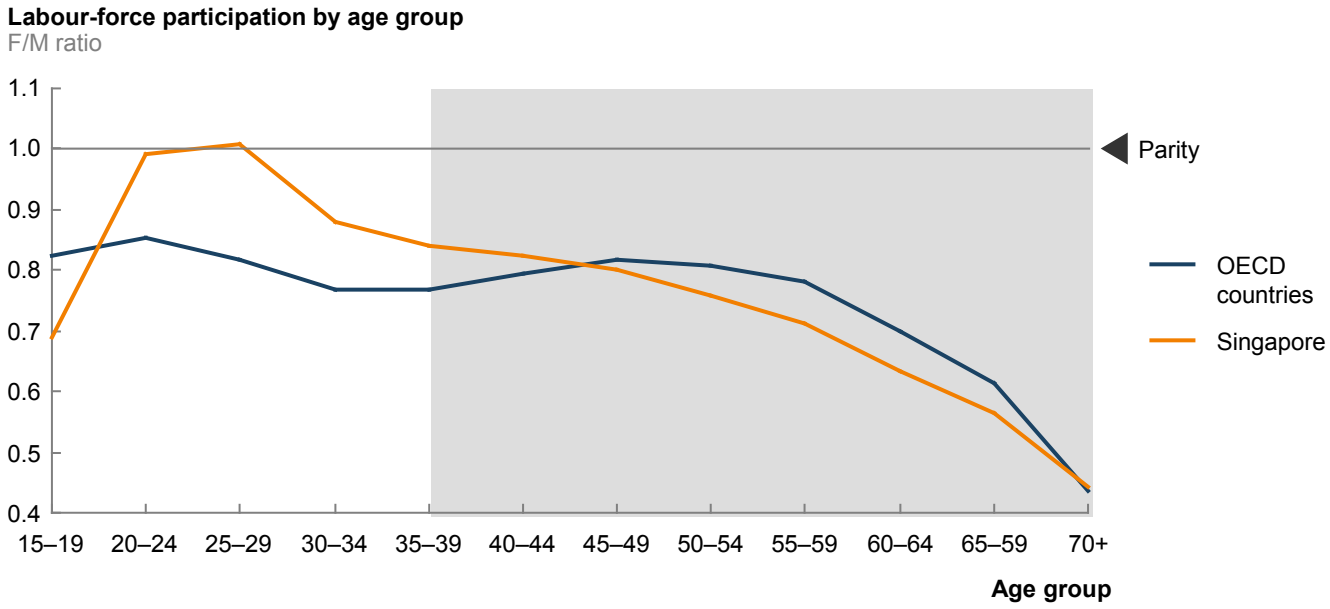
6 Mengni Chen, Paul S. F. Yip, and Mui Teng Yap, "Identifying the most influential groups in determining Singapore's fertility", *Journal of Social Policy*, volume 47, issue 1, January 2018.

7 Ibid. The government has, for instance, proposed a "marriage and parenthood" package to encourage couples to have children, which includes a baby bonus (consisting of cash gifts and co-savings) and tax measures. In addition, the government offers a work-life grant to help families balance family responsibilities and employment.

8 The combination of high female labour-force participation and high fertility rates has been noted in Sweden; scholars have attributed it to the role of public policies. From 1999 to 2009, both the United Kingdom and Sweden saw increases in their fertility rates, with evidence suggesting that policy measures such as child or family allowances, arrangements governing labour-market participation of women, and childcare arrangements have had pro-natal effects. See Shirley Hsiao-Li Sun, "Re-producing citizens: Gender, employment, and work-family balance policies in Singapore", *Journal of Workplace Rights*, volume 14, number 3, January 2009.

Exhibit 44

In contrast to other OECD countries, the labour-force participation gender gap in Singapore continues to widen past the age of 30



SOURCE: OECD database; Ministry of Manpower Statistics, 2016; McKinsey Global Institute analysis

At the same time, women in Singapore are more likely to participate in part-time work than men—and not necessarily by choice. In 2016, women accounted for 64.3 percent of part-time workers.[126] The drop-off in participation and the high share of women working part time reflect the challenge of balancing family life with employment. Married women, especially those with children, are less likely to participate in the labour force. In 2016, the participation rate for married women was 63.6 percent, compared with men's 83.8 percent.[127] Over the past five years, the participation of married women has increased by 2.3 percent, but the participation of married men is still 20.1 percent higher.[128] In 2015, the proportion of married women who lived with their children and were economically active (67.7 percent) was seven percentage points lower than for those without children living in the same household (74.7 percent).[129] The gap with men is highest in the 25-to-29 age group at 20.6 percent, dropping to 12 percent in the 30-to-34 age range.

A number of factors appear to be influencing these trends. In the Marriage and Parenthood Survey conducted by the National Population and Talent Division, only 40 percent of women said they would prefer working part time.[130] One reason for this view among Singaporean women appears to be that part-time workers still feel obliged to work longer than contracted

[126] The involuntary part-time rate rose slightly, from 2.7 percent in 2016 to 3.0 percent in 2017. The share of voluntary part-time employees was 7.6 percent in 2016, the same as in 2015, according to Ministry of Manpower data.

[127] In comparison, the average labour-force participation rate for women was 60.4 percent, compared with 76.2 percent for men. This is a 16 percentage point difference, compared with the 20 percentage point difference between married men and women. See *Labour force in Singapore*, Singapore Ministry of Manpower, January 2017.

[128] *Labour force and the economy: Labour force participation rate of married persons*, Singapore Ministry of Social and Family Development (https://www.msf.gov.sg/research-and-data/Research-and-Statistics/Pages/Labour-Force-and-the-Economy-Labour-Force-Participation-Rate-of-Married-Persons.aspx).

[129] Economic activity is defined as those who are working (i.e., employed) as well as those who are unemployed but actively looking for a job and are available for work. See *Family and work*, Insight Series paper number 4, Ministry of Social and Family Development. 2017.

[130] *Marriage and Parenthood Survey,* National Population and Talent Division, 2012.

hours. In one survey of 400 Singaporean women, two-thirds of respondents cited this factor, and 68 percent said that they would prefer more flexible hours.[131] However, only 47 percent of firms offer full-time flexible arrangements (although this is an improvement over 38 percent in 2011).[132]

Women's role in childcare is another major factor. In the 2017 Labour Force Survey, 41.7 percent of women outside the workforce cited family responsibilities as the main reason for not working, compared with only 2.7 percent of men. Of the women who identified childcare as their main reason for not working, 38.9 percent were aged 30 to 39 years.[133] This may seem surprising given that many women will have school-age children at that point, and therefore could potentially return to work. This appears to reflect a preference among Singaporean mothers to "tiger parent" their children up to the age of 12 when they take the key PSLE examination that determines which secondary school they go to, and the quality of university thereafter.[134] However, despite these outcomes, 77 percent of married female respondents in the Marriage and Parenthood Study by the National Population and Talent Division indicated their preference to be employed after having a child.[135]

Social attitudes play a part, too. In an Association of Women for Action and Research survey, 52 percent of respondents said that women should take care of household chores and caregiving. Breaking those responses down by gender, in the 18-to-29 age bracket, 58 percent of men and 38.2 percent of women agreed with this statement. In the same survey, 57 percent of respondents expressed the view that men are the head of the household and should make most of the decisions in the family—in the 18-to-29 age group, that breaks down to 66 percent of men and 43 percent of women.[136] This indicates that social attitudes do not change across age cohorts.

If female participation in Singapore is to rise further, women who want to join the labour force and women who want to work full time will clearly need more support. Flexible work options and childcare outside the home are important. Given low fertility rates and the challenge of an aging population, it is in the interests of the government and companies to be proactive in this regard.

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131 *Singapore's female professionals choose work-life balance over wealth*, CFO Innovation, March 6, 2013.

132 Data includes only permanent employees and employees on term contract of at least one year in public-sector and private establishments with at least 25 employees. See *Conditions of employment*, Manpower Research and Statistics Department, Ministry of Manpower, 2011-2016.

133 *Family and work*, Insight Series paper number 4, Ministry of Social and Family Development. 2017.

134 Interview with Zoe Kinias, associate professor of organisational behaviour at INSEAD, December 2017. Note that in Singapore, where the education system is considered competitive and children are expected to perform, this usually means additional demands on parents. See Jean Lee, "Perception of women managers in Singapore: A media analysis", *Asia Pacific Business Review*, volume 11, number 2, June 2005.

135 Marriage and Parenthood Survey, National Population and Talent Division, 2012.

136 *Public attitudes and attitudes towards violence against women*, fact sheet, Association of Women for Action and Research (http://www.aware.org.sg/information/violence-against-women-in-singapore/). One 2007 study found that men in Singapore spend 2.4 hours per day looking after their children, but women spend 5.5 hours a day. This includes time spent with children on homework, listening to their problems, play, and grooming. See *Marriage and parenthood study 2007*, cited in *Family first: State of the family report 2009*, National Family Council and Singapore Ministry of Community Development, Youth and Sports (https://www.msf.gov.sg/research-and-data/Research-and-Statistics/Documents/NFC-StateoftheFamilyReport2009.pdf).

DEVELOPING WOMEN'S SKILLS IS NECESSARY TO IMPROVE THEIR REPRESENTATION IN HIGH-PAYING JOBS AND HIGH-GROWTH SECTORS

Women in Singapore tend to be more present in lower-paying jobs and less present in high-growth sectors (Exhibit 45).[137]

A significant number of women are in the type of low-paid, lower-skilled jobs that are most liable to be displaced by automation. Looking at a range of low-paid occupations, in clerical support, there is a 3.18 female-to-male ratio, in services and sales 1.23, and in cleaning and labouring 1.45. MGI research estimates that 800,000 full-time equivalent jobs could potentially be displaced in Singapore by 2030 due to automation.[138] Automation is likely to have a less marked impact on jobs that involve managing people, applying expertise, and social interactions—professional roles that machines cannot so easily replicate—but Singaporean women are relatively underrepresented in these jobs. Women in Singapore are least represented in high-growth sectors.[139] The exception is finance and insurance, where the female-to-male ratio of 1.10 is near parity. In information and communications, a sector that grew at a compound annual rate of 4.2 percent over the past five years, the ratio is 0.63. In transport, which has grown at a compound rate of 3.4 percent over this period, the ratio is 0.32. In construction, the ratio is 0.38.

Upgrading women's skills is one way to protect their employment and income prospects in the future. One feature of women's underrepresentation in high-paying jobs and high-growth sectors is their relative lack of education in STEM fields.[140] Although Singapore has attained parity in tertiary enrolment, the female-to-male enrolment ratio in engineering is 0.4, and in information technology 0.43.[141] At Nanyang Technological University, for example, female undergraduates made up only 27 percent of the 2015–16 computer science programme, despite accounting for half of all undergraduates in the institution. Similarly, the National University of Singapore has a 50/50 gender split in the student body, but only 32 percent of current undergraduates in its School of Computing are female.[142] While undergraduate women recognise the value of digital and technology skills, they often lag behind men in increasing their digital fluency. Only 68 percent have taken a coding or computing course, compared with 83 percent of men. Only 46 percent of female undergraduates say they adopt new technology quickly, compared with 63 percent of men, and only 44 percent say they continue to learn digital skills.[143]

[137] Highly skilled foreign workers are more likely to be male, reflecting male dominance in highly skilled work in the workers' home countries and the fact that, in many societies, women are more likely to relocate (giving up their own careers) to follow their husbands. This could help explain the underrepresentation of women in higher occupational and income categories, despite relative equality on educational and employment opportunities for women in Singapore. See Linda Y. C. Lim, "Beyond gender: The impact of age, ethnicity, nationality and economic growth on women in the Singapore economy", *Singapore Economic Review*, June 2015.

[138] *Jobs lost, jobs gained: Workforce transitions in a time of automation*, McKinsey Global Institute, December 2017.

[139] Measured as compound annual growth over the past five years.

[140] Note that unconscious bias in STEM fields may also be a factor (see Chapter 1 for further discussion).

[141] Pearl Lim I-Min and Tham Zheng Kang, "Females catching up with males in enrolment at local tertiary institutions", *Statistics Singapore Newsletter*, March 2016.

[142] Linette Lim, "Gender imbalance: Are females missing out on Singapore's tech revolution?" Channel News Asia, June 13, 2016.

[143] Diana Bersohn, "How CIOs can help close the gender-equity gap", Computerworld Singapore, June 9, 2017.

Exhibit 45

Women in Singapore tend to be more concentrated in lower-growth sectors and lower-paying roles; the opposite is true of men

Employment by role and sector[1]
F/M ratio

Areas of severe employment disparity

<0.50 | 0.50–0.75 | 0.75–0.95 | 0.95–1.05 | 1.05–1.33 | 1.33–2.00 | >2.00

Higher concentration of males ← → Higher concentration of females

	All sectors[3]	Manufacturing	Accommodation and food services	Other service industries[4]	Business services[5]	Transportation and storage	Wholesale and retail trade	Construction	Information and communications	Finance and insurance	Number of employees Thousand	Median annual pay $ thousand
Managers and administrators	0.60	0.35	0.87	1.14	0.70	0.44	0.56	0.22	0.43	0.74	251	93
Professionals	0.37	0.26	0.43	0.93	0.53	0.27	0.39	0.16	0.19	0.17	413	62
Associate professionals and technicians	0.87	0.36	0.67	1.65	0.78	0.39	0.63	0.44	0.48	0.93	455	37
Working proprietors	0.96	0.45	0.78	1.71	0.94	0.48	1.01	0.57	0.82	1.24	74	32
Clerical support workers	3.18	3.41	2.45	4.56	3.72	1.63	2.71	4.78	2.65	3.51	241	25
Service and sales workers	1.23	1.32	1.30	1.56	0.29	0.90	1.86	0.22	0.64	1.18	268	23
Craftsmen and related trades workers	0.13	0.26	0.78	0.10	0.08	0.03	0.21	0.02	0.10	0.15	79	19
Plant and machine operators and assemblers	0.15	0.79	0.28	0.28	0.21	0.03	0.18	0.04	0.09	0.04	152	18
Cleaners, labourers, and related workers	1.45	1.85	1.81	2.57	1.27	0.44	1.53	0.76	4.00	1.50	161	12
All occupations[2]	0.84	0.56	1.30	1.20	0.86	0.32	0.97	0.38	0.63	1.10	**2,165**	**36**
Number of employees Thousand	**2,165**	138	101	516	335	364	188	85	228	191		
Sector growth Compound annual growth rate, 2011–16, %	**3.1**	0.6	1.9	2.6	2.6	2.7	3.2	3.4	4.2	8.0		

High pay ↑ Low pay

Low growth → High growth

1 Employed residents aged 15+ are included.
2 All occupations includes agriculture and fisheries workers, and workers not classified elsewhere, which are separate to the categories of occupations shown above.
3 Includes agriculture, fishing, quarrying, utilities, and sewerage and waste management.
4 Other service industries include public administration and education (295,000 employees); health and social services (116,000); arts, entertainment, and recreation (40,000); and other community, social, and personal services (65,000).
5 Business services include real estate services (54,000), professional services (163,000), and administrative and support services (118,000).
NOTE: Exchange rate used of 1 Singapore dollar to $0.76.

SOURCE: Ministry of Manpower; Singapore Department of Statistics; McKinsey Global Institute analysis

This bias against STEM subjects is already apparent earlier in school. Between the ages of 15 and 19, 63 percent of students currently study STEM subjects in Singapore, higher than the regional average of 59 percent but behind India's 69 percent and China's 76 percent.[144] This reflects the fact that many girls in Singapore are reluctant to study STEM subjects. One survey found that, among girls aged 15 to 19, lack of interest was identified as the top reason for not studying STEM.[145] In an interview conducted by Channel News Asia with 21C Girls, a non-profit organisation providing free coding classes to girls, it appeared that some girls have internalised gender biases and stereotypes, and this is stopping them from aspiring to STEM careers.[146]

Addressing skills gaps and attitudes that are preventing girls and women from pursuing the jobs that will be the most insulated from automation and that are higher paid is vital for their economic prospects.

HELPING WOMEN TO BALANCE FAMILY AND WORK AND UPGRADING THEIR SKILLS ARE THE KEYS TO CAPTURING POTENTIAL ECONOMIC BENEFITS

As Singapore seeks to build on progress so far in advancing women's equality, two important potential priorities are helping women to balance family and working life, and upgrading their skills. But there is a third imperative, too—shifting attitudes towards women's roles in society and in the workplace. Without effort on this front, further advances will be hard to achieve.

1. Invest in shifting attitudes about the role of women in society and work

Companies and the government can work together to shift attitudes towards gender roles to give women equality of opportunity and the freedom to choose how they live and work. Evidence from around the world suggests that a combination of information sharing and public-awareness campaigns can be effective.

- **Run public-awareness campaigns to foster recognition and redistribution of unpaid care work:** One way for men to help shift attitudes towards gender roles in society and the workplace is by acting as visible role models. One example in the United States is Facebook CEO Mark Zuckerberg's announcement that he would be taking two months of paternity leave, which received extensive media coverage.[147] The Singapore government could run a public-awareness campaign that emphasises the role of men in the household. Better informing the public about the benefits of female labour-force participation may help facilitate a shift in attitudes, as other successful broad-based media campaigns have done in the country.[148] One example in Japan is the Ikumen Project, launched in 2010 by the Ministry of Labour and Welfare, which focuses on encouraging men to increase their share of work at home; the high-profile programme has been cited as contributing to increased uptake of paternity leave.[149] Moreover, having

[144] *Low confidence limits number of girls pursuing STEM careers in Singapore: Inaugural Mastercard Study*, Mastercard, March 16, 2016.

[145] The most commonly cited reasons were "my interests lie elsewhere" (53 percent) and "I am not interested in these subjects" (24 percent). See *Girls in tech: The path of young women to a career in STEM*, Mastercard, January 2018.

[146] Linette Lim, *Gender imbalance: Are females missing out on Singapore's tech revolution?* Channel News Asia, June 13, 2016.

[147] "Mark Zuckerberg to take 2-month paternity leave", *Financial Times*, November 21, 2015.

[148] The MoneySENSE programme launched in 2003 is Singapore's National Financial Education Program. It implemented broad-based media initiatives (through TV, social media, direct marketing, print ads, and radio) with success across different target audiences. See *Delivering financial education in Singapore*, ASIC's Financial Literacy Community of Practice, February 2016.

[149] Ikumen project (https://ikumen-project.mhlw.go.jp/).

a public-awareness campaign focused on men can help increase fertility rates and improve the female labour-force participation rate.[150]

- **Create forums of corporate leaders to share best practices on how to move closer to gender equality:** Although women's associations exist in Singapore, more can be done to improve collaboration.[151] McKinsey research has found that educating male champions to support women at work is powerful.[152] As discussed in Chapter 1, industry bodies can recognise companies that promote women to senior roles.

2. Increase access and equal provision of family-friendly policies in the workplace

There are a number of ways to help women balance their family and work commitments more effectively, and companies and government can each play a part. Other countries offer different models that Singapore might consider. In Sweden, the government has led the way through policies to help women balance their home responsibilities and working.[153] In Australia, WGEA provides the resources and tools for interested companies to create workplace policies and programmes, including providing recognition to companies committed to workplace equality through its "Employer of Choice Programme". In the United Kingdom and the United States, in contrast, companies and trade unions take the lead on instituting policies and programmes to attract and retain women employees.[154] Regardless of which model of intervention Singapore chooses, the government and companies can work together to change the work-family equation for women and enforce change through legislation. Here we suggest some priorities:

- **Increase availability of flexitime and teleworking options for full-time workers:** A majority of firms provide at least one ad hoc flexible work arrangement to employees, but only 6 percent offer teleworking, and only 22.8 percent of firms provide flexitime or staggered hours.[155] Flexible options can increase women's participation and the hours they work, especially for parents dealing with the pressures of their children's education and childcare. To take one example, 20 percent of employees have opted for flexitime at NTUC Income Insurance Co-operative Limited, and its employee turnover rate has fallen

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150 Couples who share family responsibilities more equally have higher second-birth intensity than others when policies facilitate the combination of employment and parenting for either parent. See more at Livia Sz. Oláh, "Gendering fertility: Second births in Sweden and Hungary", *Population Research and Policy Review*, volume 22, issue 2, April 2003.

151 *Gender equality at the forefront of business in Singapore*, International Finance Corporation (http://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/gender+equality+at+the+forefront+of+business+in+singapore).

152 See *Women Matter: An Asian perspective: Harnessing female talent to raise corporate performance*, McKinsey & Company, June 2012; and *Women in leadership: Lessons from Australian companies leading the way*, McKinsey & Company, Workplace Gender Equality Agency, and Business Council of Australia, November 2017. In Australia, the organisation Male Champions of Change brings together CEOs to brainstorm how to bring more women into the talent pipeline, and, as such, is an opportunity for men to play an active role in advocating for gender equality and helping to shape attitudes in the organisations in which they work.

153 In Sweden, family-friendly policies such as childcare allowances and parental leave schemes are funded through public resources. See Leung Lai-ching and Chan Kam-wah, "A family friendly policy for Hong Kong: Lessons from three international experiences", *International Journal of Sociology and Social Policy*, volume 32, issue ½, 2012.

154 Leung Lai-ching and Chan Kam-wah, "A family friendly policy for Hong Kong: Lessons from three international experiences", *International Journal of Sociology and Social Policy*, volume 32, issue ½, 2012.

155 *Family and work*, Insight Series paper number 4, Ministry of Social and Family Development, 2017. Note the Singapore government's Work-Life Works programme provides grants to employers to introduce work-life programmes. As of 2012, more than 840 companies had benefited from this scheme. See Joanna Seow, "Parliament: $43.2m committee for WorkPro grants so far", *Straits Times*, February 12, 2015.

from 15 percent to 9 percent in seven years while improving employee morale and commitment.[156]

- **Develop programmes to ease the transition for mothers to return to the workplace:** For women who want to return to work after they have had children, there is a perceived "motherhood penalty". For each year a highly educated mother spends out of the workforce, she faces a penalty of a 4 percent wage reduction on her future earnings, according to one study.[157] Not only do women have to balance family responsibilities with working, but many also feel at a disadvantage compared with their male counterparts in terms of skills and exposure to management. In Singapore, mothers are not guaranteed an equivalent position after maternity leave.[158] Companies can do more to ease the transition of women back into work. Vodafone globally provides a minimum of 16 weeks of paid maternal leave, followed by six months of flexible arrangements on returning with reduced work hours. "Returnships" are another increasingly common practice in the United States. Technology companies including GoDaddy and Instacart provide midcareer professionals returning to work after taking time off to care for a child or relative an 18-week paid internship, which helps them readjust to work and gives them networking opportunities.

- **Expand leave options to include family sick leave and elderly-care leave:** In 2016, 92 percent of companies in Singapore offered compassionate leave to their employees, and 73.9 percent extended marriage leave, despite the fact that these are not stipulated in legislation. However, only 19.5 percent of firms offered parental care, sick leave, or both, and only 16.7 percent offered leave for when a child is ill. The share of firms providing such benefits has risen 8 percent since 2008.[159] However, the government could mandate such provisions. To date, its focus has been on subsidising childcare centres and providing cash support and reduced employment fees for working mothers who rely on childcare from grandparents or domestic help from overseas.[160] The government also provides one-off furnishing and equipment grants to employers to outfit childcare centres.

- **Make parental leave policies more gender-balanced:** In 2008, the government increased maternity leave to 16 weeks and put in place one week of paternity leave (with the option of the new father also taking one week of the mother's leave).[161] However, this still makes leave provision highly unequal. The World Bank's view is that maternity leave policies without similar paternity leave policies reinforce gender differences in child-rearing responsibilities and create differential hiring costs by gender, which helps to entrench a situation in which women take on the lion's share of caregiving.[162]

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156 *Flexible work arrangements*, Ministry of Manpower and Ministry of Community Development and Sports, 2001. Note that based on firm-level data, resignation rates were lower among firms that offer (1) a large number of formal flexible work arrangements to their employees; (2) have a higher proportion of full-time employees on a five-day work-week; and (3) have a higher proportion of full-time employees with longer annual leave entitlement. See more at *Conditions of Employment 2016*, Ministry of Manpower, November 2016.

157 *The gender wage gap*, Institute for Fiscal Studies, 2016.

158 Karishma Vaswani, *Women in the workplace: The Singapore way*, BBC News, November 19, 2015; and Shirley Hsiao-Li Sun, "Re-producing citizens: Gender, employment, and work-family balance policies in Singapore", *Journal of Workplace Rights*, volume 14, issue 3, January 2009. However, the government is currently investing in programmes to help women return to work. For example, the *Back2Work with U Programme* launched by the National Trades Union Congress in 2007 focuses on placement and skills acquisition to ease women back into the workforce so they can enjoy greater job and income stability. Approaches include job fairs, recruitment exercises, and offline referrals. As of December 2014, over 26,000 women have been brought back into the workforce as part of this programme.

159 *Family and work*, Insight Series paper number 4, Ministry of Social and Family Development. 2017.

160 *Do pro-fertility policies in Singapore offer a model for other low-fertility countries in Asia?* UN Population Division policy brief number 15, November 2015.

161 Ministry of Social and Family Development (https://www.profamilyleave.gov.sg/Pages/About.aspx).

162 Andrew D. Mason et al., *Toward gender equality in East Asia and the Pacific: A companion to the World Development Report*, World Bank, 2012.

Singapore could consider mandating something similar to Sweden's approach, giving parents the freedom to choose how to allocate a combined 480 days of parental leave. Moreover, companies can take the lead by providing equal parental leave to men and women. Aviva, the insurance company, has paved the way by providing 16 weeks of parental leave for both male and female employees.[163]

3. Increase economic incentives for women to remain in the workplace

One way to encourage women to remain in the workplace is to ensure that they receive equal pay for equal work. Equal pay has an impact on social attitudes, influences the division of labour within the household, and can help raise the overall value of women remaining in the workforce.[164] One International Monetary Fund (IMF) study found a correlation between labour-force participation rates and the legal rights of women that is significant even when accounting for levels of education and fertility.[165]

- **Audit employee pay to identify gender wage gaps in similar roles and create programmes to close them:** Although there is currently no legislation on equal pay for equal work, companies can take the initiative, identify gender wage gaps, and act on them. UN Women estimates that men in Singapore earn 18 percent more than women, and there has been no improvement over the past ten years.[166] Companies in Singapore could follow the example set by Cisco, for instance, which conducts an annual audit of gender wage gaps and adjusts employees' salaries to erase them. This builds on the work of the UN Women Singapore Committee, which launched the #stoptherobbery campaign that raises awareness of the gender pay gap in the country.[167]

- **Create an equal remuneration clause for men and women to hold corporations accountable:** As we have noted, Singapore has no legislation prohibiting gender-based wage discrimination, although there are guidelines enacted by the Tripartite Alliance for Fair and Progressive Employment Practices set up in 2006 to protect both men and women of all ages, races, and religions.[168] Legislation could require companies with more than 50 workers to conduct analysis of gender pay gaps and produce action plans to address them, as Belgium does. In the United Kingdom, companies with more than 250 employees are required to disclose average pay for men and women, including any bonuses. Alternatively, Singapore could implement a model similar to the United States' Equal Pay Pledge, which challenges businesses to publicly vow to conduct an annual company-wide gender pay analysis across occupations.[169]

4. Encourage higher participation of women in STEM fields

NGOs are already active in developing skills among girls and women, with a focus on STEM, but companies can do more, too. Government also has a role to play in developing women's skills and in opening up access to digital technologies on which so many higher-paid jobs depend in the modern economy.

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[163] Nicolas Middlemiss, "Aviva to offer equal parental leave in Singapore", *Human Resources Director Asia*, December 2017.

[164] Andrew D. Mason et al., *Toward gender equality in East Asia and the Pacific: A companion to the World Development Report*, World Bank, 2012.

[165] Olivier Thévenon et al., *Effects of reducing gender gaps in education and labour force participation on economic growth in the OECD*, OECD Social, Employment and Migration Working Papers, OECD, December 10, 2012.

[166] *Equal pay*, UN Women Singapore Committee (https://www.unwomen.org.sg/causes/stoptherobbery/).

[167] Ibid.

[168] *Reporting status for Singapore*, UN Office of the High Commissioner for Human Rights (http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Countries.aspx?CountryCode=SGP&Lang=EN).

[169] Natalia Merluzzi, *These businesses are taking the equal pay pledge*, White House blog, June 14, 2016.

- **Develop programmes to inspire girls and young women to pursue STEM careers:** In Singapore, one of the major deterrents to girls' pursuit of STEM fields is their lack of interest. In response, non-profit organisations such as 21C Girls have started to provide free coding classes for girls.[170] The UN's Girlstopioneer programme provides girls with exposure to research environments through field trips and internships to encourage them to pursue scientific careers.[171]

  Companies can weigh in more to support these efforts, and achieve more gender diversity in their talent pipelines. Some companies are already doing so. Mastercard in Singapore, for instance, provides an education programme to teach the foundations of STEM principles to young girls.[172] Company-run media campaigns can also be effective in helping to inspire young girls to pursue STEM careers. One such is the #inspirehermind campaign from Verizon designed to combat the gender bias associated with STEM fields. Singaporean companies could follow the same approach, tailored to the local context.

  Singapore outperforms the rest of the world on STEM, according to the OECD's latest PISA study.[173] Its citizens also score among the highest in the world in both mathematics and science in the Trends in International Mathematics and Science Study. However, there is still scope to pique young girls' interest in STEM. Currently, STEM education begins in pre-school with specific activities focused on science and mathematics. The government provides mentoring programmes. For example, the Agency for Science, Technology, and Research (A*STAR) under the Ministry of Education is collaborating with Science Centre Singapore on a pilot to provide students with mentored research opportunities, and to develop teacher-researchers and teacher-mentors to enhance STEM education.[174]

  Nevertheless, more can be done to increase the number of young girls in STEM fields by both the government and companies. They can, for instance, target girls at the age when they are deciding whether to pursue STEM fields. In Asia Pacific, 50 percent of 15- to 19-year-olds considered studying STEM-related subjects when they were younger, but 51 percent of them changed their minds between the ages of 15 and 16.[175] Such age-based targeting can be achieved by, for instance, having female role models speak in classes of this age group, or by conducting field trips and internships in STEM companies to help pique students' interest and combat the belief that STEM fields tend to be male-dominated.

  It is also important to explore reasons why young girls are not interested in STEM fields, and influence them accordingly. More can be done to analyse the reasons behind the lack of interest and identify what are the best channels to influence young girls. The same can be done as well to analyse why some specific areas of STEM have had greater success than others at attracting and retaining women. From there, it will be easier to target measures to build a stronger female STEM pipeline.

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[170] 21C Girls (http://www.21cgirls.com/).

[171] Lakshmi Ramachandran, *Small steps to big changes towards gender equality in science*, National University of Singapore, May 2017.

[172] *Inspiring girls in STEM: Mastercard's Girls4Tech program to reach more than 13,000 girls in Singapore by 2018*, Mastercard press release, October 11, 2017.

[173] *Singapore tops latest OECD PISA global education survey*, OECD, December 6, 2016. Note that the PISA survey evaluates the quality, equity, and efficiency of school systems.

[174] *Securing Australia's future: STEM: Country comparisons*, Australian Council of Learned Academies, January 2013. At the primary level, mathematics and science are core subjects with specialist trained teachers taught since Grade 1. At the secondary level, mathematics and science are also core subjects, with the weekly number of teaching periods varying depending on the type of secondary school a student attends.

[175] Note that for Singapore, the average age when girls change their minds is 14–16 years old. However, this has a small sample size of 12. *See Girls in tech: The path of young women to a career in STEM*, Mastercard, January 2018.

- **Review university policies to encourage women to participate in STEM fields:** Although women are more represented at the tertiary level relative to men, they are less likely to take coding or digital courses. Universities could review their policies to determine barriers to women's participation in STEM fields. At Harvey Mudd College in California, the computer science department redesigned its introductory class and divided students into separate sections by experience, removing any factor that might intimidate women.[176]

- **Adjust policies to reduce barriers keeping women from applying for jobs in STEM:** In addition to measures designed to inspire young girls to consider studying STEM, companies can also shift internal policies to help women pursue STEM careers, even without STEM backgrounds. For instance, Uber in Southeast Asia changed its job requirements to reflect transferrable skills rather than industry-specific experience, a move that helped increase the number of female general managers.[177] STEM graduates are likely to pursue STEM-related careers, but both STEM and non-STEM backgrounds are seen as viable entry points for a STEM career.[178] Companies and the government can do more to equip women with skills for the future workplace and encourage their participation in high-growth sectors and high-paying roles.

5. Promote skills development for women working in lower-growth sectors and/or lower-paying roles

Although the government has already implemented a range of measures to help develop the skills of the labour force, companies can also play a role in effecting change for women, helping them to attain greater representation in high-paying roles and in high-growth sectors.

- **Create incentives to participate in SkillsFuture for women in need of reskilling or skills development:** SkillsFuture is a national movement to provide citizens with opportunities and resources to develop the skills they need as Singapore continues into the next phase of its development as an advanced economy. In 2016, around 134,000 women took part in SkillsFuture, and efforts are under way to increase participation through multiple media campaigns. During a 2017 debate in parliament, education minister Ong Ye Kung said that the government was planning a national drive called SkillsFuture Engage that will include a plan to reach out to women returning to work.[179] Companies can do more to encourage employees to use SkillsFuture by providing financial or non-financial incentives for them to participate. Many Singaporean firms, including Singtel and SIA Engineering Company, have started sending staff to SkillsFuture's Digital Workplace programme, launched in October 2017. Yet more can be done to encourage employees to use their SkillsFuture credit to help them prepare for the needs of the future workplace, including nudging them to take STEM or digital skills courses to prepare them to transition to other jobs if necessary as automation spreads.

- **Help provide digital access to women without mobile phones or the internet:** Given the risk of low-skilled jobs being displaced by automation, the government has expanded skills training over the past few years. In particular, the Singaporean government has made a major push to equip workers with basic digital skills with its SkillsFuture Digital Workplace programme. However, contrary to popular belief, evidence shows that lack of digital access is still an issue, even though many community centres provide internet access. Among adults (aged 25 to 74), 91.6 percent of males and 88.7 percent of females use a cellular phone, compared with 96.6 percent of men and 95.6 percent of women

[176] Kimberly Weisul, *Half of this college's STEM graduates are women. Here's what it did differently,* Inc.com, May 31, 2017.

[177] Interview with Lean In Singapore, February 7, 2018.

[178] *Girls in tech: The path of young women to a career in STEM*, Mastercard, January 2018.

[179] Charissa Yong, "MPs suggest ways to level playing field for women", *Straits Times*, April 4, 2017.

in Sweden, 93.0 and 93.6, respectively, in the United Kingdom, and 90.8 percent for both men and women in Japan.[180] On internet use, 80.1 percent of adult males and 77.7 percent of adult females in Singapore use the internet, compared with 93.3 percent of men and 93.7 percent of women in Sweden, 94.2 and 93.4 percent, respectively, in the United Kingdom, and 97.3 percent of men and 96.4 percent of women in Japan.[181] Providing access to the internet and mobile phones is a necessary first step for the government to address, and companies can support this effort. Intel, for example, has developed an online peer network as part of its "She will connect" programme globally, which Singapore might look at and emulate.

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Singapore has made significant strides in support of women's equality in recent years, from raising girls' educational attainment to policies that help women to balance their family and work commitments. However, barriers remain to women working, working full time, and working in sectors where they can earn higher pay and improve their economic prospects. As demographic change threatens to put more pressure on women's family responsibilities and as automation displaces low-skill jobs, the government and companies can pursue a rich agenda of action to make further progress towards gender parity in Singapore.

[180] ITU World Telecommunication/ICT indicators database 2017.

[181] Ibid.

APPENDIX

This appendix has the following sections:

1. Building a supply-side GDP model
2. Methodology for assessing global gender inequality
3. Methodology for calculating Gender Parity Score (GPS)

1. BUILDING A SUPPLY-SIDE GDP MODEL

For its original 2015 global report on the power of parity, MGI built a supply-side GDP model. We briefly describe that methodology below. For this report on Asia Pacific, we have relied on that model to calculate the economic opportunity that is available from advancing further towards parity in the region. We have tested the assumptions in the original model to confirm that there have been no major deviations over the two years since the publication of that report in the forecast trajectory of our business-as-usual scenario. We have also updated the model using the latest available data from the same sources used in the original report.

MGI's supply-side model estimates the economic impact of closing the gender gap in labour markets in 95 countries. The countries cover 93 percent of the world's female population and 97 percent of its GDP. In all countries, the model estimates the GDP contribution of women and men in the period to 2025. The model calculates GDP using five inputs, each of which is estimated by gender:

$$\begin{aligned}\text{GDP} = {} & \text{Working-age population} \times \text{Labour-force participation rate} \\ & \times \text{Employment rate} \times \text{Full-time equivalent rate} \\ & \times \text{Labour productivity per full-time equivalent employed}\end{aligned}$$

The employment rate is the percentage of the labour force that is employed. The full-time equivalent rate is the ratio of full-time equivalent employees relative to total employees. Labour productivity per full-time equivalent employed is the economic output of each full-time equivalent employee.

Overall approach

- **Drivers of the difference in male and female GDP:** The model captures differences in male and female contributions to GDP due to three main factors: participation rates, hours worked, and distribution of employment among 14 sectors of the economy. We assumed that the labour productivity of men and women is the same within each of the 14 sectors studied—that is, there is no impact on productivity due to the different roles men and women play in companies, the size of firms that employ men and women, variation in agricultural productivity due to the size of male vs. female farm holdings, and so on. Any difference in the productivity of men and women is therefore driven by different representation in the 14 sectors, each of which has different productivity levels. The 14 sectors are agriculture and fishing; mining and quarrying; manufacturing; construction; utilities; wholesale and retail trade; hotels and restaurants; transport, storage, and communications; financial intermediation; real estate, renting, and business activities; public administration and defence; education; health and social work; and other services.

- **Second-order impact on GDP:** We do not include any second-order impact from increased participation by women, including increased consumption by women, or any drag on productivity due to changes in the supply of labour relative to capital. Our analysis also does not take into account other economic benefits from bridging gender gaps (for example, the intergenerational benefits that may arise from better-educated and healthier women raising families).

- **Supply-side analysis:** Our approach models the labour supply to help establish a GDP aspiration from increased participation by women. We do not take into account demand-side factors that could influence the ability to create jobs to absorb additional female workers. We fully acknowledge that achieving this potential will require investment in job creation as well as skills development, addressing barriers from unpaid work, and so on.

Summary of approach and data sources

- **Labour force:** To estimate the total labour force for each country, we calculate its working-age population and labour-force participation rate separately for six cohorts comprising the two genders and three age cohorts: 15 to 24 years, 25 to 54 years, and 55 and over. The working-age population for all scenarios is sourced from the UN's World Population Prospects for all 95 countries. The historical labour-force participation rate is sourced from the ILO.

- **Full-time equivalent employment:** We first apply an overall employment rate to each country's aggregate labour supply. The employment rate for historical periods is sourced from the ILO, available for all 95 countries. The ILO provides historical data split by gender. To convert employment by gender into full-time equivalents, we use ILO data on average hours worked by gender. In countries where data are not available, we extrapolate from the most similar countries available. We determine similarity by using regional groupings and level of per capita GDP at purchasing power parity. We were able to gather actual data or estimate hours worked for 53 countries in our 95-country sample, and we extrapolated this to the remaining countries. We assume the hours worked by men and women per week do not vary by sector.

- **Labour productivity:** For each country, we estimate labour productivity per full-time equivalent employee for men and women as average sector productivity, weighted by the sector share of full-time equivalent employment for each gender. We assume that the productivity of men and women in the same subsector (for example, education, health, and agriculture) is the same, and that any variations in average productivity among men and women are due to the sector mix of their employment. We use a three-step calculation:

  — First, we estimate the productivity of men and women in 14 subsectors. For example, in most countries, services productivity for women is lower than that of men because women are disproportionately concentrated in low-productivity sectors (as measured by GDP per worker) such as education and health services. Due to data limitations, we calculated relative productivity at the 14-sector level for 25 countries, and then extrapolated to the full sample. We then extrapolated these data to other countries based on our regional groupings and level of per capita GDP at purchasing power parity. For these 25 countries, we sourced data on employment by gender from the ILO and national statistics bureaus at the 14-sector level. We took productivity data for the 14 sectors from the World Input-Output Database, the McKinsey Global Growth Model, and national statistics offices. We aggregate the 14 subsectors to arrive at relative productivity between men and women for three sectors: agriculture, industry, and services.

— Second, we use relative productivity for these three subsectors to arrive at a productivity level in each for men and women. We calculate average productivity for both men and women together using GDP from IHS's World Industry Service, employment data from the ILO in each of agriculture, industry, and services, and the hours worked estimates described above to convert employment numbers to full-time equivalent employee numbers. We then applied the relative productivity of men compared with women calculated in the first step to this average productivity to estimate a male and a female productivity level for each of agriculture, industry, and services.

— Finally, we estimate overall productivity by gender by weighting gender-specific productivity for agriculture, industry, and services by the respective shares of employment of men and of women in these sectors.

For a more detailed description of the inputs to our model and data sources, see MGI's 2015 global report.

Forecast assumptions

In its original 2015 global research, MGI modelled three scenarios to project the economic opportunity that is available from bridging the gender gap in 2025. The first scenario is a business-as-usual projection of GDP based on consensus forecasts, supplemented with historical trends to obtain gender-disaggregated forecasts. The second is a best-in-region scenario that describes the GDP opportunity for each country if it were to bridge the gender gap at the best historical rate of countries in its region. The third is a full-potential scenario that sizes the total opportunity of closing gender gaps in the labour-force participation rate, employment rate, hours worked, and sector mix. In this report on Asia Pacific, we have focused on the GDP opportunity from the best-in-region scenario. While gender parity is a worthy aspiration, the complex and multifaceted issues that affect women's participation in work mean that this is likely a challenging goal to achieve by 2025. Equally, participating in the workforce is a matter of personal choice. We therefore focused on the best-in-region scenario, which considers the degree of progress that countries have actually achieved in the past decade to establish an aspiration for progress towards parity.

For all projections, we use the following data sources: for population, we use the UN's World Population Prospects; for total labour-force participation, GDP growth, labour-force participation rate, and employment rate, we use Oxford Economics and IHS, both of which provide aggregate country forecasts (not gender-disaggregated) for these variables.

Business-as-usual scenario

We formulated the business-as-usual scenario in three steps. First, we projected detailed data on labour supply broken down by gender according to growth rates over the past ten years, scaling them so that they were in line with consensus forecasts and ensuring that they followed a few overall constraints. In detail:

- We first forecast the labour-force participation rate by age group and gender based on its compound annual growth rate between 2003 and 2013. We then scaled the forecast so that the participation rate was consistent with predictions from Oxford Economics. Finally, we applied three constraints: the participation rate does not exceed 100 percent for any cohort; for each age cohort, the rate of female participation does not exceed the male rate; and the participation rate of those aged 55 and over for each country remains equal to or less than that of those aged 25 to 54 for that country.

- For the employment rate, we used the overall employment rate forecast from Oxford Economics, but scaled to separate male and female employment rates, based on the observed historical ratio of female-to-male employment rates in 2013.

- The ratio of hours worked and the relative productivity of full-time equivalent males and females in industry and services remained constant over the business-as-usual forecast. This assumption is based on an analysis of historical data, which shows little or no change for most countries in our sample over the past ten years.

- Forecasts for the distribution of employment by sector and gender were based on historical trends and reasonable assumptions for productivity growth. First, we forecast the share of employment by sector based on historical trends from the most recent ten-year period with data. We then modified the projection to bring GDP growth for agriculture, industry, and services in accordance with forecasts from IHS and bring average sector productivity in line with three overall constraints we apply: forecast productivity growth from 2014 to 2025 is greater than or equal to zero; the productivity ranking of agriculture (which typically has the most volatile productivity-growth rates) does not change relative to other sectors; and the difference between sector productivity growth and overall productivity growth should not be more than 2 percent from any historical gap for agriculture, industry, and services. We chose the 2 percent differential based on typical historical trends for these two measures.

Best-in-region scenario

The best-in-region scenario sizes the GDP opportunity for each country if it were to bridge the gender gap at the best historical rate of countries in its region on three dimensions of gender equality in work: labour-force participation rate, hours worked, and sector productivity. This is calculated for each input as the difference between the female and male growth rate over the past ten years. The scenario assumes that, for each country and each input, the male growth rate is constant at the business-as-usual levels, but the female growth rate is equal to the male growth rate plus the best-in-region rate of convergence. The only exception to this rule is the employment rate. Because the difference in the employment rate by gender is small for most countries, we assume that this gap is fully bridged in the best-in-region scenario.

The convergence rate is capped for each country so that female GDP input does not overtake male GDP input in 2025. Specifically:

- In the case of the labour-force participation rate, data coverage was sufficient to identify the best rate of convergence in most of the ten regions described in MGI's 2015 global report. India was merged with South Asia, China was merged with East and Southeast Asia, and North America and Oceania were merged with Western Europe in order to identify the best-performing country in each region. Other regions included the Middle East and North Africa, sub-Saharan Africa, Eastern Europe and Central Asia, and Latin America. This was calculated for each of the three age cohorts.

- Due to limited data availability, we assume that the rate of convergence for hours worked was the same in all countries. Norway was identified as the best performer in a sample of 30 countries, most of which are developed economies.

- For sector productivity, we follow two steps:

  — First, we assume progress towards parity on the share of agricultural employment between men and women. For the share of employment in agriculture, data coverage was good enough to identify the best rate of convergence in each region. The regional groupings used were similar to those described above.

  — Second, we assume convergence in productivity in each of industry and services. We calculate the rate of convergence for industry and services productivity for OECD and non-OECD countries separately, due to limited data availability. This is calculated

based purely on the change in distribution of employment of men and women in the 14 sectors examined, and not due to the change of underlying productivity of each of these sectors (that is independently factored into productivity forecasts). For example, for industry, the United Kingdom is the best-in-region country chosen for OECD economies.

2. METHODOLOGY FOR ASSESSING GLOBAL GENDER INEQUALITY

For its original 2015 global report on the power of parity, MGI established 15 indicators by which to measure gender equality; we rely on the same approach for this report and briefly describe it below.[182]

Our aim was to map gender equality as comprehensively as possible but also to ensure that the indicators we used were not so numerous as to be unwieldy for analytical purposes. In order to select a manageable set of indicators, we reviewed a range of global charters and statements of principle. We also explored indicators used by other well-established indices to measure gender equality, including the World Economic Forum's Global Gender Gap Index, the OECD's Social Institutions and Gender Index, the European Union's Gender Equality Index, and the UN's Gender Inequality Index. Lastly, we conducted principal component and factor analyses to identify natural groupings of variables. This revealed four critical dimensions of gender equality: gender equality in work, essential services and enablers of economic opportunity, legal protection and political voice, and physical security and autonomy. We call the last three aspects "gender equality in society" (see Exhibit A1 for a list of the indicators we selected, data sources, country coverage, and other information).

The indicators used are measures of outcomes. This enables us to make an objective assessment of a country's performance on gender equality.[183] We would have liked to include other indicators but were unable to do so because insufficient data were available from a large set of countries for measures such as property ownership by women vs. men, political representation at local government levels, and enforcement of legal provisions.

[182] For more detail on our original methodology, see the appendix of *The power of parity: How advancing women's equality can add $12 trillion to global growth*, McKinsey Global Institute, September 2015.

[183] Researchers have debated whether gender equality should be measured as equality of opportunity or equality of outcomes. Those arguing for the former believe that assessing gender on the basis of equality of opportunity allows the distinguishing of factors outside an individual's control as opposed to those dictated by personal preferences or choice. The latter group, arguing for assessing gender equality based on equality of outcomes, contends that differences in preferences and attitudes are not inherent but reflect the internalisation of social norms that unequally distribute power and resources—although arguably true equality of opportunity would imply lack of discrimination in social norms, and therefore differences in outcomes would in fact be shaped purely by freedom of personal choice. See, for example, *World Development Report 2012: Gender equality and development*, World Bank, September 2011; and Allison J. Booth and Patrick J. Nolen, *Choosing to compete: How different are girls and boys?* IZA discussion paper number 4027, February 2009. In our analysis of gender equality, we have tried to consider both aspects, using several objective measures of gender equality outcomes to identify gaps and priority areas of focus, but also, in parallel, seeking to understand underlying attitudes and behaviour related to gender that could impede the ability of women to exercise choice and take advantage of their opportunities. Unfortunately, globally comparable data on attitudes are scarcer than those on gender equality outcomes. For this reason, we did not incorporate these aspects into our assessment of the current state of gender inequality, but instead used available data to draw inferences about potential root causes and solutions.

Exhibit A1

Summary of gender equality indicators and data

Indicator	Definition	Source
Labour-force participation rate	Female-to-male ratio; age 15+ labour-force participation rate	ILOSTAT, ILO modelled estimates (July 2015), 15+
Professional and technical jobs	Female-to-male ratio; representation (number) in professional and technical jobs (professionals, technicians, and associate professionals)	ILOSTAT, Employment by Occupation and Sex, November 2017
Perceived wage gap	Female-to-male ratio; wages for similar work, based on survey responses on equal pay for equal work ranked on a 7-point scale	World Economic Forum, Global Gender Parity Reports, 2011, 2014, and 2016
Leadership positions	Female-to-male ratio; representation (number) in leadership position (legislation, senior officials, and managers)	ILOSTAT, Employment by Occupation and Sex, November 2017
Unpaid care work	Male-to-female ratio; time spent in unpaid care work	OECD Database (only latest year available), November 2017
Family planning	Female only; percent of married or in-union women aged 15–49 who want to stop or delay childbearing but are not using contraception	UN Department of Economic and Social Affairs, Population Division, Estimates and Projections of Family Planning Indicators 2017
Maternal mortality	Female only; maternal deaths per 100,000 live births in a specified year[1]	WHO, Global Health Observatory Data, November 2017
Education level	Female-to-male ratio; composite indicator of adult literacy rate, net secondary enrolment rate, and gross tertiary enrolment rate	UNESCO Institute for Statistics, November 2017
Financial inclusion	Female-to-male ratio; composite indicator of rate of account holders at a financial institution, borrowing from a financial institution in the previous 12 months, and use of mobile phones to send money	World Bank's Global Findex database, 2014
Digital inclusion summary	Female-to-male ratio; composite indicator of rate of internet and mobile users[2]	ITU 2017 Database
Legal protection	Female only; composite index of the extent of protection to women by 11 different legal provisions (e.g., right to inherit, access to jobs)	World Bank, Women, Business and the Law Database (2010–16), November 2017
Political representation	Female-to-male ratio; composite indicator of representation (number) in parliamentary and ministerial positions[3]	Inter-Parliamentary Union, Women in Politics Database, February 2018
Sex ratio at birth	Male-to-female ratio; number of male births to number of female births	UNDP Department of Economic and Social Affairs World Population Prospects, 2012 Revision
Child marriage	Female only; percent of girls and young women aged 15–19 who are married	United Nations World Marriage Data 2015
Violence against women	Female only; percent of women who have experienced physical and/or sexual violence from an intimate partner at some time in their lives[4]	OECD Gender, Institutions and Development database 2014, WHO

1 Includes female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, per 100,000 live births, for a specified year.
2 Indicator of mobile phone employed to send money was used in the composite calculation only when rates for males were more than 5%.
3 Parliamentary seats refer to those in a single or lower chamber.
4 Based on data from Demographic and Health Surveys, WHO, International Violence Against Women Survey, and European Union Agency for Fundamental Rights.

SOURCE: McKinsey Global Institute analysis

The indicators we chose typically measure the difference between the position of men and women, and these are expressed as a ratio of female-to-male data. The exceptions are sex ratio at birth and unpaid care work, which are expressed as male-to-female ratios.

For indicators that apply only to females—child marriage, violence against women, family planning, and maternal mortality—we used the absolute level expressed as a prevalence rate in percentage terms. We collated data for these indicators for our set of 95 countries from global sources such as the ILO and the OECD.

For many of the indicators, we remained consistent with standard definitions used in the literature. For instance, we chose the ILO's major groupings of occupational classifications for our definitions of professional and technical jobs and leadership positions; this aligned with the World Economic Forum's approach for these two indicators as well. Some features of the indicators are worth highlighting:

- Five of the 15 indicators are composites constructed using subgroup indicators. They include education, financial inclusion, digital inclusion, political representation, and legal protection. The rationale for constructing these composite indicators was to include multiple aspects of inequality in each case. In the case of digital inclusion, for instance, we included female-to-male ratios for both mobile and Internet use. The methodology we used to construct composite indicators was the same methodology we used to construct countries' Gender Parity Scores (see next section of this appendix).

- Our wage gap indicator is based on data from the World Economic Forum's Executive Opinion Survey. Although it is based on opinion, we still took the view that this survey was the best available measure of equal pay for equal work. Some researchers have attempted to calculate differences in equal pay for equal work using real wage data (for example, as a residual after accounting for differences in occupational or industrial concentrations of men and women). However, such analysis is available for only a handful of countries.[184]

- The indicator we chose for leadership is based on the ILO's major occupational group classifications, as mentioned. The indicator includes legislators, senior officials, and managers. Despite the fact that there is some overlap in the case of legislators with our measure of political representation, we opted for our approach because it used the ILO's standard classification and is in line with the indicator used by the World Economic Forum in its Global Gender Gap report. In any case, it is difficult to obtain more detailed occupational splits of this ILO major group. We used the major group of professional and technical jobs for similar reasons.

- The legal indicator comprises 11 underlying indicators constructed from the answers to the following questions in the World Bank's Women, Business and the Law database:

  — Is there legislation that specifically addresses domestic violence?

  — Is there legislation that specifically addresses sexual harassment?

  — Can a married woman apply for a national ID card in the same way as a man?

  — Does a woman's testimony carry the same evidentiary weight in court as a man's?

[184] See, for example, Francine D. Blau and Lawrence M. Kahn, "The gender pay gap", *The Economists' Voice*, volume 4, issue 4, June 2007.

— If there is a non-discrimination clause in the constitution, does it explicitly mention gender?

— Do sons and daughters have equal inheritance rights to property?

— Are there laws mandating non-discrimination based on gender in hiring?

— Does the law mandate equal remuneration for men and women for work of equal value?

— Can non-pregnant and non-nursing women do the same jobs as men?

— Does the law mandate paid or unpaid parental leave?

— Does the law mandate paid or unpaid paternity leave?

We first grouped the 11 indicators into four logical categories (for example, first two questions, regarding violence against women, into a single category) by taking a simple average. We then used a sum of squares approach described in the next section. In the case of Australia, reflecting an issue with the legal protection index score, we made a manual adjustment to the World Bank's scoring to reflect an oversight that is due to be revised in the Women, Business and the Law data release in 2018.

- The indicator we used for child marriage is the share of girls between 15 and 19 who are married. An alternative, and perhaps more commonly used, indicator of child marriage is the percentage of women aged 20 to 24 years who were first married before the age of 15 or the age of 18. However, we found that the latter data did not exist for our full sample of 95 countries; in particular, there were large gaps in data in developed countries. The measure we used has also been proposed as one of the core measures of child marriage by UNICEF.

To establish "low", "medium", "high", and "extremely high" levels of inequality, we chose to use an absolute measure of equality levels across indicators, rather than relative thresholds for each indicator, to ensure an objective assessment of equality. These thresholds were chosen by examining the education indicator, which we believe is a core gender equality indicator and one where significant progress has been made. We found that there were virtually no countries with gender gaps greater than 50 percent for this indicator, about 15 percent of countries had gaps greater than 25 percent, and about 50 percent of countries had gaps less than 5 percent.

For a few indicators, the thresholds used differed from these, given the different distribution of data for this indicator. For physical security and autonomy indicators, where we felt the severity of the indicators warranted different thresholds, we defined extremely high inequality as greater than or equal to 33 percent distance from no prevalence (of child marriage or violence against women), or one in three women affected. For maternal mortality, the thresholds were informed by the relative distribution of maternal mortality ratios across countries. For example, we used a cut-off of ten deaths per 100,000 live births for "low" equality, based on maternal mortality ratios typically seen in highly developed nations such as the Scandinavian countries. Similarly, we used a threshold of 200 deaths per 100,000 live births for "extremely high" inequality, as it represented a natural break in the relative performance of countries. For sex ratio at birth, a review of literature on this topic found that the natural male-to-female ratio at birth is typically in the neighbourhood of 1.06.[185] However, data for 2005 to 2010 from the UN typically had values significantly above

[185] Stephan Klasen and Claudia Wink, "Missing women: Revisiting the debate", *Feminist Economics*, volume 9, issue 2–3, 2003.

this number. We therefore set our threshold between "extremely high" and "low" equality at 1.09, which was slightly above the world average of 1.084 and above which we saw significantly higher values for a few countries (including India and China).

Regional numbers for gender equality indicators typically represent weighted averages, based on 2016 female population data available from the UN. Per capita GDP is based on data from the IMF and represents values in 2014 international dollars adjusted for purchasing power parity.

3. METHODOLOGY FOR CALCULATING GENDER PARITY SCORE (GPS)

In MGI's global 2015 report, we calculated how close women are to gender parity on each of four aspects of gender inequality made up of 15 indicators of gender equality in work and in society for 95 countries. We then combined average gender parity levels into aggregated Gender Parity Scores on gender equality in work, gender equality in essential services and enablers of economic opportunity, gender equality in legal protection and political voice, and gender equality in physical security and autonomy. To aggregate country scores into regional scores, we weighted our results based on the size of the female population in each country in the region. We weighted the relevant indicators for each category equally, and we aggregated all gaps rather than compensating underperformance on some by outperformance on others.

In this report, we refreshed the 15 gender equality indicators based on the most recently available data, and therefore scores may differ slightly from those in the 2015 research.

To calculate overall GPS, we combined the country's position on our 15 gender indicators using the sum of squares method and assuming equal weight to each indicator as:

$$\text{GPS} = 1 - \sqrt{\frac{(1-a_1)^2 + (1-a_2)^2 + \cdots + (1-a_n)^2}{n}}$$

where a_1 = F/M ratio in gender equality indicator 1, a_2 = F/M ratio in gender equality indicator 2, etc.

For family planning, violence against women, and child marriage, where indicators are expressed as prevalence rates in percentage terms, the inverse—that is, one minus the prevalence rate—is used instead of female-to-male ratios. For the maternal mortality ratio, we normalised country ratios using minimum and maximum values. All indicators were capped at a maximum value of 1. The GPS for individual category scores (for example, for physical security and autonomy) is constructed using the same approach, but including only the indicators relevant to the category.

In some instances, where there were extensive gaps in available data for a country, we used subregional averages to extrapolate missing values and calculate the GPS for the country.[186] We did this only selectively to ensure that scores were not skewed significantly due to missing data. We undertook such extrapolations only for the purpose of GPS calculations and not for any other analysis such as identification of impact zones. When identifying a "world best" and "Asia Pacific best" GPS score, we chose countries where data are available for all indicators in each category.

[186] The exceptions are the Philippines and Singapore on unpaid care work, where we used the best in Asia Pacific given their leading performance in the region on other metrics related to gender parity in work.

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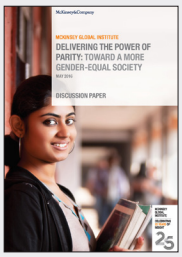

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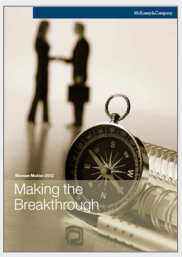

Women Matter: An Asian perspective (June 2012)

The proportion of women sitting on corporate boards and executive committees in Asian companies is strikingly low compared with Europe and the United States. There is now a business imperative for hiring, retaining, and promoting more talented women. This report aims to show how to address women's underrepresentation by outlining the elements of a corporate gender diversity programme capable of delivering concrete results.

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McKinsey Global Institute
April 2018

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