

Wisdom in the Workforce

Unlocking the Economic Value of Asia's Aging Population



A report by the Milken Institute Asia Center and the Milken Institute Center for the Future of Aging

Anusuya Chatterjee and Donald Markwardt with Perry Wong

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The Milken Institute Asia Center analyzes the demographic trends, trade relationships and capital flows that will define the region's future.

The Milken Institute Center for the Future of Aging works to improve lives and strengthen societies by promoting healthy, productive and purposeful aging.

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Executive Summary

Older populations are growing rapidly in a number of Asian countries. This unprecedented demographic phenomenon, it is feared, may have profoundly adverse impacts on these economies. As working people reach age milestones and exit the labor force, these questions necessarily arise: How will the traditional retirement years be financed? What will the future hold for national pension systems? How will the swelling costs of health care impact national budgets?

Costs, however, are only part of the story. The greater part, perhaps the more significant part, is creating value. Asia is the hub of global growth and economic dynamism in our era, built on a strong human capital base. As the demographics of that human capital shift, the retirement wave can grow into a flood. The region's economic opportunities will continue to expand, we believe, inevitably posing the risk that experienced, capable labor will become a scarce resource. Though many may regard older workers as unproductive and their skills obsolete, Asia can't afford to waste this massive asset. This study makes it clear that with the aid of farsighted public policies and strategic private-sector employment practices, older workers can provide an effective solution that magnifies Asia's success.

In addition to addressing private-sector demand, keeping people employed longer would generate a range of macroeconomic and societal benefits, including:

- » Mitigating public costs for retirees and pressures on social support systems
- » Expanding the tax base and government revenue
- » A healthier population, as research suggests that older people who opt to stay in the labor force have fewer ailments in the long run than those who retire¹

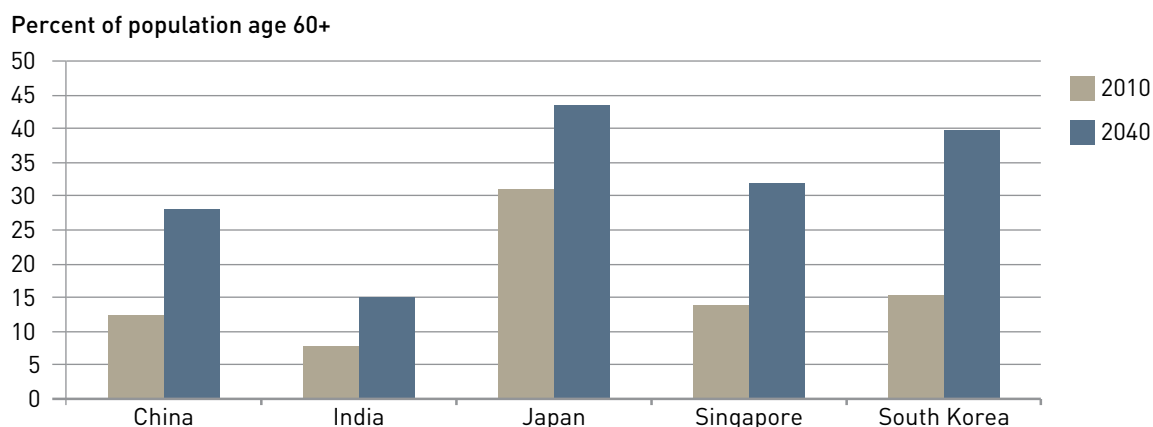
Although the proportion of the young is projected to be greater than older adults in India, the vast nation will have an estimated 234.5 million people age 60 and over by 2040. That subset exceeds the projected combined populations of Japan, Singapore, and South Korea in that year.

1. Gabriel H. Sahlgren, "Work Longer, Live Healthier: The Relationship Between Economic Activity, Health and Government Policy," Institute of Economic Affairs, May 2013.

Our objective is to illuminate how demography is remolding Asia’s labor force and how older adults can be incentivized and enabled to remain part of it without displacing younger generations of workers. We evaluate crucial skills shortages and identify methods to harness the strengths of the mature workforce. We outline the existing literature on aging, complement it with commentary based on discussions with experts from select Asian countries (for a list of experts, please refer to Page 37), and offer macro-level recommendations that could be adopted by policymakers and private-sector leaders.

We focus on five Asian nations, all of which are major players on the world economic stage: China, India, Japan, Singapore, and South Korea. Each is grappling with its own unique challenges, but all are in position to tap the power of expanding older populations. Although Singapore is much smaller than the others, it shares a similar demographic pattern and has adopted best practices to leverage the abilities of its mature workers. It exemplifies how countries can tackle the challenge.

FIGURE 1: Older Adults in Selected Asian Countries



Sources: OECD, United Nations.

Except in India, a substantial proportion of these countries’ populations will be at least 60 years old in 2040. Almost three in 10 Chinese will be members of that cohort, and for Singapore, more than three in 10. The trend is even more pronounced in Japan and South Korea, where two of every five people will be 60-plus. Although the proportion of the young is projected to be greater than older adults in India, the vast nation will have an estimated 234.5 million people age 60 and over by 2040. That subset exceeds the projected combined populations of Japan, Singapore, and South Korea in that year.

These nations are likely to confront labor shortages within a generation’s time. Each requires strategies tailored to its particular conditions to overcome such challenges.

CHINA — As an engine of global manufacturing, China will have to satisfy swiftly escalating demand for technical and manufacturing workers as well as services of all kinds in the coming decades. It must ensure that a workforce on such a scale is available and has the qualities that make the country competitive. A possible solution would be to raise retirement ages for Chinese women to parity with men, which could add millions of workers to the labor pool in the coming decades.

INDIA — India’s population is younger relative to the other large Asian economies. As its economy expands, it will be difficult to fill positions in high-growth industries because many available workers lack university or vocational training. This is exacerbated by a dearth of teachers in higher education. Transitioning older science and technology professionals into the classroom could offer a novel solution.

JAPAN — While Japanese are working longer than most of their peers elsewhere in Asia, it has not been enough to offset severe talent shortages in many industries. Barriers to the immigration of skilled workers makes it imperative that in the near future, the solutions to such shortages come from within the country. As health professionals become exceedingly scarce in the next decade, transitioning older health professionals into flexible or part-time work schedules rather than retirement could help to fill the gap.

SINGAPORE — Singapore faces the challenge that its growing older population will constrict the supply of qualified labor. Policies that support immigration and a higher birth rate are not sufficient to solve the problem in the short term. To tackle these issues, Singapore has implemented innovative policies such as the Retirement and Re-employment Act and WorkPro scheme to integrate the aging workforce.

One approach won’t suit every country, but the broad strategy of engaging mature workers has the potential to make a meaningful difference across the region.

SOUTH KOREA — Most older workers in South Korea are either self-employed or in part-time jobs. One reason few older people are working full-time is that the “traditional” pay scheme undercompensates employees in the early years of their tenure and overcompensates them in later years. However, 40 percent of South Korea’s population will be 65 and older in 2040, and the nation’s high-productivity industries may need to harness the skills of mature workers well beyond their mid-50s, today’s retirement norm. This could be achieved by modernizing compensation schemes and expanding the kind of flexible work arrangements that have been implemented by several firms recently.

As the Milken Institute develops policy and practice recommendations to maximize the value of human capital in the second half of life, we are sensitive to the interests of younger people and the possibility of resentment or backlash if their opportunities don’t also expand. Indeed, mandatory or statutory retirement ages imposed by numerous industries and nations are in part a reaction to this concern. We believe strongly, however, that older and younger workers complement each other’s contributions and offer each other valuable learning opportunities. As work environments become more intergenerational, research shows, this tension eases. One study found that anti-age-discrimination policies and a stronger intergenerational spirit instilled more positive beliefs about older workers’ ability to adapt and provide training.² As we encourage longer work lives, it is important to match skills and abilities with appropriate jobs and ensure that opportunity increases for both older workers and their younger counterparts.

2. Warren C.K. Chiu et al., “Age Stereotypes and Discriminatory Attitudes Towards Older Workers: An East-West Comparison,” *Human Relations* 54, No. 5, 2001.

Among the key observations of this study:

- » Existing and proposed policies (changes to Japan’s immigration policy or the relaxation of China’s one-child policy, for example) appear insufficient to mitigate labor shortages in the near future.
- » Demographic shifts—in some cases due to falling birth rates—risk creating economic imbalances as retirees, who are increasing in proportion to the population, lean heavily on working people for support.
- » There is considerable variation within Asian nations’ workforces in regard to education, skills, and training.
- » Skilled workers often exit the workforce prematurely, leading to the loss of valuable talent.
- » For workers doing physically strenuous jobs, investment in retraining and wellness is needed to extend work lives.

Asian economies could benefit from taking a comprehensive approach to retaining and integrating older people in the workplace, and many efforts are already underway. Harnessing the productive potential of older citizens can turn the “problem” of aging into a solution for continuing economic growth and prosperity. Clearly, one approach won’t suit every country, but the broad strategy of engaging mature workers has the potential to make a meaningful difference across the region. With this goal in mind, we offer six broad recommendations:

- » Enable longer working lives
- » Create age-neutral workplaces
- » Offer flexible work arrangements
- » Incentivize entrepreneurship
- » Nurture a culture of mentoring and community
- » Develop a sustainable model for healthy aging

If the 21st century is to be the Asian century, working people of all ages must contribute to that success.

Introduction

Much of the world is experiencing a profound demographic shift based on increased longevity and falling birth rates. By 2040, almost 19 percent of the world population will be at least 60 years old, compared with 11 percent in 2010.³ There has been considerable debate around how to successfully integrate the aging population in companies and communities. As their presence in the population expands, the impact on the global workforce and productivity will be enormous. For a country to accelerate its economic growth, a strong, productive workforce is essential. However, as multitudes of people reach the traditional retirement ages in many countries, concerns abound.

Two labor-related concerns are involved in the effort to sustain economic growth. The first is increasing the size of the workforce as the number of retirees swells. The second is the quality of the workforce, which largely depends on educational attainment, skills, and experience.

With the aging population expanding in many Asian countries, it is important to plan and implement strategies that enable older adults to foster purposeful lives. While the meaning of “purposeful lives” varies by country and culture, in this paper we aim to find ways to engage older adults in employment and entrepreneurship appropriate to their skills and experience.

Many nations have statutory or mandatory retirement ages, which in most cases were enacted long ago. Many policymakers in Asia took the view that older adults should move on and in the process open the door to opportunity for their younger peers. As older adults leave the workforce, they need to be replaced in volume. It may be possible for young workers to fill the numbers gap, but older workers have gathered experience and skills in so many areas: dealing with customers, supervising manufacturing, consulting and more. When they leave an organization, their knowledge and ability leave with them. To stop such a “brain drain,” employers have an interest in an effective, scalable means of retraining older workers and having them impart their knowledge and skills to younger colleagues. Additionally, as increasing longevity extends lives beyond traditional retirement, an increasing number of older adults want to remain in the working world as long as possible.

Keeping older people employed is economically meaningful, yet many countries fear a backlash from their younger citizens. However, retaining older workers for a longer period will actually ease the pressure on younger workers to support the growing older cohort. Also, the additional tax revenue generated by the rising employed population can help to alleviate future financial distress for all generations. Older peers are not a threat to younger generations, therefore, but can actually help them prosper.⁴

In the following sections, we will present case studies of countries to investigate plausible ways of keeping the older workforce active and engaged. We will also examine which strategies can successfully integrate an older workforce into an intergenerational national economy.

3. OECD, Population Statistics, March 2015.

4. Stanford Center on Longevity, “Adapting to an Aging Workforce,” January 2014.

Background

In this study we look at five Asian countries. China, India, Japan, and South Korea represent the largest economies in Asia, with demographics that will change rapidly over the next 25 years. Singapore, a much smaller country, shares these demographic conditions but has adopted best practices to leverage the abilities of mature workers. It serves as an example of how collaboration and creativity can integrate all generations into the project of increasing prosperity. Each country is unique, but all will have to grapple with the challenges and opportunities of an aging workforce.

TABLE 1: Population of Selected Countries

Country	2010		2040	
	Population 60+ (Millions)	% Population 60+	Population 60+ (Millions)	% Population 60+
China	168.9	12.4	402.8	28.1
India	93.3	7.7	234.5	15.0
Japan	39.6	31.0	46.5	43.3
South Korea	7.7	15.5	20.8	39.7
Singapore	0.7	13.8	2.2	31.9
United States	57.5	18.6	99.0	26.0
World	764.9	11.1	1,684.6	18.6

Sources: OECD, United Nations.

Almost three in 10 Chinese will be 60 or older in 2040, and in Singapore, more than three in 10. The demographic shift is more extreme in Japan and South Korea, where two in five people will be over 60. India is the exception to this trend. In 2040, only 15 percent of Indians will be 60-plus. However, the sheer scale of the cohort is significant. That 15 percent amounts to an estimated 234.5 million people, more than the combined population of Japan, Singapore, and South Korea at that time.

These statistics demonstrate the need to assess the demographic implications for these countries.

Expanding the Labor Force and Closing the Skills Gap

Advances in health care, technology, and living standards have extended Asians' longevity.⁵ But the relatively low traditional retirement ages in certain countries limit the productive capacity of many skilled workers who are willing and able to work. Many Chinese women are encouraged to retire at age 50, when they still have decades of productive potential ahead of them. South Korea recently mandated a retirement age of 60 to take effect in 2016, but at the same time faces a tidal wave of retirees and severe labor shortages. The government is attempting to solve this problem through targeted immigration without changes in broader public policy or employment practices. In South Korea, the number of working adults supporting each retiree is projected to fall from 10 in 2000 to two by 2040.⁶ Japan, which boasts the longest life expectancy in the world, still maintains a lower mandatory retirement age than many advanced economies.

Proponents of a mandatory retirement age argue that without forcing older workers to exit at a given age, younger workers would find insufficient opportunities to begin their own careers.⁷ This rationale suffers from the view that the job market is a pie that can't grow, a zero-sum game in which any older worker extending his or her career displaces or defers the employment of a younger worker. The near-doubling of female participation rates in the United States in the second half of the 20th century, with relatively little effect on male participation rates, strongly refutes the "fixed-pie" theory.

Further, the types of jobs older workers will take on in their 60s, 70s, and beyond are often quite different from the positions for younger individuals that they purportedly displace. For example, businesses in countries around the world—particularly in Asia—cite a shortage of skilled leaders and managers.⁸ These positions can generally be filled only by experienced candidates. Forcing workers to retire at a set age without regard to their skills or competence can only exacerbate this problem. To supply in-demand skills and maximize their economies' productive capacity, these countries must overcome age biases and evaluate candidates using more objective measures that directly relate to capability, competence, and productivity. Lastly, the question of younger-versus-older workers should not be seen as a competition, but rather an opportunity for intergenerational mentorship, where those with long experience can convey their skills and wisdom to the next generation.

In the U.S., the general abolition of mandatory retirement through the Age Discrimination in Employment Act expanded the presence of 65-plus workers in the labor force by 10 to 20 percent.⁹ Assuming a similar increase in participation rates for each five-year age cohort beyond today's standard retirement ages, our model projects that China could increase its labor force by 30 million workers by 2040. South Korea could fill 1 million more jobs by 2040. By 2040, India and Japan could add 12 million and 1 million additional workers, respectively, to their labor pools.

5. OECD, "Health at a Glance: Asia/Pacific 2012," November 2012.

6. Oxford Economics, Global Economic Databank, March 2015.

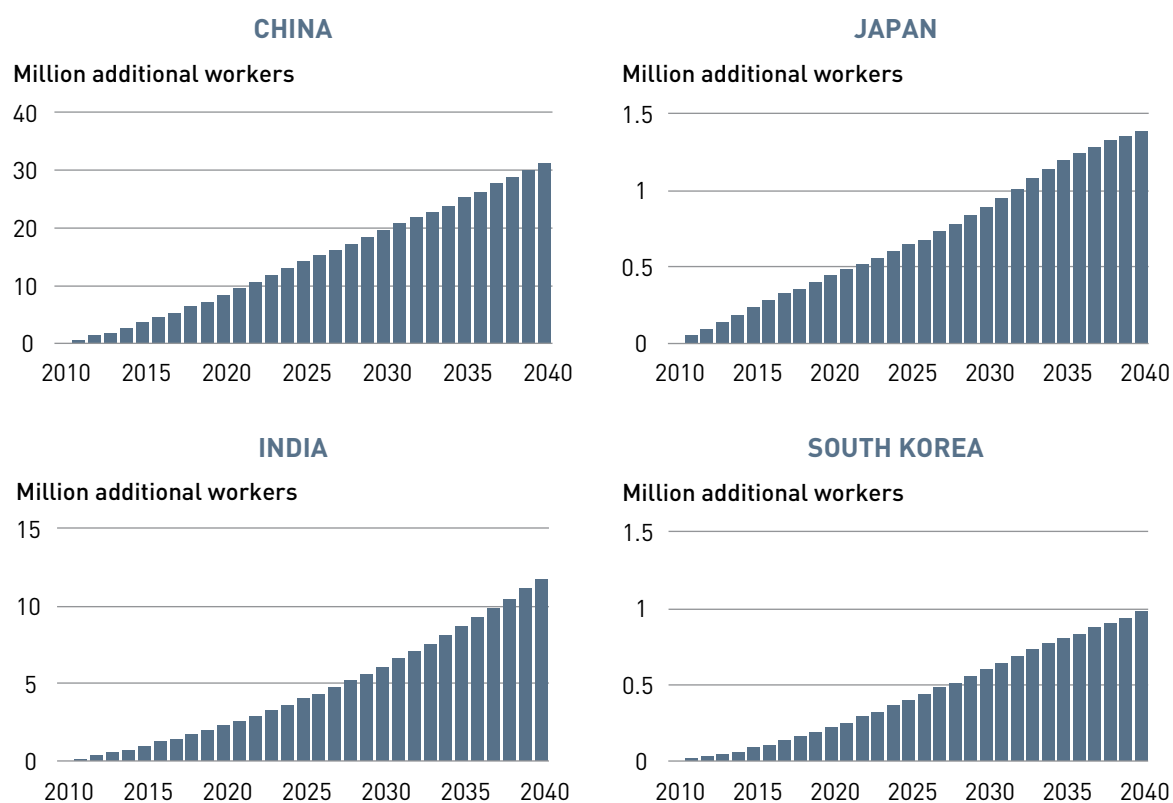
7. Alicia H. Munnell and April Yanyuan Wu, "Are Aging Baby Boomers Squeezing Young Workers Out of Jobs?" Center for Retirement Research at Boston College, October 2012.

8. Manpower Group, "2013 Talent Shortage Survey Research Results."

9. Till von Wachter, "The End of Mandatory Retirement in the U.S.: Effects on Retirement and Implicit Contracts," Center for Labor Economics, Working Paper No. 49, University of California at Berkeley 2002.

To supply in-demand skills and maximize their economies' productive capacity, these countries must overcome age biases and evaluate candidates using more objective measures that directly relate to capability, competence, and productivity.

FIGURE 2: Workforce Expansion With Higher Mature Worker Participation Rates



Note: See Page 36 for projection assumptions.

Sources: OECD, Milken Institute.

In summary, keeping older adults in the workforce longer would benefit these countries in multiple ways:

- » Extending working lives would reduce the public costs for a growing population of retirees on social support systems.¹⁰
- » More employed people would expand the tax base and government revenue.
- » Evidence suggests that older workers who opt to stay in the labor force and find purpose in their work are healthier in the long run than those who retire.¹¹

10. Jingjing Chai et al., “Exchanging Delayed Social Security Benefits for Lump Sums: Could This Incentivize Longer Work Careers?” National Bureau of Economic Research, May 2013.

11. Sahlgren, Gabriel H., “Work Longer, Live Healthier: The Relationship Between Economic Activity, Health and Government Policy,” Institute of Economic Affairs, May 2013.

Country Focus

CHINA

OVERVIEW

- Already tight labor conditions for employers seeking skilled workers will worsen as the labor base in manufacturing erodes.
- Consider the gap between male and female workforce participation rates. Encouraging older women to stay in the workforce longer could address labor shortages.
- Age-neutral accommodations can keep employees healthier and more productive as well as ease regional labor shortages.

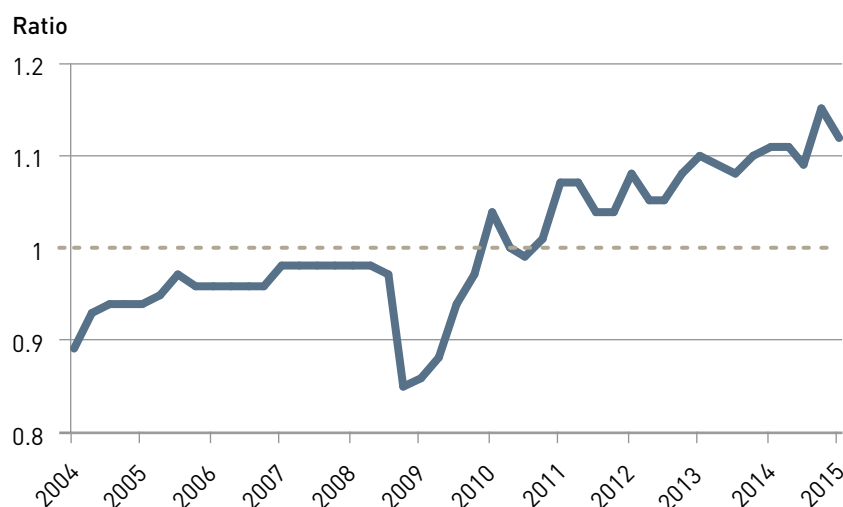
China enjoyed remarkable growth in the past 30 years, capitalizing on its massive demographic dividend. From 1980 to 2010, the country's population of 15-to-59-year-olds—conventionally thought of as the working-age population—mushroomed from fewer than 600 million to nearly 1 billion.¹² Because of the country's one-child policy and increased longevity, the demographic outlook for the next 30 years is decidedly less rosy for China's economy.

If current labor force participation rates were to persist, the number of working 15-to-59-year-olds would peak in 2015, then decrease by 114 million, or 12 percent, by 2040. The overall population of individuals age 60 and older, meanwhile, is set to more than double to 403 million people (28 percent of China's population) by 2040. The government recently tried to address this imbalance decades in advance by relaxing its one-child policy, but it's too soon to assess the results. Even if China succeeds in increasing birthrates, that will not solve the problem soon enough.

Workforce Issues

1. **Shortages of high-skilled workers:** Shortages are already apparent in China's labor market, where job vacancies exceed the number of applicants. The ratio of vacancies to applicants rose above 1 for the first time in 2010 and has continued to increase since (see Figure 3).

12. OECD, Population Statistics, March 2015.

FIGURE 3: A Comparison of Job Vacancies to Applicants in China

Sources: Bloomberg, Chinese Ministry of Human Resources and Social Security.

In a global survey, 61 percent of Chinese businesses reported difficulty filling positions, ahead of only Japan and Brazil.¹³ High-skilled jobs, in particular, will be very difficult to fill in the coming decades. By 2020, the McKinsey Global Institute projects a shortage of 23 million workers with post-secondary educations.¹⁴

2. Aging workforce in manufacturing: With its aging population, China's manufacturing base would be in jeopardy if current trends hold. In 2013, 13 percent of manufacturers in the Pearl River Delta planned to move production outside the country due to "tight labor conditions," while a manufacturing trade group reported that 80 percent of its members struggled to find enough recruits, especially managerial staff, for factories.^{15 16}

Short-Term Strategies

Solving these enormous issues will require seeing China's aging population as a human capital resource instead of a burden, and redefining the term "working age." The concern about how China's demographics interact with its labor supply was not part of the policy discussion until late in the last decade. Since then, the central government, state research agencies, and scholars have reassessed policies and engaged stakeholders around the possibility of increasing retirement ages. The issue driving the policy debate was twofold: Delaying retirement could close the aging support funding gap and supply additional workers to ease tight labor markets. However, public sentiment on raising the retirement age has been negative.¹⁷

13. Manpower Group, "2013 Talent Shortage Survey Research Results."

14. Li-Kai Chen, Mona Mourshed, and Andrew Grant, "The \$250 Billion Question: Can China Close the Skills Gap?" McKinsey, May 2013.

15. Standard Chartered, "375 clients talk wages in the PRD," March 2014.

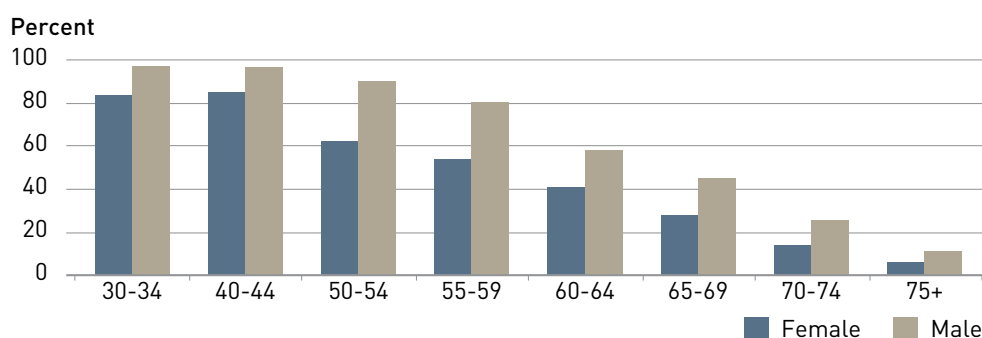
16. Federation of Hong Kong Industries, "Survey Report on Current Situation of and Outlook for HK Manufacturing Companies in the PRD," May 2013.

17. The Economist, "Paying for the Grey," April 2014.

It wasn't until 2013 that government leaders set an agenda to "research and formulate a progressive retirement age policy" and mandated that the government address the challenges of an aging population. While the new agenda presents opportunity for change, discussion of this important topic is often overshadowed by other compelling issues such as the liberalization of China's financial markets and industrial technology upgrades.

For Chinese women, the ages 50 or 55 are officially considered to define the end of one's working life.¹⁸ China's labor force participation rates for women in their 30s and 40s are among the highest in the region, but the female presence in the workplace relative to males plummets when women reach their 50s, as seen in the table below. As a consequence, these retirement ages discourage employers from investing in training and other forms of human capital development for middle-age women for fear there will be too little time to capture a return on that investment.¹⁹ The result is stunted career development and inadequate skills training for tens of millions of workers.²⁰

FIGURE 4: Chinese Labor Force Participation Rates, by Gender and Age (2010)



Sources: OECD, Milken Institute.

Gradually raising women's retirement ages to parity with men could keep many skilled, highly productive workers in positions that will otherwise need to be filled in the coming years. The Chinese government has said that it plans to raise the retirement age eventually, but action has been slow, owing perhaps to a lack of enthusiasm for the idea among the Chinese people.²¹ In 2015, after almost a decade of assessment and research on aging and social security funding, a new statutory retirement age was proposed amid the shortage of semiskilled and skilled workers. The proposal set a timeline from 2015 through 2022 to consult the public, legislate, and implement a "progressive statutory retirement age" scheme.²²

China will announce details of the scheme in 2017, and implementation may not begin until 2022. Female laborers and private enterprise workers are the only employees to be affected in the next decade. Each year, their retirement age will rise by a few months.

Moving faster toward retirement age parity would significantly boost female labor participation rates by 2040, providing 21 million more workers than if today's participation trends continue. The impact on the skilled labor supply is enormous, even assuming that only a portion of the 21 million added workers will be skilled. The increasing participation of older women can help postpone an overall decline in the Chinese labor force.

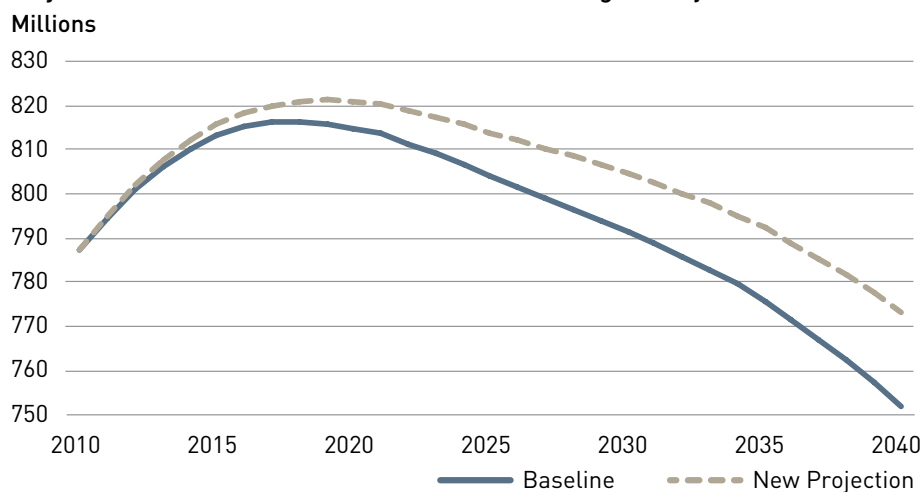
18. Zhen Li, "The Basic Old-Age Insurance of China: Challenges and Countermeasures," 2013.

19. John Giles, Dewen Wang, and Wei Cai, "The Labor Supply and Retirement Behavior of China's Older Workers and Elderly in Comparative Perspective," World Bank, October 2011.

20. Ann Herbert, "Press Conference on Equal Retirement Age and Labour Protection for Women Workers," March 2011.

21. The Economist, "Paying for the Grey," April 2014.

22. Shi Rui et al., "Slowly, China Prepares to Raise Retirement Age," Caixin, April 2015.

FIGURE 5: Projected Chinese Labor Force with Retirement-Age Parity for Women

Sources: OECD, Milken Institute.

To close the anticipated gap of more than 20 million jobs requiring post-secondary education, China could also benefit from implementing lifetime learning programs. These programs encourage workers to enhance their skills as their careers unfold. Modeling the approach on Singapore's Continuing Education and Training (CET) master plan could be effective in preparing Chinese workers to enter new, high-demand industries later in their careers.²³ According to the Singapore Workforce Development Agency, CET aims to substantially increase the number of Singaporean workers with diplomas and "equip Singaporeans with the skills for job opportunities in new growth industries, whether they are preparing for new jobs, switching careers or acquiring new skills." Such a system would be especially effective for China as it transitions more of its economy to service industries.²⁴ As with Singapore's CET centers, midcareer and mature Chinese employees (age 40-plus) could be trained to excel in targeted high-growth fields.

Manufacturers in particular could benefit from embracing China's aging population as a solution to the steep challenges they face. For example, anticipating a shortage of skilled workers and engineers, in 2007 BMW established an experimental assembly line in Germany designed to keep older workers healthy and productive for a longer time. It included items that eased the physical stress on the manufacturing line, such as orthopedic footwear and adjustable-height chairs to allow workers to sit.²⁵ Within a year of implementing the program, the assembly line achieved a 7 percent productivity increase and significantly reduced absenteeism.²⁶

This is just one instance of investing in age-sensitive workplace adjustments that pay dividends in employee productivity. Chinese manufacturers can begin addressing labor shortages by retrofitting factories in a similar manner. Additionally, older manufacturing workers could become supervisors and trainers, giving them time and incentive to impart skills to their younger colleagues. The development of age-friendly infrastructure together with a flexible work environment will be essential to maximizing the value of an aging workforce.

23. Singapore Workforce Development Agency, CET 2020, http://www.wda.gov.sg/content/wdaweb/site/L209-001About-Us/CET_2020.html (accessed June 2, 2015).

24. Wharton School of the University of Pennsylvania, "China in 2015: Gauging the New Normal," *Knowledge@Wharton*, January 2015.

25. Centers for Disease Control and Prevention, "Older Employees in the Workplace," July 2012.

26. *Ibid.*

INDIA

OVERVIEW

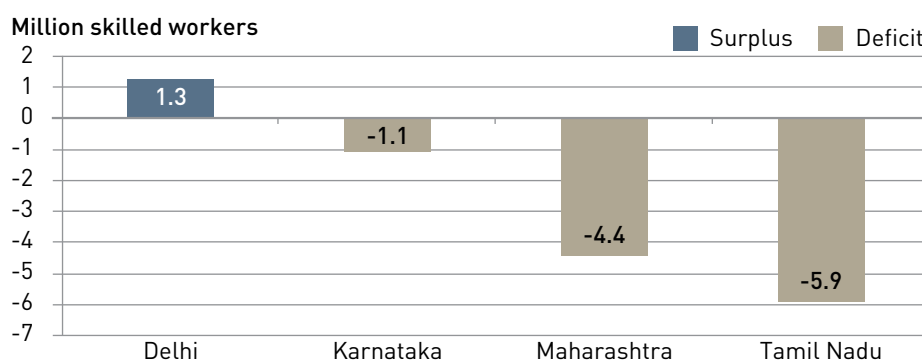
- India has an abundance of low-skilled labor but lacks a sufficient number of workers with vocational training.
- Training younger workers will be imperative but difficult due to teacher shortages in universities and vocational schools. Accelerated teacher training programs can transition older science, technology, engineering and math (STEM) workers into the classroom to help train the next generation of STEM professionals.
- More employers should include older adults in their talent management strategy.

India's labor force outlook is very different from the other countries studied here. It has a relatively young population, with more than 90 percent of its people under 60. However, India will have 234 million who are 60 and older in 2040, second to China in number. India needs a strategy to make its vast young population more employable and its aging population more productive. The nation is making progress on the first issue, training younger generations for jobs. But there remains the need to integrate millions of older adults into the economy without jeopardizing the interests of the young.

Workforce Issues

- Lack of vocational training:** India faces a shortage of workers who have vocational training, such as plumbers. In 2004 and 2005, only 28 million job seekers ages 15 to 29 (11 percent of job seekers in total) had received any vocational training, and only 9 million had received formal vocational training.²⁷ McKinsey projects a shortage of 13 million Indian workers with secondary education by 2020.²⁸ Only a third of new job market entrants satisfy the skills criteria for the positions they seek. With its economy growing and jobs being created, India has to tackle this challenge more energetically.

FIGURE 6: Difference in Incremental Supply of and Demand for Skilled Workers 2012-2022



Note: Includes skilled and semiskilled jobs.

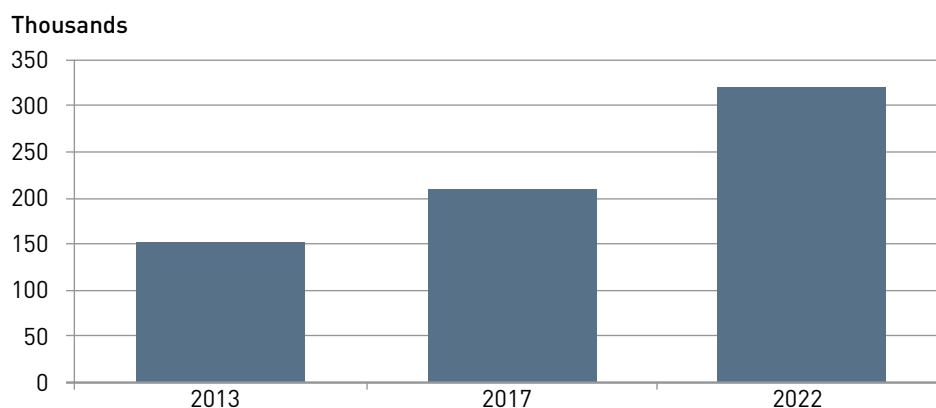
Source: Ernst & Young.

27. CRISIL Centre for Economic Research, "Skilling India: The Billion People Challenge," November 2010.

28. Richard Dobbs et al., "The World at Work: Jobs, Pay, and Skills for 3.5 Billion People," McKinsey, June 2012.

- 2. Dearth of teachers to educate new entrants to the workforce:** One of India's most profound shortcomings is the dearth of teachers and trainers. The nation's student-faculty ratio has progressively worsened, spiking from 20 students for each teacher in 2001 to 28 in 2012.²⁹ And the problem may deteriorate further: The number of teachers required to fill vocational training positions is projected to double from 2013 to 2022.

FIGURE 7: Teachers Required in Indian Vocational Training



Source: KPMG.

- 3. Difficulty filling positions in high-growth industries:** Further, expansion of the service sector, especially information technology, hospitality, banking, financial services, and insurance, has boosted demand, which cannot easily be satisfied. On top of these high-skill jobs requiring more extensive education, the demand-supply mismatch is also acute for jobs requiring basic vocational skills such as welding and plumbing. Experts on India expect that education and skills development services, health care, tourism and hospitality, and information technology will drive India's economic growth. Currently, India's higher education and vocational training systems are contributing only 3.4 million skilled individuals to the talent pool annually. To meet the high demand of the new Indian economy, training capacity must be expanded to an estimated 15 million workers annually.³⁰ Initiatives that are underway, such as the National Skill Development Policy, aim to empower all individuals through improved skills, but do not explicitly address retraining older adults.

Short-Term Strategies

One important step taken to engage older adults was increasing the retirement age for most government employees from 58 to 60 in 1998. There had been discussion within the previous United Progressive Alliance government to raise the age to 62. However, India's current national priority is training the young workforce rather than policies to retrain older workers. The Twelfth Five-Year Plan provides a detailed roadmap for skills development that calls for coordinated action.³¹ As a result, the National Skill Development Corp. (NSDC) was created.

29. Ernst & Young, "Higher Education in India: Vision 2030."

30. ICRA Management Consulting Services, "The Skill Development Landscape in India and Implementing Quality Skills Training," August 2010.

31. Planning Commission, "Twelfth Five Year Plan (2012 – 2017)," Government of India, 2013.

No similar program for older adults has been implemented. However, a few projects at NSDC establish unique methods of engaging them. In most traditional handloom and handicraft clusters, the older, or master, artisans possess the highest degree of skill, and they command a higher price for their goods. For younger artisans, this demonstrates the benefit of associating with and learning from these veterans. In fact, in some of the more organized clusters run by government institutions as well as private industries, the master artisans are given supervisory and training roles, ensuring that their engagement is maximized and sustained. NSDC also certifies the skill level of these older artisans through a process known as Recognition of Prior Learning.³²

However, this is not the case for most industries. According to a survey by global HR consultancy firm Manpower Inc., Indian employers are not adequately integrating older workers into their talent management strategy.³³ Only 14 percent of employers in India have strategies for recruiting older workers, and only 16 percent have means of retaining them. If employers want to seriously tackle the talent shortage and build the quality of their operations, they must look across the spectrum of the workforce and emphasize intergenerational engagement and knowledge transfer.

In this regard, education plays a key role and would benefit as an industry. Presently, more than one-third of teaching positions in central universities are vacant and need to be filled.³⁴ Relaxing some government regulations on teaching in institutions of higher education would enable older adults to temporarily fill vacant jobs.

Further, programs such as the University of Sydney's (Australia) Accelerated Teacher Training degree programs can provide a model for enabling older STEM professionals to transition into the classroom.³⁵ Many older workers can offer part-time vocational training or help develop communication and other non-technical, "soft" skills. India has an excellent opportunity to integrate older workers into the economy by capitalizing on their potential as teachers and trainers.

Industry-specific pilot studies can raise awareness of the importance of expanding older workers' participation. As has been demonstrated by many organizations in other countries, India would benefit from offering flexible work schedules and easier commutes for older workers. This can include home-based opportunities such as data analysis and creative writing. It can also encompass tailoring, tutoring, candlemaking, and running small shops.

32. City & Guilds Centre for Skills Development, "The Recognition of Prior Learning in India," November 2012, http://www.skillsdevelopment.org/knowledge_portal/e-zine/winter_2012/the_recognition_of_prior_learn.aspx (accessed July 2, 2015).

33. Manpower, "The New Agenda for an Older Workforce," 2007.

34. Ministry of Human Resource Development, Government of India.

35. IBM Business Consulting Services, "Addressing the Challenges of an Aging Workforce: A Human Capital Perspective for Firms Operating in Asia Pacific," March 2005.

JAPAN

OVERVIEW

- Japanese citizens' lifespans are among the longest in the world and many are healthy well into old age.
- Employers are finding it difficult to fill jobs. Labor market conditions are extremely tight.
- Current initiatives to address physician and nursing shortages will take years. In the interim, incentivizing older workers nearing retirement to stay on longer can solve shortages.

With a median age of 46.1 years, Japan has one of the oldest populations on Earth.³⁶ One-quarter of its population is age 65 and over, and nearly one-third is at least 60.³⁷ Japanese longevity is explained, in part, by citizens having good health in old age, mainly due to advances in medical technology and nutrition.³⁸ The nation boasts one of the highest life expectancies among OECD nations at 83 years.³⁹ As a result, retirement generally comes relatively late in life. According to the OECD, the average effective retirement ages are 69.1 for men and 66.7 for women.⁴⁰ On average, older individuals work beyond the statutory retirement age.

Japan already has substantial experience coping with an expanding aging population. The government enacted the Law Concerning Stabilization of Employment of Older Persons in 1971, which sets targets for employment by age category (e.g., 6 percent or more of an organization's employees should be between 60 and 65). The act was reviewed in 2004 and subsequently required businesses to implement measures allowing workers to continue working beyond age 60.⁴¹

Workforce Issues

1. **Difficulty filling jobs in many industries:** While older Japanese people are participating in the workforce at higher rates than in other Asian economies, it has not been enough to offset labor shortages in many industries. In a global survey, Japan ranked lowest among all countries, with 85 percent of Japanese firms having difficulty filling jobs compared to the global average of 35 percent.⁴² As also seen in China, the ratio of job openings to applicants now exceeds 1, indicating that more jobs are offered than people seeking jobs.

36. U.S. Central Intelligence Agency, The World Factbook, <https://www.cia.gov/Library/publications/the-world-factbook/fields/2177.html> (accessed May 14, 2015).

37. OECD, Population Statistics, March 2015.

38. International Longevity Center Japan, "Aging in Japan: A Profile of Older Japanese," March 2013.

39. OECD, Better Life Index, May 2015.

40. OECD, Population Statistics, March 2015.

41. Makoto Fujimoto, "Employment of Older People After the Amendment of the Act Concerning Stabilization of Employment of Older Persons: Current State of Affairs and Challenges," *Japan Labor Review* 5, No. 2, 2008.

42. ManpowerGroup, "2013 Talent Shortage Survey Research Results."

FIGURE 8: Job-to-Applicant Ratio in Japan

Source: Bloomberg, Statistics Japan.

2. Acute shortages in essential skilled occupations: Labor shortages abound in industries that require skilled workers, from engineering to information technology, but the scarcity is perhaps most notable in the health-care field. The Ministry of Health, Labor and Welfare has identified a shortage of 24,000 physicians in Japanese hospitals, with more severe problems in certain specialties such as OB/GYN and emergency departments.⁴³ The country has suffered with its doctor shortage for an extended period. Its 2.3 doctors per 1,000 people compares unfavorably to the same statistic in similarly advanced economies: 3.5 for the European Union, 2.8 for the United Kingdom, and 2.5 for the United States. The problem is magnified by the high utilization of health services, with Japanese consulting their doctors 14 times annually—about three times the rate of the U.S. (four times a year) and the UK (five consultations annually).⁴⁴ The dire situation is illustrated by a common saying in Japan: “Three-hour wait, three-minute visit.”⁴⁵

Short-Term Strategies

The Japanese government has begun addressing the shortage of health-care professionals by approving a 50 percent increase in the enrollment quota for medical students. Unfortunately, it will take a significant period of time to produce many new doctors ready to practice. Studies suggest that the physician shortage will persist until at least 2025.⁴⁶ Similarly, the number of nursing care workers—already in short supply—required to support Japan’s aging population is projected to increase by up to 1 million by the same year.

Because importing skilled foreign labor has been politically difficult, and due to the long time lag associated with addressing the shortage by deploying new graduates, extending the careers of older health-care workers may be the best bet for targeting this shortage. With a large cohort of older physicians to tap, hospitals suffering with shortages can offer part-time and flexible work

43. Tomoki Ishikawa et al., “Forecasting the Absolute and Relative Shortage of Physicians in Japan Using a System Dynamics Model Approach,” *Human Resources for Health* 11, No. 41, 2013.

44. Nicolaus Henke, Sonosuke Kadonaga, and Ludwig Kanzler, “Improving Japan’s Health Care System,” McKinsey, March 2009.

45. Adam N. Woolridge et al., “Truth or Fallacy? Three Hour Wait for Three Minutes with the Doctor: Findings from a Private Clinic in Rural Japan,” *Asia Pacific Family Medicine* 9, No. 1, 2010.

46. Ishikawa et al., “Forecasting the Absolute and Relative Shortage of Physicians in Japan Using a System Dynamics Model Approach.”

schedules to encourage their experienced staff to defer retirement. Similar efforts have succeeded in other skilled industries and, notably, with physicians in the United States.⁴⁷

Instead of trying to fill nursing care positions with foreign workers, Japan could consider stepping up efforts to retain essential staff through providing financial credits for employing older people. This has been implemented effectively in Singapore, where employers receive government credits equivalent to 3 percent of salary to keep eligible over-65 employees on the job. This should amount to a net benefit for the Japanese government and economy, as income tax would be generated and consumer spending stimulated. Foreign workers, on the other hand, are more likely to remit part of their income abroad.

Whether in health care, engineering, or any field, incentivizing longer careers and the participation of older workers requires making the work itself meaningful and rewarding. As traditional family structures change, older Japanese are increasingly looking outward, to their work and their communities, to find purpose.⁴⁸ One potential way to create more positive working environments would be the promulgation of “paired work,” in which veteran and younger employees could collaborate. Providing valuable training and mentorship in a managerial capacity could reaffirm older workers’ sense of importance and engagement.⁴⁹

Japan’s government was at the forefront of implementing many educational opportunities for older adults and supporting the lifelong learning philosophy. Reactivating and expanding these efforts could help workers maintain their skills and ensure job retention and mobility even late in life.

SINGAPORE

OVERVIEW

- Singapore recognizes that immigration and pro-birth policies will not provide sufficient pools of talented labor in a timely fashion.
- Enhanced coordination among government, employers, and workers can help produce effective policies that aid businesses and employees alike.
- Lifetime learning programs can strengthen workers’ skills throughout their careers and help them transition into rising industries.

Like many countries, Singapore is facing declining birth rates and lengthening life expectancies. As a result, the population of 60-and-older adults will triple in the next 25 years. As changing customs ease the burden on children to support their parents and other relatives, the need to address how the growing aging population maintains its standard of living and finds purpose is imperative.⁵⁰

47. John Gramer, “Physician Recruitment Trends that Can Help Shape a Successful Strategy,” *Recruiting Physicians Today* 23, No. 1, 2015.

48. International Longevity Center Japan, “The Aging Population and Aged Society: A Profile of Older Japanese,” 2009.

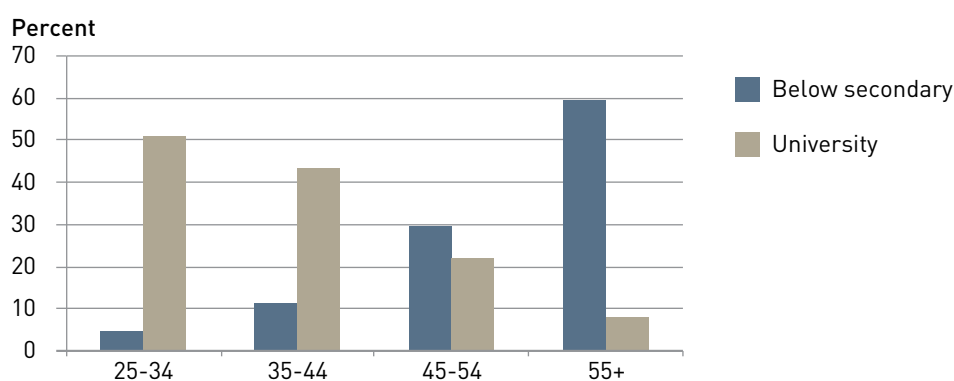
49. The Japan Institute for Labour Policy and Training, “Labor Situation in Japan and Its Analysis: Detailed Exposition 2014/2015,” March 2015.

50. Committee on Ageing Issues, “Report on the Ageing Population, Five-Year Masterplan,” February 2006.

Workforce Issues

1. **Current demographic policies are insufficient to solve workforce shortages:** Pro-birth programs and immigration policies alone can't satisfy the demand for workers, which the government sees as necessary to sustain economic growth. Extending current workers' productive years and utilizing retirees and other dormant workers are among the five strategies the government believes can expand the ranks of working people.⁵¹
2. **Substantial skillset gaps among workers:** Two large segments of the workforce require attention: A cohort with low educational attainment, whose skillsets would be a challenge to enhance. This category includes about 87,000 workers, ages 60-plus, who are employed as machine operators and assemblers, cleaners, and manual laborers.⁵² Such older workers employed in manual, repetitive, and low-skill tasks are at risk of displacement by technological advances. The other segment of the workforce that stirs concern—the “future old” with high educational attainment—is generally more receptive to retraining.

FIGURE 9: Singaporeans by Education and Age Group (2013)



Source: Department of Statistics Singapore.

3. **Chronic health issues for certain types of workers:** The government has identified common chronic diseases associated with certain industries that employ a large proportion of mature workers. To build a sustainable, productive workforce, these industries must be mindful of promoting the long-term health and wellness of their older workers rather than merely addressing acute health issues as they arise.
4. **Persuading employers to retrain mature workers:** Experts in the region note that employers have been concerned about recouping their investments in retraining older workers, who are thought to offer relatively few years of additional productivity. However, extending working lives improves the payback. This idea has become entrenched in Singapore, where officials encourage employers to retain and retrain mature workers in light of looming labor shortages. Beyond welcoming them, employers could facilitate their productivity by making the workplace age-neutral.

51. The five sources for supplementing the active workforce include the dormant workforce (including women who leave their jobs for caregiving), extending the productive years of the current workforce, those who have discontinued their education, foreign labor, and those displaced by technological/productivity advances.

52. Ministry of Manpower, “Singapore Yearbook of Manpower Statistics, 2014,” June 2014.

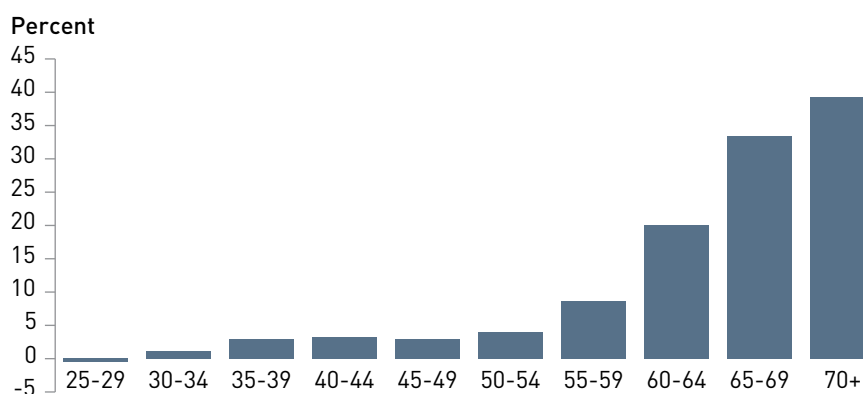
Short-Term Strategies

Singapore is among the few countries that have implemented multiple policies to raise the skills and productivity of older workers, including support of “lifelong learning.” Further, in 2004, the changing population prompted Singapore’s government to establish a Committee on Ageing Issues (CAI) to explore the country’s “demographic realities” and the “way forward” amid those conditions. Among other recommendations, the CAI concluded that Singapore should build a strong network of community services and ensure a high level of job preparedness for workers of all ages.⁵³

To achieve these outcomes, the government identifies “employability of older workers” as an important element in its strategic framework. Singapore adapted lessons from Japan’s experience to inform its Retirement and Re-employment Act. Implemented after five years of collaboration among government, employers, workers, and trade unions, the policy emphasizes flexibility and opportunities for mature workers. This starts with the question of retirement age. Employers are required to offer one-year reemployment contracts to eligible employees from age 62 through 65. Guidelines also encourage employers to offer voluntary reemployment through age 67 and provide an incentive by offsetting up to 3 percent of an employee’s salary if he or she is age 65 or older. Continued employment through these years is voluntary from the employee’s perspective—the policy merely increases opportunity for people who want to work longer.

It is encouraging that labor force participation rates among older workers have risen in recent years. From 2010 to 2014, participation among citizens age 60 to 64 climbed from 51 to 61 percent and participation by those 65 to 69 leaped by one-third, from 31 to 41 percent. Figure 10 shows that the changes were most pronounced in the higher age brackets.

FIGURE 10: Relative Change in Labor Force Participation by Age (2010-2014)



Sources: Ministry of Manpower, Milken Institute.

Additionally, Singapore’s trade unions, employers, and government have collaborated to develop the “WorkPro” scheme. WorkPro helps employers attract and retain mature workers by, for instance, offering incentives to redesign jobs and provide flexible work arrangements. It also promotes job readiness and employability through Job Preparation Workshops and Transport Allowances. The WorkPro scheme has so far drawn substantial participation by small and medium-sized enterprises and benefited more than 50,000 workers.

Singapore also recognizes that extending working lives is only part of the equation. To maintain a competitive economy in the future, the country must also ensure that its workers acquire the requisite

53. Ministry of Social and Family Development, “Report of the Committee on Ageing Issues,” February 2006.

skills to remain valuable to the economy as they age. A report from Singapore's Institute for Adult Learning found that while three-fifths of resident workers ages 25 through 34 found employment in professional, managerial, executive, or technical fields, only about a third of those ages 45 through 54 and a quarter of those age 55-plus worked in those fields.⁵⁴ The country's Continuing Education and Training (CET) Masterplan provides lifelong education and skills upgrading for adults, including centers serving high-demand and new growth sectors to prepare workers for tomorrow's jobs. It also provides for the development of larger national CET campuses capable of training 50,000 adults every year.

Singapore's fiscal 2015 budget provides further support for adult career skills. The SkillsFuture Credit grants adult citizens education and training credits that are renewed at regular intervals, allowing flexibility regarding when an individual may pursue higher learning. Additionally, subsidies for workers 40 and older will be enhanced substantially, to 90 percent of the cost of training. These will help many older workers' technical skills catch up to those of younger generations.

Numerous organizations in Singapore have demonstrated that they value the economic contributions of older workers. Some are making this happen by helping to preserve wellness and prevent illness. Many have developed innovative approaches to harnessing veteran workers' strengths and experience: A report from the Tripartite Alliance for Fair Employment Practices highlights standout businesses that engage mature employees. Chevron Singapore, for example, implements wellness programs, flexible arrangements, and mentoring between senior managers and younger employees. In the Public Utilities Board, the country's water agency, advanced technical training is provided for older employees who have little or no education.⁵⁵

Singapore is making progress in statutory retirement age reform, improving skills and extending working lives, and adopting best practices that leverage the unique abilities of mature workers. While Singapore is relatively small and has unique characteristics, other economies in the region, particularly those examined in this report, could benefit by embracing similar forward-looking policies.

SOUTH KOREA

OVERVIEW

- Many older professionals are pushed out of the workforce in their 50s, causing hardship for retirees who rely on a shaky public pension system and shrinking social support networks.
- Private-sector adoption of new flexible wage schemes could keep valued workers on the job longer and benefit both employers and employees.
- Promoting flexible schedules and extending retirement ages could contribute as many as 1 million workers to the labor force by 2040.

South Korea faces demographic prospects much like Japan's. It will become one of the oldest countries in the world by 2040, when four in 10 South Koreans will be age 65 or older.⁵⁶ The country is

54. Stephen Billet, "Promoting and Supporting Lifelong Employability for Singapore's Workers Aged 45 and Over," Institute for Adult Learning, 2010.

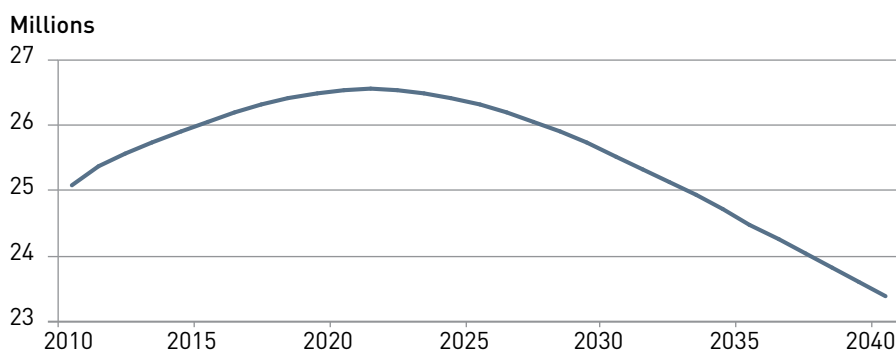
55. Tripartite Alliance for Fair Employment Practices, "Leading Practices for Managing Mature Employees," 2014.

56. United Nations projections.

struggling to match the tremendous economic growth it achieved in previous decades. That growth will need to come from higher productivity and tapping all available resources, using them to their fullest potential. In this regard, the country's expanding older population represents a source of strength.

As in Japan, South Korea's shrinking workforce is a major concern. After 2020, the country's working population is projected to fall 12 percent, from 26.5 million workers in 2020 to 23.4 million in 2040. Skilled labor shortages in health care, engineering, and business services are already intensifying.

FIGURE 11: Projected South Korean Workforce



Sources: OECD, Milken Institute.

By 2040, without changes in public policy and employment practices, there will be only two workers to support every retiree (down from 2015's 6-1 ratio). This will put further strain on an already shaky pension system. Fewer than half of retirees have retirement benefits or a public pension, and, with traditional family support networks waning, nearly half of adults 65 and older live in relative poverty, according to the OECD.⁵⁷ The government conducts a National Senior Public Work program for these lower-income older adults that compensates them for what are traditionally thought of as volunteer activities. It is a step in the right direction, but the program currently reaches fewer than 5 percent of older adults.

The implications of these conditions are significant, and the current labor supply trajectory will undermine South Korea's hopes to recapture the pace of economic growth it enjoyed in the past.⁵⁸ Strategies to boost birth rates or recruiting immigrant workers will not be sufficient to solve the problem in the near future.⁵⁹ With wages in many neighboring countries on the rise, outsourcing manufacturing is becoming difficult as well.

Workforce Issues

- 1. Considerable variation in retirement ages across occupations:** At 71.1 years, South Korea's average effective retirement age is the second-highest among OECD countries, according to that organization, and well beyond the country's current statutory requirement age. Although it is currently hard to imagine extending average working lives beyond the early 70s, an important distinction must be made: Most Koreans who work beyond their 60s are

57. CSIS, "The Aging of Korea: Demographics and Retirement Policy in the Land of the Morning Calm." Poverty defined as 50 percent or less of median household income.

58. McKinsey, "The world at work: Jobs, pay, and skills for 3.5 billion people"

59. Korea Economic Institute, "Low Fertility and a Large Elderly Population in South Korea."

self-employed and tend to be involved in lower-productivity industries such as farming. According to the Ministry of Employment and Labor, more than 80 percent of workers ages 55 to 64 and 95 percent of workers 65 and above are self-employed or in temporary occupations. Korean public officials typically retire between age 57 and 60, while many private-sector workers are forced out in their mid-50s. This exacerbates financial difficulties for middle-aged people who may still be incurring large expenses, their children's college tuition, for example, with no salary or pension to draw on until they reach their 60s.

2. ***Underrepresentation of older adults in high-skilled jobs:*** Medium-size and large Korean firms account for many of the high-skilled, high-productivity jobs in the economy, but fewer than 4 percent of their employees are age 55 or above. This is due at least in part to traditional pay schemes in which workers are relatively undercompensated early in their careers and relatively overpaid later in life as a reward for their years of service. This system requires older workers to retire early, allowing firms to avoid paying high salaries, relative to productivity, years into the future.

Short-Term Strategies

It would help if more Korean organizations reorient their compensation structures for older workers to reflect an era in which individuals can remain productive and capable of staying on the job well past their mid-50s. With the help of recent government incentives, some firms are beginning this sort of reorientation, instituting a “wage peak system” to keep employees working until age 60. Such a system entails gradual cuts to employees’ salaries until they reach a later retirement age. This could be a win-win for employers—who can keep skilled, experienced staff longer—and employees, who have more time to transition to a comfortable retirement. Seventy-two percent of salaried South Korean workers support the wage peak system, with senior employees even more enthusiastic.⁶⁰

The challenge is to motivate more employers to reform their compensation systems in this way. Some large firms in high-tech industries such as electronics (Samsung, LG) and industrial (LS Cable & System) are leading the way in instituting wage peak schemes. These are examples for the rest of Korean employers, most of whom view wage peak schemes less favorably and have yet to undertake such reforms. Going forward, firms requiring high-skilled labor may need to extend retirement ages beyond 60 and allow flexible working arrangements, even if that means modest salary reductions. One study found that cutting back work hours at least 20 percent greatly reduces the retirement rate for older South Korean workers.⁶¹

By lengthening the careers of wage-earning and salaried employees in full- or nearly full-time positions, South Korea can substantially expand its pool of skilled labor. Initiatives are already underway: The government established the Korea Labor Force Development Institute for the Aged, which develops job opportunities for older workers. It has also made considerable efforts to support small and midsize businesses, including the provision of loans, education, and consulting services to retired people who are interested in creating their own operations.⁶²

Incremental changes such as extending statutory retirement ages and increasing government incentives for flexible wage schedules could contribute as many as 500,000 valuable older employees to South Korea’s economy by 2025. Assuming substantial but attainable improvements in participation, the country has the potential to add more than 1 million older workers by 2040, many of whom would be full-time employees in high-tech industries that would otherwise face a shortage of talent.

60. The Korea Herald, “3 in 4 workers support wage peak system.”

61. Lee & Lee, “Employment Status, Quality of Matching, and Retirement in Korea.”

62. Expert interview and Ministry of Health and Welfare, “Social Engagement of Retirees to Be Promoted Through Public-Private Partnerships,” July 2014.

Recommendations

The previous section describes the labor market landscapes for aging populations in several countries and proposes short-term strategies to alleviate some of the problems observed. As we've noted throughout, this paper explores opportunities for mature adults to continue to contribute economically to these societies. Let us underscore, though, that older adults who are unable or unwilling to work should not be coerced. We believe furthermore that younger people who are beginning their careers need not suffer as opportunities for older workers expand and that societies advance by creating collaborative work environments that integrate people of all ages.

The first step in developing a multigenerational work model would be to raise awareness about the benefits it would bring and inculcating mutual respect among age cohorts. In a recent survey of about 500 polytechnic students in Singapore, the younger group often stereotyped older workers in certain professions.⁶³ However, it is encouraging that students who have worked alongside older people tend to have more positive attitudes toward them.⁶⁴ Similarly, in many countries, older adults are skeptical of the skills and ethics of young workers. We believe that if employers were to promote opportunities for intergenerational collaboration, intergenerational respect would follow.

The first step in developing a multigenerational work model would be to raise awareness about the benefits it would bring and inculcating mutual respect among age cohorts.

Second, it should be made clear to older workers that they are not being pressured or forced into extending their working lives. This should be a choice available to them, to enhance their financial security and maintain a sense of purpose. Public-private partnerships can ensure that policies implemented support the interests of employees and employers alike. One encouraging example has been the work of Singapore's tripartite system, involving government, labor, and business. Among the policies to arise from these cooperative efforts was the Retirement and Re-employment Act, which ensures reasonable employment terms and commensurate pay for older workers. It considers the perspectives of both the older employee—who may need more flexibility—and the employer, who needs skilled, competent, and healthy workers.⁶⁵ While Singapore's tripartite system is unique and would be difficult to replicate in other countries, its success demonstrates that all stakeholders can be most effective by working together.

To harness the potential of their mature populations and turn their aging “problems” into solutions, Asian economies will need to comprehensively integrate older individuals into the workplace and society.

63. Warren C.K. Chiu et al., “Age Stereotypes and Discriminatory Attitudes Towards Older Workers: An East-West Comparison,” 2001.

64. Ibid.

65. Singapore government, “Retirement and Re-Employment Act,” revised September 2012.

Six macro-level recommendations follow:

- 1. Enable longer working lives**
- 2. Create age-neutral workplaces**
- 3. Offer flexible work arrangements**
- 4. Incentivize entrepreneurship**
- 5. Nurture a culture of mentoring and community**
- 6. Develop a sustainable model for healthy aging**

1. Enable Longer Working Lives

Longer life expectancies, troubled pension systems, and acute skills shortages in the countries we examined highlight the need to extend employees' careers past traditional retirement when possible. This can be achieved by targeting incentives to both workers and employers. Numerous real world examples have demonstrated the benefits of this policy to employers, but they must take into account older adults' physical and mental ability to work, as well as, of course, their personal inclinations.

ENABLERS

Modernize retirement ages

Retirement ages should be adjusted to reflect the realities of the 21st century. People are living longer, and many are healthy into their 60s, 70s and beyond. China's retirement ages, for instance, have not been revised for decades despite substantial increases in life spans. Longer employment would boost economic growth and strengthen pension systems and social welfare programs. Modest credits to employers for keeping workers on beyond statutory retirement ages can facilitate the demographic evolution of the workforce. Such modernization can be implemented in steps, decreasing potential disruption.

Lifelong skills training

Professional lives can be extended by providing lifelong skills training. Opportunities for education and skills enhancement need not end in young adulthood—ongoing instructional programs will expand a nation's skills base and keep working people apprised of best practices in their fields. Government programs to subsidize tuition and create training centers could target growth industries in which talent shortages are anticipated or already exist.

BEST PRACTICES

Singapore's Continuing Education and Training Masterplan is a leading example of such a program. CET centers provide effective adult training in key industries such as aerospace, finance, and tourism. These facilities also assist with job placement, promoting employability, and extending careers.

2. Create Age-Neutral Workplaces

Older workers can be very productive if provided with the necessary tools and infrastructure. Businesses should explore ways to retrofit workspaces with new features that support the health and accommodate the needs of their aging employees.

ENABLERS

A workplace for all generations

In a recent survey, many Asian employers were not sure what type of work is suitable for older adults. Employers need to examine the positions in their organizations for suitability and in some cases modify working conditions. When employers are comfortable with older workers and foster a culture that accommodates them, younger workers are likely to embrace them too. Experience suggests that creating more “all-generation” workplaces could reduce age discrimination.⁶⁶

Infrastructure to support older workers

Installing new equipment and rotating shifts to avoid prolonged, strenuous tasks can ease the physical burdens on older employees. Improving working conditions for mature employees enables them to focus on their expertise, and businesses can raise productivity and morale while reducing absenteeism. In combination with better workplace ergonomics, office wellness programs (e.g., smoking cessation) can promote long-term health, increase productivity, and reduce a company’s health-care costs.

BEST PRACTICES

BMW improved productivity and reduced absenteeism after launching an age-friendly pilot project on an assembly line with older workers. Equipment—from chairs and floors to footwear and worktables—were altered to ease the physical strain on the staff. These changes cost roughly \$50,000 but paid significant returns, including a 7 percent increase in productivity and reduced absenteeism.

66. Warren C.K. Chiu et al., “Age Stereotypes and Discriminatory Attitudes Towards Older Workers: An East-West Comparison,” 2001.

3. Offer Flexible Work Arrangements

For many older adults, working full-time into their 60s or 70s may not be practical or desirable, but that does not mean their careers must end. Flexible workplace strategies can allow experienced staff to find a satisfactory balance between continuing their careers and transitioning into retirement. For employers, this can mitigate the “brain drain” associated with the departure of older, skilled employees.

ENABLERS

Fewer hours and more personal time, less travel and physical exertion

Depending on the age and health of the individual, employers should be willing to offer flexible hours and the ability to work remotely, if technologically feasible. Age-friendly working arrangements also involve less traveling and physically strenuous tasks.

Seasonality may offer opportunity

Many employers, especially retailers, face high seasonal demand. Older people who want to work on an irregular or occasional basis can help fill the need.

BEST PRACTICES

Flexible arrangements in the form of sabbatical leaves are an effective incentive to talented workers. Such time off allows employees to refresh their abilities and motivation, perhaps even enabling them to transition into new positions within a company. The Stanford Distinguished Careers Institute provides executives with the opportunity to explore other disciplines and grow professionally. This might mean an educator transitioning from secondary to post-secondary teaching, for example, or a doctor designing new health-care delivery systems.⁶⁷ Similar initiatives in Asia could help talented individuals extend their careers and discover creative new paths.

67. Philip A. Pizzo, “New Transitions: A Changing Journey of Life and Health,” In: Paul Irving, *The Upside of Aging* (Hoboken: John Wiley & Sons, 2014).

4. Incentivize Entrepreneurship

Flex-employment and age-friendly workplace adjustments will extend many work lives, but self-employment may be a preferable alternative to working for an organization. Entrepreneurship offers flexibility and freedom for older workers who may possess valuable advantages over younger people such as extensive social networks, greater technical or managerial skills, and long experience.⁶⁸

ENABLERS

Training for self-employment

More can be done to provide entrepreneurship training and to create self-employment opportunities for older workers.

Access to startup capital

Targeted programs to widen access to startup financing could make entrepreneurship a realizable goal for older individuals who are unemployed or transitioning out of organizational employment.

BEST PRACTICES

In the United Kingdom, the Prince's Initiative for Mature Enterprise (PRIME) is an example of a policy that promotes entrepreneurial activities among older adults. PRIME is a charitable initiative partnered with the country's leading employment agency, providing free information, training, workshops, and networking events for employed as well as retired people age 50 and over. From a client survey, PRIME found that nearly half of those who contacted the organization went on to start a business, and it has helped about 2,000 startups annually.⁶⁹

68. Teemu Kautonen, "Senior Entrepreneurship," OECD, 2013.

69. OECD, "Entrepreneurial Activities in Europe: Policy Brief on Senior Entrepreneurship," 2012.

5. Nurture a Culture of Mentoring and Community

The need to continue living a vital, healthy life and achieving a sense of purpose does not end when one's primary career ends. Engaging retired adults through community health initiatives, volunteer opportunities, and civic activities can make communities more vibrant.

ENABLERS

Community Engagement

The most progressive countries are finding ways to promote physical and mental health by keeping people active and engaged. Intergenerational programs give older adults a chance to serve as mentors and role models, which can enhance the mentor's own health and happiness.⁷⁰

Mentoring Opportunities

Mentoring can be a critical component of workforce development. Older workers are stores of knowledge and skill that can be imparted to younger colleagues, whether it involves technical and mechanical operations or soft skills such as dealing with customers effectively. Young workers introduce older counterparts to newer technologies. Good two-way communication can foster intergenerational integration and increase productivity.

BEST PRACTICES

With a substantial mature population, Japan has made efforts to engage its older citizens in "active aging." Its Ministry of Health and Labor launched the Healthy Japan 21 National Health Promotion Campaign for 2000 to 2012, and another campaign is planned through 2022, with the aim of extending healthy life spans and engaging older adults in community activities.⁷¹

Japanese companies are also involved, focusing on connecting aging customers to modern technologies. This spring, the Japan Post Group, IBM, and Apple announced an initiative to distribute free iPads to up to 5 million older citizens. As part of its Watch Over service, Japan Post Group will check in on elderly customers virtually via an iPad, so families can feel secure about their relative's well-being. The iPads will include custom apps developed for older users, allowing them to engage with family, friends, and their communities.⁷²

70. Kumiko Morita and Minako Kobayashi, "Interactive Programs with Preschool Children Bring Smiles and Conversation to Older Adults: Time-Sampling Study," *BMC Geriatrics* 13, No. 111, 2013.

71. Atsuko Tokushige et al., "The Direction of Research on Active Aging and Healthy Life Expectancy in Japan," *Open Journal of Nursing* 4, No. 7, 2014.

72. Apple Press Info, "Japan Post Group, IBM and Apple Deliver iPads and Custom Apps to Connect Elderly in Japan to Services, Family and Community," April 2015.

6. Develop a Sustainable Model for Healthy Aging

As the older cohort expands within the populations of many countries, it is essential to create sustainable ways to ensure healthy aging. The alternative is costly and unsustainable: Older patients suffer from more chronic disease, of course, and generally account for the greatest portion of health-care expenditures.⁷³ For example, Americans age 65 and over comprised 13 percent of the population in 2010 but accounted for 34 percent of health spending. In addition, per-person health spending for the older cohort was five times higher than spending per child and three times greater than spending per working-age person.⁷⁴

ENABLERS

Be proactive about employee health early on

Many chronic diseases result from years of correctable activities or unhealthy behaviors. Monitoring the health of workers in their early, middle, and late careers can help prevent or delay the onset of chronic disease.

Provide health-supporting facilities

Making healthy options available to employees—such as nutritious food in vending machines and cafeterias or exercise equipment—can help maintain health and productivity.

BEST PRACTICES

Singapore's government has identified industries that employ a sizable number of mature workers and determined the chronic ailments and unhealthy conditions associated with each profession. These include taxi drivers (obesity and sedentary lifestyle), bus drivers (stress), and cleaning companies (joint problems). Current preventive efforts include health counseling and screenings, improved nutrition options at bus terminals, and providing exercise equipment.

73. Centers for Medicaid Services, National Health Expenditure Data, 2013.

74. Ibid.

Appendix: Methodology for Simulation Models

For each country featured in this report except Singapore, we project changes in the total workforce from 2010 to 2040. Total workforce is the number of individuals aged 15 and over who participate in the labor force, defined as either working or looking for work. We estimate baseline workforce projections using annual population projections from the OECD's Population Statistics and assuming constant labor force participation rates. We use 2010 labor force participation rates from OECD's Labour Force Statistics as the baseline rate. To enhance the accuracy of the projections, we consider gender and age (five-year groups: 15-to-19-year-olds, 20 to 24, etc.).

This allows us to project alternate scenarios assuming changes in selected older cohorts for men and women. For alternate projections, we assume the country is able to achieve higher participation rates for older individuals. We increase participation rates for older people by 10 to 20 percent depending on the country's unique labor situation and opportunity for improvement. For instance, we assume more substantial (20 percent) increases in participation by Chinese women beginning at age 50, attributable in part to bringing parity to male and female retirement ages. On the other hand, we assume more modest (10 percent) participation increases for older Japanese males, who already have relatively high participation rates. In addition, Japan is in the process of extending the retirement age to 65. Increases of 10 to 20 percent are consistent with studies that evaluate the effect of eliminating mandatory retirement ages in the United States.⁷⁵

Participation rates for the interim years between 2010 and 2040 are linearly interpolated using the 2010 baseline rate and the new 2040 rate assumption. Net changes in the workforce are the total labor force under alternate assumptions minus the baseline projection.

75. Till von Wachter, "The End of Mandatory Retirement in the U.S.: Effects on Retirement and Implicit Contracts."

Labor Force Participation Rate Assumptions

For China, India, Japan, and South Korea, we project changes in the workforce from 2010 to 2040 based on their ability to increase participation rates among older workers using strategies from the Country Focus section, including policies similar to those implemented in Singapore.

10% increase	15% increase	20% increase
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China (Percent)

Age	Female		Male	
	2010	2040	2010	2040
50-54	62.4	74.9	89.8	89.8
55-59	53.8	64.6	80.4	80.4
60-64	40.6	48.7	58.3	67.0
65-69	27.6	33.1	44.8	51.5
70-74	13.9	16.7	25.6	29.4
75+	5.6	6.7	11.3	13.0

India (Percent)

Age	Female		Male	
	2010	2040	2010	2040
50-54	37.8	37.8	95.3	95.3
55-59	31.3	31.3	90.3	90.3
60-64	17.9	20.6	71.4	82.1
65+	14.1	16.2	44.3	50.9

Japan (Percent)

Age	Female		Male	
	2010	2040	2010	2040
50-54	72.8	72.8	95.8	95.8
55-59	63.3	63.3	92.8	92.8
60-64	45.7	52.6	76	83.6
65-69	27.4	31.5	48.9	53.8
70-74	15.9	18.3	29.7	32.7
75+	5.3	6.1	13.6	15.0

South Korea (Percent)

Age	Female		Male	
	2010	2040	2010	2040
50-54	61.3	61.3	90.4	90.4
55-59	53.4	53.4	83.4	83.4
60-64	41.5	47.7	70.2	80.7
65-69	32.3	37.1	53.7	61.8
70-74	25.8	29.7	42.3	48.6
75+	10.6	12.2	22.6	26.0

A Network of Experts

Conversations with many individuals—stakeholders, research colleagues, and experts in the field—were crucial to understanding the aging landscape in our selected Asian countries. We would like to particularly acknowledge these scholars and leaders who shared their time and wealth of knowledge with us. Without their invaluable input, this project would not have been possible.

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About the Authors

Dr. Anusuya Chatterjee is a managing economist at the Milken Institute and an expert in the broad economic impacts of health- and longevity-related issues. She has led research on some of the Institute's highest-profile publications in the areas of chronic disease prevention and management, obesity, the economics of nutrition, investment in medical technologies, and aging. Many of her projects involve providing data-driven evidence to evaluate and recommend objective solutions for a healthy and purposeful life. At present, she is working on projects that measure economic dividends associated with health and economic well-being for older Americans and citizens in other countries. Chatterjee created the influential Best Cities for Successful Aging Index and co-authored a chapter in "The Upside of Aging: How Long Life Is Changing the World of Health, Work, Innovation, Policy, and Purpose."

Her opinion articles have been published in news outlets such as Forbes magazine and the San Diego Union-Tribune, and she is frequently quoted as an expert in mainstream media. Her work has been cited by PBS, the Wall Street Journal, CNN, CBS, the Huffington Post, the Los Angeles Times, and many other outlets. She has presented both in domestic and international conferences and was a fellow of the 2014 Rand Summer Institute on Aging. Chatterjee received a master's degree from the Delhi School of Economics in India and a Ph.D. in economics from the State University of New York, Albany.

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Perry Wong is managing director of research at the Milken Institute. Wong is an expert on regional economics, development, and econometric forecasting and specializes in analyzing the structure, industry mix, development and public policies of a regional economy. He designs, manages and performs research on labor and workforce issues, the relationship between technology and economic development, and trade and industry, with a focus on the development and implementation of economic policy in leading and disadvantaged regions.

Wong is involved in projects aimed at increasing access to technology and regional economic development in California and the American Midwest. He began his career in regional industry analysis, spatial economics, and industry development economics, which he applies to his work

at the Institute in studies such as “The Economic Contributions of Health Care to New England” and “Manufacturing Matters: California’s Performance and Prospects.” His work extends to the international arena, where he is involved in regional economic development in southern China, Taiwan, and other parts of Asia.

Wong has conducted many research studies of regional economic development and policy impacts on both the public and private fronts. These include the impact of U.S. budget and trade policy changes on key U.S. industries and regions; health-care reform and its implications for the U.S. budget; the Kyoto Agreement and its impact on the well-being of U.S. regional economies; the pharmaceutical industry and its contribution to the economy of Pennsylvania, and more. Wong earned a master’s degree in economics at Temple University.



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