The Role of Social Protection in Building, Protecting, and Deploying Human Capital in the East Asia and Pacific Region

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Abstract

Social protection and jobs interventions are key to building, protecting, and deploying human capital. In the East Asia and Pacific region, these interventions are particularly important to ensure that countries in the region can keep up with and take advantage of technological and demographic developments.

- Cash transfers can build health, nutrition, and education, the human capital foundations necessary for people to have productive working lives.
- Skills training, and for poorer households interventions that combine training with financial assistance and mentorship, can continue to build human capital throughout people’s working lives.
- Health and unemployment insurance can protect human capital during periods of negative shocks.
- Employment services and other active labor market policies can help deploy human capital in productive activities.

The objective of this note is to highlight how social protection can help lay the human capital foundations needed for poverty reduction and economic growth in the East Asia and Pacific region while also building, protecting, and deploying the human capital needed to keep up with and take advantage of technological and demographic developments. The note first introduces the human capital development challenge in the region in the context of the World Bank’s Human Capital Project. The note then discusses social protection policies that relate directly to the Human Capital Index, a cross-country indicator of progress on human capital that focuses on the early and school-age years. The final part of the note discusses social protection policies relevant to the broader aim of the Human Capital Project to initiate engagement with client countries about how human capital can be accumulated, protected, and deployed throughout the entire lifecycle. The note considers the potential impacts of the COVID-19 outbreak on human capital, but frames the discussion of social protection and human capital broadly to identify implications relevant to the outbreak but also beyond it.
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The Role of Social Protection in Building, Protecting, and Deploying Human Capital in the East Asia and Pacific Region

Introduction

Social protection and jobs interventions are key to building, protecting, and deploying human capital. In the East Asia and Pacific region, these interventions are particularly important to ensure that countries in the region can keep up with and take advantage of technological and demographic developments. The objective of this note is to highlight how social protection can help lay the human capital foundations needed for poverty reduction and economic growth in the East Asia and Pacific region while also building, protecting, and deploying the human capital needed to keep up with and take advantage of these developments. The note first introduces the human capital development challenge in the region in the context of the World Bank’s Human Capital Project. The note then discusses social protection policies that relate directly to the Human Capital Index, a cross-country indicator of progress on human capital that focuses on the early and school-age years. The final part of the note discusses social protection policies relevant to the broader aim of the Human Capital Project to initiate engagement with client countries about how human capital can be accumulated, protected, and deployed throughout the entire lifecycle. The note considers the potential impacts of the COVID-19 outbreak on human capital, but frames the discussion of social protection and human capital broadly to identify implications relevant to the outbreak but also beyond it.

What is human capital?

Human capital is the knowledge, skills, and health that people accumulate throughout their lives. Human capital is a key ingredient in economically productive lives. More schooling and better schooling mean higher wages. This is particularly the case in the East Asia and Pacific Region where the average rate of return to an additional year of schooling is 10.9 percent, higher than the 8 to 10 percent observed globally (World Bank 2018b). For its part, better health increases productivity and facilitates knowledge acquisition.

Improvements in human capital have been a key component of development in the East Asia and Pacific region. Human capital is a driver of economic growth and poverty reduction throughout the world. Differences in human capital account for a significant portion (between 10 and 30 percent) of differences in per capita gross domestic product (GDP) across countries (Hsieh and Klenow 2010). Investment in human capital has been one of the pillars of East Asia’s growth model. East Asian countries have prioritized investments in basic education, health and nutrition, and family planning to boost labor productivity and increase the inclusiveness of growth (Mason and Shetty 2019). In part as a result of this human capital accumulation, some convergence to “frontier” levels of output per worker has occurred.

What are the challenges facing human capital development in East Asia?

Human capital levels in East Asia are still lagging even as the human capital necessary for productive economic lives is shifting. Human capital levels in developing East Asia are well behind those of Chile and Korea when they transitioned to high-income economies (Mason and Shetty 2019).

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1 This note was produced by Harry Moroz. The note benefited from discussions with Gabriel Demombynes, Ritika D’Souza, Leslie Elder, Margaret Grosh, Amer Hasan, Philip O’Keefe, Robert Palacios, Dena Ringold, Ian Walker, and Michael Weber, and from inputs from Audrey Stienon. The team is grateful for comments provided by Gabriel Demombynes, Margaret Grosh, Keiko Inoue, and Michael Weber.
At the same time, the type of knowledge required for productive economic lives is changing (World Bank 2019b). Countries in East Asia have experienced significant structural transformation with manufacturing and services taking over as the drivers of value added. This has already implied changes in the types of human capital demanded, as jobs have also shifted strongly away from agriculture (Figure 1). This process will continue to unfold throughout the region though in different ways in different countries depending on labor costs, labor mobility, the availability of credit, and many other factors (Mason and Shetty 2019; Sen 2016). Automation, digitalization, and other trends associated with Industry 4.0 will also have an effect, causing some jobs to disappear, others to emerge, and still others to change significantly. There is already evidence that demand is shifting from basic literacy and numeracy skills to socioemotional skills and higher-order cognitive and technical skills (Mason and Shetty 2019). In Vietnam, for instance, nonroutine analytical and interactive skills earn a high premium relative to manual skills (Bodewig and Badiani-Magnusson 2014).

Figure 1: Change in sectoral distribution of employment, 1991 to 2020

Demographic trends are also causing these shifts. The East Asia and Pacific region is aging at a rapid pace, raising concerns about the impacts on growth of a shrinking labor force (World Bank 2016). Increased investment in education and health could help offset the effects of the shrinking workforce (Prettner, Bloom, and Strulik 2013). However, longer working lives, which require the health to be able to continue working and the skills to continue being productive at work, are likely to become necessary as well.

The East Asia and Pacific region’s vulnerability to natural hazards and climate change puts the process of human capital accumulation at risk. Natural hazards can harm human capital with both short and longer-term negative effects on nutrition, education, health, and income-generation resulting from declines in school attendance, increases in child labor, and costly coping strategies that reduce investment in human capital (Baez, de la Fuente, and Santos 2010; Oviedo and Moroz 2014). The East Asia and Pacific region is particularly vulnerable to natural disasters. The region has suffered more than 70 percent of the world’s disasters and 82 percent of its disaster fatalities (Jha and Stanton-Geddes 2013). In 2018, the Philippines and Fiji were among the top ten countries most affected by extreme weather events (Eckstein 2020). Over the longer period between 1999 and 2018, four of the top ten countries most affected were in Southeast Asia: Myanmar, the Philippines, Vietnam, and Thailand. Eight of the 20 countries with the highest average annual disaster losses as a proportion of GDP are Pacific Island Countries (WorldBank_2013b). Climate change is making the
region more vulnerable. Heat extremes, sea-level rises, increasingly powerful tropical cyclones, and saltwater intrusion threaten livelihoods in agriculture, fisheries, and tourism (World Bank 2013c). Cities, particularly the informal settlements that often house the urban poor, are at risk from flooding related to extreme rainfall and sea-level rise and from heat extremes.

**The COVID-19 outbreak represents an immediate threat to human capital that is likely to have long-term consequences.** The COVID-19 outbreak was a significant shock to human capital (World Bank 2020). COVID-19 itself causes illness and death, but has also affected health by shifting resources away from non-COVID-19 health services and leading people to forego medical services due to fears about infection. For example, a third of primary health care networks in Indonesia reported temporary shutdowns of immunizations (World Bank 2020). Transmission control measures have included school closures, disrupting the learning of children throughout the world. School closures are expected to result in declines of 0.8 learning-adjusted years of schooling in China and the ASEAN-5², 0.7 years in the small East Asian economies, and by 0.4 years in Pacific Island Countries (World Bank 2020). Such declines in learning-adjusted years of schooling mean less earnings throughout students’ working lives. Government-mandated transmission control measures, voluntary movement restrictions, and avoidance of social interaction have led to reductions in economic activity that have resulted in significant unemployment and income loss, which limits the ability of households to invest in human capital and can result in harmful coping strategies like limiting food intake. Child mortality, stunting rates, educational attainment, and employment outcomes are all likely to worsen as a result of the COVID-19 outbreak (World Bank 2020).

*What is the link between human capital and social protection?*

**Social protection can play a key role in supporting human capital development in the face of these challenges.** The World Bank’s Social Protection Strategy 2012-2022 emphasizes the importance of social protection in promoting and protecting human capital (World Bank 2012). Social protection’s strength in human capital development comes from the fact that social protection programs can provide both protection from negative shocks and promotion to more sustainable opportunities, sometimes at the same time.

**Social protection can build, protect, and deploy human capital.** Social protection can help lay the human capital foundations needed for poverty reduction and economic growth while also building, protecting, and deploying the human capital needed to take advantage of the rapid technological and demographic developments occurring in the region. Social protection, particularly social assistance, can improve human capital from the early years through secondary school by facilitating and protecting human capital investments. But human capital accumulation does not stop when a person stops attending school. New skills are acquired on the job, in community engagements, through reading and listening to the news, and in myriad other environments. Social protection programs also help ensure that opportunities to learn are available throughout people’s lives, even as working lives get longer and the skills demanded change more rapidly. Still, the human capital that a person has accumulated can be underutilized if potential workers do not engage in employment and can be at risk in the case of unemployment, ill health, or even natural disasters. Social protection policies assist in these cases as well, in the first case by helping to deploy human capital that has already been accumulated through employment services and active labor market policies and in the second case by providing access to subsidized health insurance, unemployment insurance, or social assistance. **Figure 2** summarizes how social protection can help build, protect, and deploy human capital throughout the lifecycle. The table makes two important points clear. First, social protection can

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² Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.
facilitate the accumulation of human capital throughout the lifecycle, beginning in the early years and extending into old age. Second, the accumulation, protection, and deployment functions of social protection build upon, complement, and reinforce each other.

Social protection programs help build and protect human capital by providing income support that permits investment in human capital and protects these investments following negative shocks. Income support includes cash and in-kind assistance, as well vouchers for schooling and health. Income support can allow households to purchase goods like medicine and more nutritious food and services like more education and health care that improve human capital directly (Grosh et al. 2018). This support can also have benefits on time use, stress, and livelihoods that can in turn improve human capital. Income support also includes programs that are scaled up (for example, adaptive social protection systems) or activated (for example, unemployment insurance or disability benefits) in the case of a negative shock.

Social protection programs facilitate access to services that build human capital. This is the case when income support is paired with information or health and education services (Grosh et al. 2018). For example, cash transfers may be complemented with information on nutrition. Income support may be made conditional upon accessing these services.

Social protection programs also facilitate access to productive employment that deploys human capital. Programs of this type include livelihoods programs that create-income generating opportunities and active labor market programs that improve the skills of the existing workforce and enhance the abilities of entrepreneurs (Betcherman and Moroz 2018). Other labor market programs like employment subsidies and employment services have a more indirect effect by helping to ensure that the human capital of the existing workforce is deployed productively.

However, poorly designed social protection policies can actually undermine these objectives. Social protection policies that do not take into account the tradeoffs and changes in incentives that they create can fail to build, protect, or deploy human capital and, in some instances, can even undermine these objectives. For instance, a productive asset grant programs in the Philippines that was targeted to families with child laborers improved household wellbeing but did so by increasing labor among adolescents who were not working at the start of the program (Edmonds and Theoharides 2019). Conditional cash transfers that improve access to services but ignore the availability (and quality) of services can fail to result in outcomes on education, health, and nutrition. Mandatory retirement ages can incentivize early departure from the labor force, wasting human capital. The recent World Bank report Protecting All: Risk Sharing for a Diverse and Diversifying World of Work is motivated in part by the observation that applying the traditional (Western) model of employer-based social protection schemes in developing countries has by the model’s very nature excluded large portions of the population, often the most vulnerable, from protection because they work in informal employment (Packard et al. 2019). This final issue of exclusion is one that is likely to become more pressing as self-employment work becomes more prevalent in East Asia and the Pacific and globally.
Part I: Human capital in the East Asia and Pacific region

What is the Human Capital Project?

The Human Capital Project seeks to generate momentum for increased investments in human capital. Despite strong evidence of the links between human capital and economic growth, the long lag between human capital investments and their returns can mean that human capital is underprovided. The World Bank launched the Human Capital Project (HCP) to help counter the risk of underinvestment. The HCP is a program of measurement, analytical, and advocacy work that aims to encourage countries to invest in human capital by highlighting the cost of inaction and building support for interventions (World Bank 2018). The HCP is designed both to raise awareness about how investments in human capital support growth and poverty reduction efforts and to provide policymakers with the space and tools to learn how to effectively advance human capital goals. The program has three pillars. First, the Human Capital Index quantifies education and health outcomes to raise the profile of human capital. Second, a data and analytical work program seeks to improve the measurement of human capital outcomes. Third, country engagement seeks to identify human capital development priorities and develop policy responses.

The HCP’s Human Capital Index is a tool to identify strengths and weaknesses in human capital development at the country level. The Human Capital Index (HCI) measures the human capital that a child born today could expect to attain by the age of 18 based on their health and education (Kraay 2018). The Index was developed based on the recognition that transparent, easy-to-understand metrics can build cross-country consensus and facilitate knowledge sharing about best practices. The
HCI measures policy outcomes rather than inputs in order to incentivize better, rather than simply more, investments in human capital. The Index is based on three components: survival, schooling, and health. Survival is measured by the under-5 mortality rate reflecting the fact that survival is necessary before human capital accumulation through formal education can occur. Schooling is measured as the number of years of schooling a child can expect to obtain by age 18 adjusted for the quality of this schooling based on performance on international student achievement tests. Health is measured using two indicators. The first is the under-5 stunting rate, which reflects the health of children in early ages, and the second is the adult survival rate, which reflects health outcomes experienced as an adult.

The HCI’s key motivation is that more education and better health translate into higher productivity in the workforce. The HCI is expressed in terms of the contribution of survival, schooling, and health to a future worker’s productivity. Estimates of the returns to an additional unit of education and health are used to link the education and health measures to future productivity, while the probability of surviving past age 5 is used to reflect productivity losses from premature death (children who die before age 5 do not become productive adults). The three components are then combined to show the productivity of a worker relative to the benchmark of full health and complete education (Box 1). Thus, a score of 0.70 on the HCI means that as a future worker a child born today would be 30 percent less productive than they could have been with complete education and full health. The HCI’s components can also be viewed individually to explore the contribution of the individual survival, schooling, and health measures to worker productivity.

Box 1: Creating the HCI using links between human capital and productivity

The HCI is created by translating each of the HCI’s components into its contribution to worker productivity. In order to aggregate the components of the HCI, each component is first transformed into a measure of its contribution to worker productivity relative to the benchmark of complete education and full health. For the survival measure, the productivity associated with the benchmark of all children surviving is reduced by the survival rate: children not surviving to adulthood are not productive. Plausible values for the returns to education and health are then taken from empirical literature for the education and health measures. For the education measure, the returns to an additional year of schooling are set at 8 percent. Thus, each year less than the full 14 years of schooling used as a benchmark in the HCI is associated with 8 percent less productivity. For the health measure, the relationship between adult height and earnings is used along with the relationship between adult height and stunting rates and adult survival rates, which are more widely available than adult height. The HCI uses estimates that reducing stunting rates by 10 percentage points increases worker productivity by 3.5 percent and that increasing adult survival rates by 10 percentage points increases worker productivity by 6.5 percent. The benchmark of full health is set at no stunting and 100 percent adult survival. The HCI is then constructed by multiplying the components together. The resulting HCI values range from 0 to 1: a value of x indicates that the productivity as a future worker of a child born today is a fraction x of what it would be under the benchmark of complete education and full health.


The HCI is designed to provide insight into the foundations of human capital. The HCI includes indicators that create a picture of the human capital of the next generation. This makes the Index an effective tool for investigating policies that affect survival, schooling, and health primarily in the early years. However, the Index does have several weaknesses. First, certain components, such as test scores, are measured infrequently meaning that a country’s HCI score will not change frequently.
Second, data constraints mean that some important measures of human capital accumulation are not included. Third, the Index does not have significant implications for the existing labor force, as measures related to the current workforce and to the utilization of human capital are not included.

The 2020 update of the HCI made progress in addressing some of these weaknesses by introducing two Utilization-Adjusted Human Capital Indexes (UHCIs). The 2020 update provides two measures of how well accumulated human capital is put to use. The “basic” UHCI measure adjusts the HCI using the fraction of the working age population that is employed while the “full” UHCI adjusts the HCI using the fraction of the working age population that is employed in non-agricultural jobs or as employers to account for the fact that such “better jobs” allow for more effective utilization of accumulated human capital (World Bank 2020; Pennings 2020). The HCI team has also investigated the possibility of incorporating measures of tertiary education, human capital obtained through experience, and returns to education but data limitations have frustrated these efforts (World Bank 2019i). Parallel work is being undertaken to explore the possibility of measuring the skills of the workforce using surveys such as the Programme for the International Assessment of Adult Competencies (PIACC), the STEP Skills Measurement Program (STEP), and the Literacy Assessment and Monitoring Programme (LAMP), as well as using the literature on the links between the stock of human capital and economic growth to inform policy dialogue. Measures of non-communicable diseases, which can affect incentives to invest in human capital, will also be explored (Watsa and Weedon 2019).

The HCI has been disaggregated by socioeconomic status and subnational geography to highlight how human capital outcomes vary within countries. The HCI has been calculated for different socioeconomic levels in 50 low- and middle-income countries where data is available and for subnational geographies in 12 low- and middle-income countries on a demand basis (World Bank 2019j). Such disaggregation provides insight into how to prioritize different interventions to improve human capital for poor households and for households in lagging regions (Box 2).

**Box 2: Disaggregating the HCI**

**Disaggregating the HCI by socioeconomic status and geography has several advantages.** The national HCI allows for cross-country benchmarking of human capital but does not take into account differences in human capital within countries. These differences are important for policymakers to understand in order to target investments in human capital to the people who are most in need. Uncovering differences in the HCI can also identify subnational administrative units that are doing well in addressing human capital needs, and allow policymakers to learn from their practices. The HCI can be calculated for different income groups and at any subnational unit as long as representative data are available.

**Disaggregating the HCI shows that there are significant differences in human capital outcomes across income groups and geographies.** Comparing the results of disaggregation across countries shows that there are significant disparities in human capital outcomes across socioeconomic groups, with richer groups having better outcomes than poorer ones. Overall, about a third of the difference in these outcomes is related to variation across socioeconomic groups at the country level. Within the HCI’s components, child survival and expected years of schooling have smaller gaps between the rich and poor in wealthier countries than in poorer countries. Based on evidence from 12 countries, disaggregating the HCI by subnational geographies shows that wealthier regions have better human capital outcomes, with outcomes that are frequently more than 10 percentage points higher in the best than in the worst performing regions. However, the
The Human Capital Project’s other two components expand its focus beyond the HCI’s emphasis on the next generation of workers. The second component of the HCP, scaling-up measurement and research, is a data and analytics program intended to improve how human capital outcomes and the contributors to human capital are measured, researched, and understood. The research is intended to contribute to knowledge of the policies that countries can use to rapidly increase their human capital. The third component is country engagement. This pillar encompasses the range of World Bank initiatives to work with governments to identify national priorities for human capital development and to support the implementation of policies that tackle the barriers to their human capital goals. The strategy for country engagement emphasizes the need for a “whole-of-government” approach in which policies are sustained across political cycles, create links across sectors, and rely on evidence-based policy design. Both of these components help tailor the HCP to a country’s needs, leveraging what the HCI says about human capital but also moving beyond it to identify country-specific constraints to human capital accumulation including in the existing workforce. Taken together, the three pillars allow countries to assess their level of human capital relative to others, improve their understanding of how human capital can be measured, identify policies that will enable human capital accumulation, and access resources to implement the policies relevant to their national context.

The Human Capital Project is playing an increasingly important role in the World Bank’s engagements in the East Asia and Pacific region. Through the HCP, the World Bank is working to fully integrate human capital into its policy dialogue in the East Asia and Pacific region. These efforts are directed toward supporting improvements in the quality of spending on human capital investments, strengthening service delivery systems, investing in human capital development data, supporting the leadership of the Association of Southeast Asian Nations to champion human capital investments, and facilitating knowledge sharing. A new global Learning Poverty indicator that builds on the HCI is being used to understand learning challenges and to formulate a literacy policy package in response, though data is currently available in only a few countries in the region. Cambodia, Indonesia, Papua New Guinea, the Philippines, and Vietnam have signed up to be Human Capital Project member countries, up from 3 after the initial launch of the HCI, which signals a prioritization of human capital to drive their economic development. Indonesia has incorporated human capital into its new Medium-Term Development Plan 2020 and has introduced an annual measure of stunting (World Bank 2019d). Progress related to the HCP has been made in several countries in the region. The Philippines participated in the Trends in International Mathematics and Science Study, which is used to calculate the HCI, for the first time since 2003. Vietnam is working to strengthen data to understand differences in outcomes by ethnicity. Finally, country economic monitors in Lao PDR, Malaysia, Myanmar, the Philippines, and Thailand have explored the link between human capital and economic growth (World Bank 2019, 2019d, 2019e, 2019f, 2019g, 2019h).

What does the Human Capital Index say about social protection-related human capital priorities in the East Asia and Pacific region?

Weaknesses in education quality and high stunting rates mean that a child born in the East Asia and Pacific region today can expect to be only half as productive as they could have been with full education and health. The low- and middle-income countries of the East Asia and Pacific region have a relatively high average HCI score of 0.52 compared to other developing regions, though...
the developing Europe and Central Asia region outperforms developing East Asia and Pacific significantly with a score of 0.61 as does the developing Latin America and the Caribbean region with a score of 0.55 (Figure 3). Still, EAP’s score of 0.52 implies that a child born in the region is expected to be only 52 percent as productive as a child born with full schooling and full health. Following the global trend, the HCI score of women (0.54) is slightly higher than that of men (0.50). The overall HCI score can then be broken down into its survival, school, and health components. Figure 4 shows how far each of these components are from full education and full health. Education quality and stunting are the main components lowering the region’s overall HIC score.

![Figure 3: The 2020 HCI overall and by gender across global regions](image1)

![Figure 4: The distance of the 2020 HCI components to full schooling and health](image2)

Note: High-income countries are excluded. Source: World Bank Human Capital Index 2020.

Human capital accumulation varies significantly across countries in the East Asia and Pacific region. Including its high-income countries, the region has four of the top five scores in the world including global top performer Singapore with a score of 0.88. Among low- and middle-income countries, several including Vietnam (0.69) and Kiribati (0.49) score substantially better than their income level predicts (Figure 5). However, many other countries in the region score worse than their income level predicts, including Lao PDR (0.46), Fiji (0.51), and Malaysia (0.61).
Performance on individual HCI components generally follows performance on the overall HCI. Table 1 shows the score of each country in developing East Asia and Pacific on each component of the HCI (Appendix 1 shows the HCI scores for females and males separately). Vietnam and China are the top two performers on both the overall HCI and many of its individual components. Papua New Guinea, the Marshall Islands, and the Solomon Islands, in contrast, are low performers both overall and across many of the HCI’s individual components. There are some exceptions, however. Mongolia scores highly overall, but poorly on the adult survival rate. Tonga scores poorly overall, but highly on stunting.

- **Survival.** All countries in the region have high survival rates among children under age 5 with a small gender disparity in favor of females.

- **Education.** The average child born in the East Asia and Pacific region is expected to spend slightly more than 11 years in school. The Solomon Islands, the Marshall Islands, Cambodia, and Myanmar all have fewer than 10 years of expected schooling. As shown in Figure 4, education quality is the weakest HCI component for countries in the region. This is especially true in several Pacific Island Countries (e.g. Tuvalu, Vanuatu, and the Solomon Islands) and in the Philippines and Lao PDR where test scores are around 70 percent of regional top-performer Vietnam. Education quantity and quality together result in a regional average of 7.2 learning-adjusted years of schooling. Several Pacific Island Countries perform poorly on this measure, as well, while Vietnam, China, and Mongolia perform the best. Gender disparities are generally small and favorable to females on the education measures, but females are expected to obtain more than a year of additional learning-adjusted schooling than males in Kiribati and Samoa and, outside the Pacific, more than half a year in Malaysia, the Philippines, and Vietnam while males are expected to obtain around 0.4 years more learning-adjusted schooling than females in Papua New Guinea.

- **Health.** Stunting is a challenge in several EAP countries, where on average only around three quarters of kids under age 5 are not stunted. Half of all children in Papua New Guinea and Timor-Leste are stunted, making them two of the six countries with the worst stunting rates in the world. Stunting rates are also 30 percent or higher in the Marshall Islands, Lao PDR,
Cambodia, the Solomon Islands, and the Philippines. Males have higher stunting rates, particularly in the Marshall Islands, Vanuatu, and Timor-Leste. Several countries have relatively low adult survival rates. Despite its high overall HCI in the region, Mongolia’s adult survival rate of 0.80 is one of the worst in the region. Women have higher survival rates in every country.

<table>
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<th>Country</th>
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</table>

"-" indicates not available.

Note: The table is ordered from highest to lowest Human Capital Index score. The Human Capital Index and each component is shaded from green (the highest score) to red (the lowest score).

Source: World Bank Human Capital Index.

The HCI and its components show specific areas in which countries in the East Asia and Pacific region need to work to lay the human capital foundations for the next generation. While several countries in the region have significant improvements to make across all elements of human capital, the HCI points out areas of particular need across countries. Four clusters of investment types emerge.
from comparing the distance of each HCI component to full schooling and health (Table 2). The top two priorities of most countries in the region are education quality and stunting (China, Indonesia, Lao PDR, Malaysia, Marshall Islands, Myanmar, Papua New Guinea, the Philippines, Timor-Leste, Vanuatu, and Vietnam). A second group – all in the Pacific Islands – has education quantity and quality as their top two priorities (Kiribati, Samoa, Solomon Islands, Tonga, and Tuvalu). For a third group, education quality and adult survival are their top priorities (Fiji, Micronesia, Mongolia, and Thailand). Only Cambodia has education quantity and stunting as the top two priorities.

Table 2: The distance of the 2020 HCI components to full schooling and health

<table>
<thead>
<tr>
<th>Country</th>
<th>HCI</th>
<th>Survival</th>
<th>School quantity</th>
<th>School quality</th>
<th>Stunting</th>
<th>Adult survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>69%</td>
<td>98%</td>
<td>92%</td>
<td>83%</td>
<td>76%</td>
<td>87%</td>
</tr>
<tr>
<td>China</td>
<td>65%</td>
<td>99%</td>
<td>94%</td>
<td>71%</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>Mongolia</td>
<td>61%</td>
<td>98%</td>
<td>94%</td>
<td>70%</td>
<td>91%</td>
<td>80%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>61%</td>
<td>99%</td>
<td>89%</td>
<td>71%</td>
<td>79%</td>
<td>88%</td>
</tr>
<tr>
<td>Thailand</td>
<td>61%</td>
<td>99%</td>
<td>91%</td>
<td>68%</td>
<td>89%</td>
<td>87%</td>
</tr>
<tr>
<td>Samoa</td>
<td>55%</td>
<td>98%</td>
<td>87%</td>
<td>59%</td>
<td>95%</td>
<td>89%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>54%</td>
<td>98%</td>
<td>88%</td>
<td>63%</td>
<td>72%</td>
<td>85%</td>
</tr>
<tr>
<td>Tonga</td>
<td>53%</td>
<td>98%</td>
<td>83%</td>
<td>62%</td>
<td>92%</td>
<td>83%</td>
</tr>
<tr>
<td>Philippines</td>
<td>52%</td>
<td>97%</td>
<td>92%</td>
<td>58%</td>
<td>70%</td>
<td>82%</td>
</tr>
<tr>
<td>Fiji</td>
<td>51%</td>
<td>97%</td>
<td>81%</td>
<td>61%</td>
<td>91%</td>
<td>78%</td>
</tr>
<tr>
<td>Micronesia, Fed. Sts.</td>
<td>51%</td>
<td>97%</td>
<td>84%</td>
<td>61%</td>
<td>-</td>
<td>84%</td>
</tr>
<tr>
<td>Kiribati</td>
<td>49%</td>
<td>95%</td>
<td>80%</td>
<td>66%</td>
<td>-</td>
<td>81%</td>
</tr>
<tr>
<td>Cambodia</td>
<td>49%</td>
<td>97%</td>
<td>68%</td>
<td>72%</td>
<td>68%</td>
<td>84%</td>
</tr>
<tr>
<td>Myanmar</td>
<td>48%</td>
<td>95%</td>
<td>71%</td>
<td>68%</td>
<td>71%</td>
<td>80%</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>46%</td>
<td>95%</td>
<td>76%</td>
<td>59%</td>
<td>67%</td>
<td>82%</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>45%</td>
<td>97%</td>
<td>72%</td>
<td>56%</td>
<td>71%</td>
<td>87%</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>45%</td>
<td>95%</td>
<td>76%</td>
<td>59%</td>
<td>54%</td>
<td>86%</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>45%</td>
<td>98%</td>
<td>77%</td>
<td>55%</td>
<td>-</td>
<td>79%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>43%</td>
<td>95%</td>
<td>74%</td>
<td>58%</td>
<td>51%</td>
<td>78%</td>
</tr>
<tr>
<td>Marshall Islands, Rep.</td>
<td>42%</td>
<td>97%</td>
<td>67%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>42%</td>
<td>98%</td>
<td>60%</td>
<td>56%</td>
<td>68%</td>
<td>86%</td>
</tr>
</tbody>
</table>

"-" indicates not available.  
Note: The HCI components with the two lowest percentages are shaded red.  
Source: World Bank Human Capital Index.

Disaggregating the HCI can reveal important links between human capital and priorities for social protection policy within countries in the region. In the East Asia and Pacific region, the HCI has been disaggregated for different socioeconomic groups in Myanmar, the Philippines, and Vietnam and for different subnational regions in Indonesia, the Philippines, and Vietnam. In the Philippines, the disaggregation reveals lessons for how social protection interventions can be targeted to have greatest impact. First, disaggregating the HCI by socioeconomic status shows that the Index is correlated with poverty (Figure 6). This illustrates the potential of the Pantawid Pamilyang Pilipino Program, a targeted conditional cash transfer program discussed in greater detail below, to address the greater human capital needs of the poorest. The program seeks to address the intergenerational

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3 Note that Table 2 provides country-specific areas for improvement. For instance, Vietnam has the least distance to go in terms of school quality of all countries in the region. However, besides stunting, school quality is the category where Vietnam has the most improvement to make.
cycle of poverty by raising school enrolment rates, encouraging early childhood education, and increasing health-seeking behavior. Second, disaggregating the HCI by region shows that the index is especially low in the conflict-affected Autonomous Region of Muslim Mindanao and in the typhoon-vulnerable Eastern Visayas region (Figure 7). This emphasizes the importance of helping households in areas vulnerable to conflict and natural disasters to protect the human capital of their members, including through emergency cash transfers that can prevent declines in spending on schooling and health. This adaptive approach to social protection is a particular interest in the Philippines, as described later in the note. In Vietnam, additional disaggregation has been undertaken to understand how human capital outcomes vary by ethnicity (World Bank 2019j). This disaggregation shows that ethnic minorities score much lower than the ethnic majority Kinh. For example, stunting rates are twice as large among ethnic minorities as among the Kinh.

**Figure 6: The HCI in the Philippines by socioeconomic status**

**Figure 7: The HCI across regions of the Philippines**


Social protection programs can help build the foundations of human capital in these priority areas. Part II of this note examines how social protection programs can build human capital outcomes by addressing the different priorities identified by the Human Capital Index.

**Part II: The role of social protection in building human capital foundations**

*Given the priorities identified in Part I, how can social protection help lay the human capital foundations needed for poverty reduction and economic growth?*

Social protection, particularly social assistance, can improve human capital from the early years through secondary school by facilitating and protecting human capital investments. Social protection is an effective tool for human capital accumulation from the early years through childhood and adolescence. Social protection programs can encourage investment in the next generation and help protect these investments in the face of shocks. Impacts can be both direct by facilitating purchases of more and better education and health care, and indirect by improving intermediate outcomes like time use that then have beneficial impacts on human capital. Importantly, the impacts of these programs are often largest for the most disadvantaged groups. For instance, cash transfers can increase the use of health services and improve dietary diversity, and in some cases result in improvements in health, nutrition, and cognitive development outcomes (Bastagli et al. 2016; De Walque et al. 2017; Rawlings 2019). Cash transfers can also increase school enrolment and
attendance, and in some cases improve learning and cognitive development outcomes (Baird et al. 2014; Bastagli et al. 2016; Grosh et al. 2018). The impacts of conditional cash transfers on schooling seem to persist in the long term (Millán et al. 2019). Positive impacts have also been found on maternal depression and stress, sexual and reproductive health, and child labor (de Walque et al. 2017; Bastagli et al. 2016; Grosh et al. 2018). Literature on the impacts of public works programs on human capital is scarcer. Quasi-experimental research on India's National Rural Employment Guarantee Scheme has found that access to the program improves children's performance in reading comprehension and math, but also that the scheme decreases school enrollment and math scores for children between ages 13 and 16 by increasing the opportunity cost of schooling (Mani et al. 2019; Shah and Steinberg 2015).

Countries in the East Asia and Pacific region are not large spenders on social assistance programs, but countries in the region have expanded these programs in recent decades in response to economic transitions. On average, countries in the region spend 1.1 percent of GDP on social assistance, which is below the global average of 1.5 percent but comparable to rates in the Middle East and North Africa (1.0 percent) and in South Asia (0.9 percent) (World Bank 2018d). Still, social assistance programs have expanded in recent decades in some cases as a result of transitions to market economies (Vietnam and China), in other cases as a result of global market fluctuations (Indonesia and the Philippines), and in still other cases as a result of efforts to shift away from dependence on development partners (Cambodia, Lao PDR, and Myanmar) (Dutta 2019). Aside from Fiji and Timor-Leste, the Pacific Island countries have largely not participated in this expansionary trend.

Conditional cash transfers are especially popular in the East Asia and Pacific region. Unlike in South Asia where unconditional cash transfers are more common, countries in the region are more likely to use conditional cash transfers (CCTs) (Box 3). The flagship social protection programs of Indonesia and the Philippines, for example, are multi-purpose CCTs used to extend assistance to poor households while also advancing national health and education priorities. Low-income countries like Cambodia and Myanmar have used scholarship or stipend programs, though new CCTs are being piloted in both countries. UCTs are uncommon with the exception of programs to provide assistance following shocks or as part of social pension systems.

**Box 3: Conditionality in cash transfers in the East Asia and Pacific region**

Cash transfer programs vary in the conditions placed on beneficiaries to receive the transfer. At the extreme, unconditional cash transfer programs provide cash to beneficiaries without specifying any conditions on how the cash will be used. These transfers tend to be motivated by evidence that the main obstacle facing households is a lack of cash. Conditional cash transfer programs use the transfers to encourage certain types of investments, most typically in education and health. Conditional programs tend to be motivated by evidence that households are underinvesting in these areas because of incorrect beliefs or limited information about the returns to health and education, because of the significant externalities of these investments, or because of political economy considerations that make conditionality more political attractive. In reality, cash transfer programs tend to lie on a continuum of conditionality depending on target populations, design, and rigor of enforcement. While evidence comparing the effectiveness of conditional and unconditional cash transfers is lacking, there is some evidence that conditional programs have larger effects on human development outcomes.

Conditional cash transfers have typically been more common in the East Asia and Pacific region, though mixed programs with elements of both unconditional and conditional cash
transfers are appearing. Unconditional cash transfers are fairly uncommon in the region, perhaps reflecting political economy considerations in line with the general preference in the region for welfare models linked to economic development. Conditional cash transfer programs with human development objectives are more common, including the Pantawid Pamilyang Pilipino Program (4Ps) in the Philippines and the Program Keluarga Harapan (PKH) in Indonesia as well as school stipends and scholarships in Cambodia and Myanmar. Programs that combine elements of conditional and unconditional cash transfers are emerging, including Indonesia's PKH, which includes a basic transfer along with additional conditional payments. Indeed, this reflects evidence that conditional and unconditional cash transfers should be viewed not as competitors but as complements in order to accomplish different objectives for different target groups depending on the context. The growing mix of types of cash transfer programs provides some evidence of an evolution in the region to a more robust overall approach to social protection as these programs are institutionalized and expanded.

Source: Authors based on Baird et al. 2014; Baird, McIntosh, and Özler 2016; Fiszbein and Schady 2009; Infante-Villaroel (2016).

Conditional cash transfer programs in the region have generally had positive impacts on health outcomes. In the Philippines, the Pantawid Pamilyang Pilipino Program (4Ps) was introduced to help poor households following the 2008-09 global financial crisis. The national CCT conditions the provision of health grants on five conditions of health-related behavior, including that children attend monthly visits at health stations and that women attend trimestral consultations during pregnancy. The 4Ps CCT has resulted in beneficiaries increasing their use of maternal services (such as antenatal and postnatal care) and child health services (including growth monitoring and deworming pills) (Acosta and Velarde 2015). For example, mothers who receive 4P transfers accessed postnatal care in 7 out of 10 live births, compared to 5.5 in 10 births among non-beneficiaries. Despite successes in improving the use of maternal and child health services, the 4Ps CCT in the Philippines did not have discernable impacts on wasting, underweight, and stunting (Acosta and Velarde 2015). In Indonesia, results were also positive. Two impact evaluations showed that the Program Keluarga Harapan (PKH) CCT program for poor households expanded access to healthcare among beneficiaries, increased child immunization rates and neonatal visits, and led to a 2.7 percent reduction in severe stunting (World Bank 2017). While there is no government-implemented social assistance program supporting health in the early years in Cambodia, pilot CCTs designed to improve maternal and child health have increased the use of health services and food consumption among children and pregnant women and reduced stunting (World Bank 2018c).

Cash transfers and education stipends and scholarship programs have improved educational enrollment. The 4Ps CCT provides up to three education grants per household for enrolling children in school. One study found that 4P grants increased school enrollment by 10 percent for children ages 3 to 5 and by 4.5 percent for children ages 6 to 11 (Acosta and Velarde 2015). Another study found that children in beneficiary households worked 7 fewer days per month compared to children in non-beneficiary households. Again, results were also positive in Indonesia. Children in households benefiting from Indonesia's PKH CCT were 8.8 percent more likely to transition from primary to secondary school than were children from non-beneficiary households (World Bank 2017). Positive impacts of cash transfers on education have been found in other countries in the region, as well. In China, an education-focused CCT reduced junior high school dropout rates by 60 percent and increased matriculation into high school (Li et al. 2011; Mo et al. 2013). In Cambodia, a scholarship program was found to increase school enrollment by 20 percentage points and reduce the rates at which children worked for pay by 10 percentage points, while an earlier scholarship was found to increase enrollment rates by 30 percentage points, especially among girls from the most
disadvantaged households (Ferreira, Filmer, and Schady 2017; Filmer and Schady 2008). There is limited evidence on the impact of these programs on learning outcomes. Cambodia’s CESSP scholarship did not have an impact on learning (Filmer and Schady 2009). Reviews of evidence of the impact of cash transfers on outcomes globally show no or small effects on test scores and cognitive development (Snilstveit et al. 2016; Baird et al. 2014; Garcia and Saavedra 2017; Bastagli et al. 2016).

**Several countries in the East Asia and Pacific region are considering cash transfer programs.** Several countries in the region are turning to CCT programs to provide assistance to poor households while strengthening maternal and child health. In Myanmar, the Maternal and Child Cash Transfer program provides monthly cash transfers to pregnant and lactating women until their child is two years old. Some beneficiaries also attend social and behavior change communication support groups to learn how to improve maternal and infant nutrition. Evidence from a midline survey showed improvements in dietary diversity and knowledge and behavior changes (Save the Children 2018). The program is in the process of expanding to additional regions with World bank support. Both Lao PDR and Cambodia are proposing CCT programs to support vulnerable women and children. In Tonga a CCT is being planned that aims to increase secondary school enrolment and attendance and encourage grade completion.

**Adaptability is increasingly being introduced into social protection systems so that they can be adjusted and expanded to protect households in case of natural disasters, conflict, and other shocks that might negatively affect human capital.** Conflict, natural disasters, and other large-scale negative events put poor and vulnerable households at risk of needing to resort to costly coping mechanisms that erode human capital (Oviedo and Moroz 2014). Adaptive social protection systems incorporate features that allow traditional social protection programs like safety nets to be scaled up in the case of shocks, helping to link social protection more closely with humanitarian responses. Scaling up these programs helps mitigate the impact of negative shocks on human capital. Creating adaptive social protection systems often involves the creation or use of existing social registries to identify potential beneficiaries or ex-ante identification of vulnerability to climate and other risks. Adaptive social protection systems also put an emphasis on interventions that build household resilience through skills training and livelihoods diversification. Such systems can be created through relatively small changes to design, such as protocols in the Philippines’ 4Ps program that allow conditionalities to be suspended during a “state of calamity” and in Thailand for unemployment benefit extensions in emergencies (e.g. the 2011 flood and the global economic crisis) (WFP 2019). The response to Typhoon Yolanda in the Philippines is an example of how existing social assistance schemes can be scaled up to protect households in the case of a natural disaster. After the typhoon hit the Philippines in 2013, the World Food Program and the United Nations Children’s Fund were able to rely on the 4Ps CCT program and the Listahanan social registry used for targeting to channel additional cash transfers to populations affected by the typhoon (Aldaba 2019). Such a scale-up has also been undertaken in the Pacific. After Tropical Cyclone Gita hit Tonga in 2018, existing beneficiaries of the government’s two primary social assistance programs were provided with an additional top-up payment (Government of Tonga 2018).

**Part III: Building, protecting, and deploying human capital throughout the lifecycle**

*Given evolving technologies and demographics in the East Asia and Pacific region, how can social protection facilitate transitions into the labor force and promote lifelong learning to take advantage of the opportunities created by these trends?*

**Jobs are required to put human capital to economically productive use.** The human capital accumulated during the early years of development through childhood and adolescence is put to
productive use in employment. Economic output is determined by the interaction between physical capital and the quantity and quality of labor. Thus, the gains from human capital can only be realized if people engage in work.

**The human capital that has been accumulated during a person’s early years can be underutilized if potential workers do not engage in employment.** For instance, in many countries in the East Asia and Pacific region, labor force participation rates are substantially lower for women than for men, implying that valuable human capital of a segment of the labor force is underutilized (Figure 8). In several countries in the Pacific, participation rates are around 50 percent or below for both women and men. Human capital can still be underutilized even when it is activated in the labor market, as when young people struggle to find jobs as they transition from school to work or when the skills of the workforce do not match the needs of employers. Most countries in the East Asia and Pacific region have low youth unemployment rates relative to the global average of 13 percent (Mongolia and Indonesia are notable exceptions). But skills mismatches seem to be an increasing problem. In several countries in East Asia unemployment rates actually increase along with education levels (Figure 9). The causes are likely multifaceted and related to the quality of education, preferences about the types of jobs available, constraints to finding employment, and other factors. However, this phenomenon underscores the importance of investigating how accumulated human capital is utilized and finding mechanisms to utilize it more effectively (Box 4).

![Figure 8: Labor force participation rates in 2018 in the East Asia and Pacific region](image)

![Figure 9: Unemployment rates by education level in the East Asia and Pacific region](image)

**Box 4: Creating a measure of human capital utilization**

The 2020 Human Capital Index report includes two measures complementing the HCI that take into account how well human capital is utilized. The “basic” utilization-adjusted human capital index (UHCI) uses the share of the working age population that is employed as a proxy to adjust the HCI for how well accumulated human capital is put to use. However, because not all jobs use human capital equally, a second “full” UHCI measure uses the share of workers who are non-agricultural employees or employers—a proxy for better jobs—to adjust the HCI for utilization. The two UHCIs measure the long-run income gains from moving to full human capital and full...
utilization of human capital. Thus, a UHCI score of 0.3 means that a child born today will only be 30 percent as productive as they would be with full education and health and with full utilization of their labor. Concerns about data quality, particularly in how employment rates and better employment is measured, mean that the UHCIs should be interpreted with caution, particularly individual country scores which are the most sensitive to the data measurement issues. The UHCIs are lower in East Asia and Pacific than in Europe and Central Asia and in Latin America and the Caribbean, while they are higher than in the Middle East and North Africa, South Asia, and Sub-Saharan Africa (Figure 10). In most countries in East Asia and Pacific, as in the rest of the world outside of the Middle East and North Africa where employment rates are very low, the gap between actual and full human capital is more important than the gap between actual and full human capital utilization in explaining the size of the UHCI. In other words, the HCI matters more than its utilization in explaining the UHCI. In contrast to the HCI where gender gaps are modest and favor females, the UHCIs make clear the challenging employment prospects that women face in countries around the world (Figure 11). UHCIs are substantially lower for women in every region in the world.

Figure 10: Full and basic UHCIs by region

![Full and basic UHCIs by region](image)

Source: Pennings (2020).

Figure 11: Basic UHCI by gender and region

![Basic UHCI by gender and region](image)

Source: Pennings (2020).

Changing technology and demographics are altering how human capital is deployed in the East Asia and Pacific region. First, technological developments are changing the human capital that is valued in workplaces across the region. While some research has warned about the potential for automation to displace large numbers of workers from employment in the East Asia and Pacific region, the ultimate impact will depend on the pace of technological change, the cost of new technologies, and even social and cultural norms related to specific technologies. Still, technology is changing the skills that are in demand. Technological changes are increasing demand in the region for higher-order cognitive and technical skills, socioemotional skills, and digital literacy (Mason and Shetty 2019). Over time, tasks that require cognitive skills have grown in importance, in contrast to manual tasks that have declined in importance, particularly for younger workers. This is true in Vietnam, for example, where demand for nonroutine manual skills rose along with increases in computers. Returns to nonroutine analytical tasks in Indonesia, Mongolia, the Philippines, and Vietnam have generally increased over time.
These quickly changing patterns of skill requirements necessitate a shift to human capital accumulation that occurs throughout the lifecycle. Recent research from the United States shows that rapid technological change has quickly generated new requirements in Science, Technology, Engineering, and Math (STEM) jobs (Deming and Noray 2018). The implication is that graduates with high-skilled vocational preparation have easy transitions into the labor market, but then find that the skills they learned have become obsolete. This is confirmed in cross-country research finding that vocational education facilitates transitions from school to work but can actually reduce a worker’s adaptability to technological changes later in life (Hanushek et al. 2017). The changing skills requirements associated with new technological developments mean that the skills that the current workforce learned in traditional schooling will likely need to be updated throughout their working lives through upskilling and reskilling. This likely necessitates a broadening of the settings in which learning is recognized to include formal, non-formal, and informal settings alike (Figure 12).

### Figure 12: The formal, non-formal, and informal processes of lifelong learning

<table>
<thead>
<tr>
<th>Type</th>
<th>Certificate</th>
<th>Learning setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formal</strong></td>
<td>Leads to certificate</td>
<td>Primary, Secondary, Tertiary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vocational, technical, professional, and special needs education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second chance education, Apprenticeships and practical applied learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>↑ Qualifications recognition ↑</td>
</tr>
<tr>
<td><strong>Non-formal</strong></td>
<td>Leads to non-formal certificate</td>
<td>Youth and adult literacy programs, On-the-job training, professional development, internships</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Out-of-school programmes, Upskilling and reskilling programs</td>
</tr>
<tr>
<td><strong>Informal</strong></td>
<td>No certificate</td>
<td>Self-directed, family-directed, socially directed learning in workplace, family, local community</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incidental learning by reading newspapers, listening to radio, etc.</td>
</tr>
</tbody>
</table>

Source: Authors adapted from UNESCO ILL (2017).

Changing demographics are altering who is putting their human capital to use at work. The East Asia and Pacific region is aging more rapidly than any region has before (World Bank 2016). There is great diversity in aging patterns in the region, with the most rapid aging occurring in the region’s high-income economies (Japan, Korea, Singapore, and Hong Kong SAR, China) while several economies remaining quite young (Pacific Island countries, Lao PDR, the Philippines). However, several large economies already have or very soon will have shrinking working age populations. The working age population has already begun to shrink in Thailand, Mongolia, and China and will soon shrink in Vietnam (Figure 13). Shrinking working age populations mean that economies will need to activate underutilized sources of human capital such as women and older people and tap outside sources of human capital like migrants. Figure 14 shows that under scenarios increasing the labor force participation rates of women and older people and increasing migration the size of the labor force would be larger by 2050 relative to baseline projections. The effect of increasing female labor force participation rates is particularly strong. Shrinking working age populations also make investments to ensure that the existing workforce has the skills it needs even more important.
Social protection can enhance and protect human capital, helping people engage in productive employment throughout working lives that are likely to be both longer and disrupted by technological change. Social protection programs can help ensure that people continue to be able to take advantage of their human capital, and to accumulate more if necessary as they grow older. In some cases, social protection programs help enhance the capabilities of people entering or already in the workforce, and so continue building human capital. In other cases, these programs protect the capabilities that people already have. In still other cases, social protection programs help people deploy existing human capital in productive activities.

How can social protection help build human capital during the transition into work and throughout working lives?

Social protection programs can enhance the capabilities of workers or potential workers by improving their skills. Skills training programs help people update their skills or learn new skills throughout their working lives in response to changes in the skills demanded by employers. These programs can be especially important in countries with low school completion rates or low education quality. Programs that improve the capabilities of workers or potential workers can take many different forms, from traditional vocational training courses to self-employment and entrepreneurship training. The targeting of the programs also varies significantly. The programs can be targeted to a variety of different groups including young people facing difficulty transitioning into the labor market, adults seeking to upskill or reskill, and older people who have left the labor force; the poor and recipients of social assistance; and migrants who are seeking work abroad. Notably, the standard to judge the success of programs that enhance the capabilities of workers is typically that
these investments in human capital improve employment, earnings, or income rather than that they result in improvements in human capital itself.4

The success labor market programs that enhance worker capabilities depends on a variety of factors. The impact of traditional vocational training programs on employment and earnings is mixed (McKenzie 2017). Impacts of training programs tend to vary based on the duration of training (Kluve 2016; Vooren et al. 2019), the delivery method (Hirshleifer et al. 2016), the targeted population (Card, Kluve, and Weber 2018; McKenzie 2017), and when the impact is studied with larger positive effects sometimes found in the medium and longer term (Card, Kluve, and Weber 2018). The most promising programs (with higher-than-average returns) tend to be those with reduced costs that are targeted to specific groups with training adapted to labor market needs (Betcherman and Moroz 2018). For instance, a training program in the United States targeted at unemployed people in sectors that were in demand increased income after 2 years (Hendra et al. 2016).

Youth employment programs are among the most common labor market policies to enhance worker capabilities. Long transitions from school to employment and long-term unemployment result in less human capital accumulation for young people and can even erode human capital already accumulated (Robalino et al. 2013). Youth employment programs seek to prevent this scenario in part by helping young people obtain either the entrepreneurship skills necessary to start their own businesses or the technical and soft skills demanded by employers. These programs target a range of beneficiaries from school leavers to high school and tertiary school graduates. A number of reviews of youth employment programs find that skills training and training for self-employment have mixed results, and indicate that training may need to evolve to focus on providing soft and non-cognitive skills that are transferable across employers rather than technical skills (McKenzie 2017; Blattman and Ralston 2015; Fox and Kaul 2018). Nonetheless, training can be particularly important in areas with low levels of education (Chakravarty et al. 2019). Additional evidence suggests that successful youth employment programs combine training with additional services such as job search assistance, financial support, and program design that accounts for specific barriers such as those facing young women (Kluve et al. 2019; Stoterau 2019).

Skills training has been an important part of responding to youth employment challenges in the East Asia and Pacific region. After the global financial crisis, many countries adopted training programs focused on young people (Betcherman and Moroz 2018). A notable subset of policies in the region targets disadvantaged youth, especially those who have left the formal education system. China, for example, targets training subsidies to young migrant workers (ILO 2016). In the Pacific Islands, Papua New Guinea’s Urban Youth Employment Project (UYEP) created the Youth Jobs Corp (YJC) that provides less educated young people with skills training and short-term employment in public works projects and the On-the-Job Training (OJT) internship program that matches young people with employers in a range of sectors. Both programs were coupled with a stipend to provide participants with income during training. In 2017, a follow-up survey found that 41 percent of OJT participants had been employed in the past 6 months, a rate 28 percent higher than that of non-participants (World Bank 2019c). Many countries also support non-profit programs designed to provide training and funding to young entrepreneurs, including Youth Business China (YBC), Viet Youth Entrepreneurs (VYE), and Youth Entrepreneurs Malaysia (YEM) (Lim 2011).

4 Indeed, the following paragraphs discuss the outcomes of investments in human capital rather than the outputs. As for outputs, McKenzie (2017) provides one example reporting that between 70 and 85 percent of those selected for training complete it.
The aging populations and shrinking workforces in many countries in the East Asia and Pacific region, coupled with quickly changing skills needs, make systems of lifelong learning that extend training well beyond young people increasingly important. Lifelong learning systems can help address the generational skills gap that arises because older workers have completed their cycle of human capital accumulation even as employers’ demands have continued to evolve. However, adults face several challenges to building skills throughout their lifecycle. These include the direct costs of training such as course fees and materials, opportunity costs related to foregone earnings and household responsibilities while undertaking training, and the risk associated with the uncertain returns to investments in learning (OECD 2004). Additionally, training programs are not always adapted to the needs of older learners (Box 5). Indeed, older workers tend to be less likely to participate in training, a trend that is seen globally and may be more severe in the East Asia and Pacific region (World Bank 2016). In China, for example, a 1 percent increase in age was found to correspond to a 27 to 35 percent reduction in the probability of training (Mishra and Smyth 2012).

Box 5: New approaches to building skills in adults

Adult learners face different challenges than children and youth learners. Challenges to adult learners include reduced neurological plasticity and increased entrenchment, which make adult brains less adept at noticing and learning from certain types of information, such as written letters or characters. However, these challenges can be addressed by learning strategies adapted to the needs of adults such as repeating new information across multiple sessions (spaced learning) or in different contexts (multimodal learning). Adult learners also respond well to lessons that are engaging, made relevant to their lives and based on their personal learning goals, and that include rewards and positive feedback. Reviews of existing adult literacy programs have found that they are most likely to succeed when they target emerging literacy skills, while more research is needed on why programs struggle to succeed when they target higher literacy levels. The Mexican NEUROALFA program is a notable exception. The program utilized an understanding of adult neurology to design a curriculum that adjusted its teaching method as adult learners progressed, and succeeded in advancing students beyond emerging literacy to full reading comprehension.

Several countries in the East Asia and Pacific region have implemented adult literacy programs that are consistent with best practices for teaching adult learners. For example, in Vietnam Community Learning Centers offered literacy and “post-literacy” classes as part of a national pro-literacy campaign targeting women and ethnic minorities. Teachers in these programs were trained in adult learning methods, and clear goals were set for different learning levels. Furthermore, assessments were made of local community needs and individual participant aspirations, and classes were offered in both Vietnamese (Kinh) and ethnic minority languages. Oxfam supplied pink phones to rural women in Cambodia who attended adult literacy programs, in part to give them an opportunity to practice their literacy skills through SMS text messaging outside of the classroom.

Source: Authors based on Bendini, Levin, and Oral-Savonitto (2019).

Training subsidies for older workers have been used in some countries in the region to incentivize lifelong learning. One response to these challenges that has been used in Australia and Europe is to subsidize training for older workers. While the lifelong learning systems in the region are generally underdeveloped, several wealthier countries in the East Asia and Pacific region have taken similar steps (World Bank 2016). Korea, for example, subsidizes vocational training costs for workers over age 40 (up to 1 million won per year). Rather than stand-alone initiatives, training
incentives in these countries often make up one prong of a broader policy to boost employment among older workers.

**New types of financing and delivery mechanisms for training that focus on meeting the needs of adult learners have also been developed.** The rapid pace of change in skills requirements coupled with the growth of freelancing and self-employment mean that human capital development approaches that rely on the provision of on-the-job training by large, stable organizations are relevant to fewer and fewer workers. In this context, learners will likely need to take greater control of their own skills development, and are likely to benefit from learner-centered approaches to training. Many different instruments can be used to support learner-centered lifelong learning, ranging from individual learning accounts that may or may not be tax advantaged to individual subsidies or vouchers. Singapore has perhaps the most notable learner-centered approach to lifelong learning. The SkillsFuture Singapore Agency encourages workers to attend accredited skills courses using financial incentives including the SkillsFuture Credit, which provides SGD500 to all workers above age 25 for skills development and lifelong learning. Singapore’s overall skills development approach prioritizes lifelong learning over the provision of industry-specific skills.

**Learner-focused approaches to training also involve innovations in delivery that can help adults learn flexibly.** As technology costs fall, e-learning approaches are becoming increasingly viable alternatives for individuals and employers, including smaller ones. These approaches allow for flexibility, customizability, and real-time assessment. The training can also be cheaper and faster. Employers benefit from being able to customize their training across locations while saving on travel and trainer costs, and workers benefit from being able to access low-cost training inside and outside of the workplace. Simulation, augmented reality, and virtual reality technology create opportunities for more engaging and more effective training. Gaming is also being incorporated into workplace training because of its emphasis on interactive learning and decision making (without real world consequences).

**Programs to improve worker capabilities are also targeted to the extreme poor as part of livelihoods programs that pair asset transfers with human capital investments to support sustainable exits from poverty.** So-called graduation programs offer comprehensive packages of interventions that combine multiple approaches to poverty reduction including consumption support, savings assistance, asset transfers, training, and coaching and mentoring. The programs are motivated by the theory that a package of interventions targeting both financial and human capital needs is necessary to achieve poverty exits. Graduation programs have been found to have a positive impact on the consumption of the poor, including in fragile and conflict-affected environments, with some evidence that these impacts may persist (Bandiera et al. 2017; Banerjee et al. 2015; Bedoya et al. 2019). Still, the positive impacts of graduation programs have been questioned on several grounds, including for not benefiting the poorest people and for positive impacts that are not economically significant or sustainable (Kidd and Baily-Athias 2017). While NGOs have taken the lead in championing the graduation approach, governments are increasingly becoming involved with implementation, now leading around a third of all programs (Arevalo, Kaffenberger, and de Montesquiou 2018). Social registries can help facilitate the expansion of existing social assistance schemes to graduation-like livelihoods programs (Box 6).

**Box 6: Social registries can link social assistance and livelihoods programs**

Social registries are a key element for targeting social assistance. Listahanan (the National Household Targeting System for Poverty Reduction) in the Philippines is an information system for understanding who the poor are and where they are located. The registry covers 75 percent of
the population, and its use has expanded from a single program, the 4Ps CCT, to 52 programs. In Indonesia, the Unified Targeting System (UDB) harmonizes eligibility for social programs. A recent study found that the introduction of UDB significantly increased the targeting performance of social programs in the country.

Social registries can be used to coordinate social assistance with programs linking people to livelihoods or the labor market. The information on households contained in social registries make possible the addition of interventions that complement social assistance. For instance, China’s Dibao Registry, which provides a subsistence payment, has been used for employment assistance. The Philippines’ Listahanan has been used for employment, training, and sustainable livelihoods programs (Leite et al. 2017). The information in social registries could even be used to supplement data in the Human Capital Index in order to help target human capital interventions with greater nuance at the subnational level.

Source: Authors based on Leite et al. (2017); Tohari, Parsons, and Rammohan (2019)

Training seems to be an important complement to cash transfers in explaining the success of graduation programs. While more evidence is needed on which individual intervention or combination of interventions is responsible for the positive impacts of the graduation programs, the existing research suggests that the combination of training and cash is key. Non-experimental evidence in Ethiopia shows that households that received training in addition to livestock transfers had higher earnings, asset accumulation, livestock productivity, and milk production in the long term than those that received livestock alone (Argent, Augsburg, and Rasul 2014). Similarly, a study of a graduation pilot in Ghana found that neither an asset transfer nor access to a savings account had the same impact as did the graduation program (Banarjee et al. 2018). Mixed methods research on a graduation program in Burundi suggests that training and coaching are important elements of program success, that their benefits can have positive spillovers for non-participants, and that the method of training and coaching is important (Roelen and Devereux 2018). Ultimately, more research is necessary to understand whether training and other support are efficient complements to asset transfers, and to understand how much training is necessary (Blattman and Ralston 2015).

Though more common in South Asia, the graduation approach is being tested in several countries in the East Asia and Pacific region. Thus far in the region, graduation programs have been implemented by non-government actors. In Lao PDR, for instance, the Resilient Livelihoods for the Poor (RLP) program implemented by the development consultancy Maxwell Stamp provided 1,200 poor rural households with an asset transfer (usually livestock), a regular and temporary cash transfer, access to financial services, and financial literacy and entrepreneurship training and mentoring (Bazeley, Clark, and Hannigan 2016). Graduation programs have also been implemented by World Vision in Cambodia (Economic Resilience and Livelihoods), by Save the Children in Myanmar (Challenging Urban Poverty), by the local NGO Alalaya Sa Kaunlaran (ASKI) in the Philippines (Livelihoods for Extreme Poor), and by Plan International in Vietnam (Empowering Women and Youth through Graduation and Financial Inclusion in Vietnam).

Graduation approaches are at times integrated into existing social assistance programs to create productive inclusion programs. Productive inclusion programs link existing social assistance beneficiaries with more intensive interventions that build human capital such as training, financial literacy, or entrepreneurship support. Productive inclusion strategies at times attempt to assess the “productive capacity, employability and economic potential” of individuals (who are receiving social assistance) who could benefit from promotion programs (Hennig et al. 2015). The effectiveness of productive inclusion approaches is less well studied than that of the stand-alone
comprehensive livelihoods programs, though impact evaluation results from the Haku Wiñay program in Peru show positive results (Acosta and Avalos 2018).

There are two emerging examples of productive inclusion programs in the East Asia and Pacific region. In the Philippines, the Department of Social Welfare and Development’s Sustainable Livelihood Program (SLP) connects 4P cash transfer recipients to either microcredit or employment facilitation. These two SLP tracks themselves have 4 modalities (a skills training fund, a seed capital fund, cash for building livelihood assets, and an employment assistance fund), which participants can choose from. Studies of this program suggest that challenges exist, including significant dropout issues among employment facilitation track participants, variation in how microenterprise funds are used based on participant vulnerability levels, and poor repayment rates (Acosta and Avalos 2018). In Indonesia, households that have been beneficiaries of the PKH CCT program for 6 years but that are still found to be poor are provided with an additional 3 years of PKH transfers plus livelihoods and income support (World Bank 2017). This additional support includes linkages with the longstanding KUBE program that facilitates microenterprises through capital support and entrepreneurship and business training.

Programs to improve worker capabilities are also targeted to migrant workers. Both internal and international migrants may lack the knowledge to migrate safely and the skills demanded by employers in areas outside their place of origin. Many countries in the region require migrants to attend training on safe migration prior to departing for employment abroad (Testaverde et al. 2017). A recently completed RCT of different versions of the Philippines’ pre-departure orientation seminar finds that the seminar alleviated travel problems and helped migrants settle, but did not have an impact on labor market outcomes, diaspora engagement, subjective wellbeing, or finances (Barsbai 2018). Other countries in the region offer skills training to migrants. China’s World Bank-financed Rural Migrant Skills Development and Employment Project involved a set of training-related interventions, including financing to support subsidies for training of migrants, information on training opportunities, mobile training for isolated communities, and provision of equipment to training centers and schools. In the Philippines, the Technical Education and Skills Development Authority (TESDA) has developed close relationships with employers abroad that inform the development of training programs. Migrants are required to undergo a TESDA-administered skills test prior to departure.

How can social protection help protect the human capital of current workers and their families?

Negative shocks like unemployment and sickness can have significant consequences for the human capital of workers and their family members. Unemployment can have a scarring effect on workers leading to lower earnings and worse labor market outcomes, particularly if unemployment occurs early in a worker’s career (Jacobson, LaLonde, and Sullivan 1993; Eliason and Storrie 2006; Couch and Placzk 2010; Schmillen and Umkehrer 2017). One possible mechanism for this is skills depreciation. While a common feature of the theoretical literature (see Ortega-Martí 2017), the empirical literature on skills depreciation is lacking. A study from Sweden provides some evidence for skills depreciation. Using data from the International Adult Literacy Survey in Sweden, Edin and Gustavsson (2008) estimate that one year of unemployment is associated with a 5 percentile decline in a worker’s general skills. Mooi-Reci and Ganzeboom (2015) also show that human capital depreciation is a factor in scarring, and is stronger for women. In addition to effects on skills, unemployment can have negative behavioral and mental health consequences (Catalano et al. 2011; Paul and Moser 2009). The impact of unemployment on physical health is less clear, though some studies have found negative impacts (Gallo et al. 2004, 2006; Sullivan and von Wachter 2009; Eliason and Storrie 2009a and 2009b; Eliason 2015; Browning and Heinesen 2012). Unemployment
can also affect the human capital accumulation of children, as unemployment can affect investments in children and the family environment (Francesconi and Heckman 2016). For example, paternal job loss has been linked to lower birth weights in the United States and school performance in Norway (Lindo 2011; Rege, Telle, Votruba 2011). Overall, however, mixed results suggest that multiple factors determine outcomes. Summarizing the literature, Mörk, Sjögren, and Svaleryd (2019) notes that outcomes seem to depend on which parent suffers unemployment, the unemployment insurance and welfare regime, and whether job loss by mothers implies full withdrawal from the labor market.

**Health shocks can divert resources away from household’s human capital investments.** In 2010, Asia (including South Asia) had the second highest share of people facing catastrophic spending on healthcare (World Health Organization and World Bank 2017). Asia was also the region with the highest rate of impoverishing spending on health, defined as when household spending on non-medical items falls below poverty indicator levels due to being diverted to medical expenses. The significant costs of health shocks have implications for the human capital of the entire household when other members become sick. For instance, Luca and Bloom (2018) find that in Indonesia poor parental health of both mothers and fathers has negative effects on their children, particularly on girls, leading to fewer years of schooling, a lower probability of completing high school, and poorer adult health. The effect of paternal health works through the father’s role as the main income earner, while the effect of maternal health works through the mother’s role as the primary caregiver.

**Employment policies such as severance pay and unemployment insurance can help protect workers from the consequences of employment-related negative shocks.** Severance pay can restrict movement into unemployment with its attendant consequences for human capital. In the United States, unemployment benefits have been found to reduce the probability of reporting poor health after job loss (Cylus and Avendano 2017). However, both severance pay and unemployment benefits can have negative consequences if designed poorly. Severance pay may disincentivize hiring and unemployment benefits affect incentives for job search and may disincentivize employment if benefits levels are too high (Packard and Van Nguyen 2014; Schmieder and von Wachter 2016).

**Countries in the East Asia and Pacific region tend to rely more on severance payments than unemployment insurance to protect their workers.** Nearly all countries in the region have severance pay regimes that are more generous than the OECD average (Betcherman and Moroz 2018). The regime is particularly strict in Indonesia where workers accrue 58 weeks of salary as severance. Such high severance requirements can create distortions in the labor market by disincentivizing formal sector hiring. More importantly, these requirements may not protect workers at all if non-compliance is significant, as it is in many countries in the region (Packard and Van Nguyen 2014). However, the empirical literature suggests that severance pay itself has small effects on the labor market (Holzman and Vodopivec 2012).

**Though still limited, the use of unemployment insurance schemes is expanding in the region.** Schemes have been adopted in China (1986), Korea (1995), Mongolia (1997), Thailand (2004), Vietnam (2009), and Malaysia (2018). Large-scale displacement of workers during reform of state-owned enterprises helped spur the introduction of unemployment insurance in China, Mongolia, and Vietnam, while labor market insecurity linked to global developments led to the introduction of unemployment insurance in Thailand and Vietnam (Hwang 2013). The significance of informal employment in the East Asia and Pacific region means that the coverage of unemployment insurance tends to be low (Hwang 2013; Carter 2015). Schemes in the region also have low contribution and benefit levels (Carter 2015). However, there are several unique features to unemployment insurance systems in the region such as links to health support in China and Vietnam and the use of
unemployment insurance to increase assistance to the unemployed during the global economic crisis (Betcherman and Moroz 2018).

**Several governments in the East Asia and Pacific region have begun to subsidize health insurance schemes in order to protect households from the negative consequences of health shocks.** For example, the Thai Universal Health Coverage Scheme (UCS) provides publicly financed free healthcare to 76 percent of the population that is not covered by either the social security or civil servant health insurance program. The program reduced the share of participant households spending more than 10 percent of their consumption on medical expenses from 6.8 percent in 1996 to 2.8 percent in 2008 (ILO 2017a). Similarly, China rapidly expanded its health insurance coverage in part by subsidizing about 75 and 85 percent of premiums in its New Rural Cooperative Medical System (NRCMS) and Urban Resident Basic Medical Insurance (URBMI) programs, respectively (Yip et al. 2012). Meanwhile, Indonesia has been shifting towards a premium-based mandatory health insurance system *Jaminan Kesehatan Nasional* (JKN), with the goal of achieving universal healthcare coverage by 2019. Under this system, the central government pays premium costs for those who are unable to afford them. While Indonesia has high out-of-pocket spending on healthcare relative to other countries in the world, the level of out-of-pocket spending has been falling among those with insurance (Mahendradhata et al. 2017). However, achieving universal coverage will be challenging. A recent evaluation of efforts to expand health insurance in Indonesia found that both temporary subsidies and assisted registration increased initial enrollment, but that the most intensive intervention evaluated that included a one-year subsidy and assisted registration led to a 30 percent initial enrollment rate, far short of universal coverage (Banerjee et al. 2019).

*How can social protection help deploy human capital in productive activities?*

**Beyond building and protecting human capital, social protection can help people deploy the human capital that they have already accumulated.** The human capital that social protection promotes and the protection from the deterioration of human capital that social protection provides are complemented by efforts to ensure that accumulated human capital can be put to work in the labor market. These policies include employment creation programs such as wage and social insurance subsidies. They also include employment services such as job search assistance and labor market information. A range of different social protection strategies are used to help alleviate the specific constraints facing different groups of people, including women, older people, and migrants. At the same time, social protection policies that are not properly designed can disincentivize the deployment of human capital (**Box 4**).

**Employment subsidies seek to incentivize employers to create or preserve jobs, and were used in the East Asia and Pacific region during the global economic crisis.** Employment subsidies can be provided in the form of wage subsidies or subsidies for the payment of social insurance. There is some evidence that these subsidies have a positive impact on employment for the long-term unemployed, though other evidence does not show a sustained impact (Card, Kluve, and Weber 2018; McKenzie 2017). Additional concerns with employment subsidies include whether they subsidize hiring that would have occurred anyway and whether they displace other workers who are not subsidized. These concerns are reduced when subsidies are targeted to the employment of particular groups of people such as the long-term unemployed or people with disabilities (Betcherman and Moroz 2018). During the global economic crisis, wealthier countries in the East Asia and Pacific Region used wage subsidies and tax incentives in an effort to encourage firms to retain and rehire workers (ASEAN Secretariat 2010; ADB 2013). Rehiring incentives were introduced in Malaysia and retention incentives in Singapore and Thailand. Even if wage subsidies do not have a strong impact on employment, they can help workers, particularly young people and the long-term
unemployed, continue to accumulate human capital through on-the-job experience and training (Almeida, Orr, and Robalino 2014).

**Employment services help workers find jobs and improve matches between workers and employers.** These services involve a wide range of activities including the provision and dissemination of labor market information, job counseling, and intermediation to connect workers and employers. Employment services can help increase job search, but evidence on employment outcomes is mixed. For instance, in the Philippines Beam (2016) finds that a job fair increased formal sector employment and job search in other areas, but did not lead to jobs for attendees. In Ethiopia, a job fair also did not lead to jobs, likely because of incorrect expectations among jobseekers about wages (Abebe et al. 2017). Public employment services in the East Asia and Pacific region are common, but tend to lack resources, staff, and facilities (Betcherman and Moroz 2018). However, efforts seem to be underway throughout much of the region to strengthen employment services, including through World Bank support in China, Mongolia, and Indonesia.

**Technology is increasingly being incorporated into employment services, particularly as concerns about skills mismatches grow.** The changing demand for skills associated in part with new and more quickly evolving technologies is accompanied by a more challenging search environment for jobseekers who must understand how demand is changing. Tools have emerged that utilize technology to improve the delivery of information or the quality of information provided to jobseekers. A field-in-the-lab experiment in the United Kingdom provided a web-based tool that displayed relevant alternative occupations and associated jobs to jobseekers at computer facilities (Belot, Kircher, and Muller 2017). The tool expanded the jobs considered and increased the number of job interviews, particularly for participants who had been unemployed for a few months. In Peru, SMS text messages that informed jobseekers about job opportunities that matched their profiles had a positive impact on employment (Dammert, Galdo, and Galdo 2015). In the East Asia and Pacific region, there are many examples of government agencies incorporating technology to try to improve the job search process, at times to directly address skills mismatches. The Philippines Overseas Employment Agency has partnered with the private online job search website JobStreet to provide online job postings to jobseekers seeking to work abroad. The Ministry of Human Resources in Malaysia has utilized online job postings in its Critical Occupations List to investigate detailed skills needs in occupations exhibiting evidence of shortage. Policymakers throughout the region are increasingly relying on new sources of labor market information to gain up-to-date insights into labor market supply and demand to adjust human capital development policies to quickly changing skills needs (Box 7).

**Box 7: Using real-time labor market information to improve human capital development policies**

**Real-time labor market information complements data collected from traditional sources.** Traditional labor market information (LMI) is collected through government-administered censuses and surveys. This information tends to be reliable and representative, but lacks detail and is produced only infrequently. Real-time labor market information, in contrast, is collected from many different sources, including online job postings, resumes posted online, Twitter feeds, and Google searches. Real-time LMI is generated constantly and typically produces detailed data about job openings and worker skills. The constant updating and detail of real-time LMI thus complements the reliability and representativeness of traditional LMI.

Many countries in the East Asia and Pacific region and throughout the world are using real-time labor market information to improve their insights into the labor market. Australia and
New Zealand have created vacancy indexes based on online job advertisements to monitor demand in hundreds of occupations. Malaysia has incorporated real-time labor market information into its Critical Occupations List, which identifies occupations that are in demand in the labor market. Online job postings data has been incorporated into the Critical Occupations List as an indicator of demand but also to provide detailed insights into the skills required for each occupation that is in high demand (Table 3). SkillsFuture Singapore relies on a wide range of labor market information including online job postings for its efforts to identify key skills needs to inform training programs for lifelong learning.

<table>
<thead>
<tr>
<th>Nursing Professionals</th>
<th>Type of skill</th>
<th>Software skill?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Skills</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Patient Care</td>
<td>Hard</td>
<td>No</td>
</tr>
<tr>
<td>English</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Chinese</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Teamwork/Collaboration</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Planning</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Vital Signs Measurement</td>
<td>Hard</td>
<td>No</td>
</tr>
<tr>
<td>Nurse Management</td>
<td>Hard</td>
<td>No</td>
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<tr>
<td>Surgery</td>
<td>Hard</td>
<td>No</td>
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<tr>
<td>Dialysis</td>
<td>Hard</td>
<td>No</td>
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<table>
<thead>
<tr>
<th>Electrical Engineers</th>
<th>Type of skill</th>
<th>Software skill?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering</td>
<td>Hard</td>
<td>No</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Troubleshooting</td>
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<td>No</td>
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<tr>
<td>English</td>
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<tr>
<td>Chinese</td>
<td>Soft</td>
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</tr>
<tr>
<td>Planning</td>
<td>Soft</td>
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<tr>
<td>Teamwork/Collaboration</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>AutoCAD</td>
<td>Hard</td>
<td>Yes</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>Soft</td>
<td>No</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>Soft</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: Authors based on online job postings.

Policies that help people move are more effective in helping people to deploy their human capital. Summarizing lessons learned from a review of the literature on active labor market programs, McKenzie (2017) concludes that “the most promising” programs are ones that help people access different labor markets and overcome mismatches in supply and demand across space and across sectors. Programs that provide only information about migrating for work do not seem to be sufficient to increase international migration. For example, Beam, McKenzie, and Yang (2015) find that a package of information interventions did not increase the likelihood of international labor migration from the Philippines. However, there is evidence that alleviating financial constraints can increase migration. Transport subsidies offered to unemployed youth in Addis Ababa, Ethiopia increased job search intensity and the likelihood of finding employment (Franklin 2015). A small transport subsidy facilitated seasonal migration in Bangladesh and induced re-migration even when the subsidy was removed, while also increasing household consumption (Bryan, Chowdhury, and Mobarak 2014). New Zealand’s Recognized Seasonal Employer seasonal work program increased incomes in Tonga and Vanuatu (Gibson and McKenzie 2014). Vietnam and the Philippines have both experimented with policies that provide financial incentives for migration internally and internationally, respectively (Testaverde et al. 2018).

There is evidence from the United States that moving can have long-run effects on human capital. A subsidized housing voucher offered to households to move to lower-poverty neighborhoods in the United States improved the mental health of adults and female young people, but did not result in improvements in earnings or employment (see, for example, Kling, Liebman, and Katz 2007). However, the program had significant benefits later in life for children who were under the age of 13 when their household was assigned to the voucher program (Chetty, Hendren, and Katz 2007).
These benefits include higher incomes in their mid-twenties, as well as higher probabilities of attending college and attending good colleges. This is part of a growing literature in the United States that has found a strong links between where children grow up and their outcomes in adulthood (Chetty and Hendren 2018, 2018b).

**People with disabilities face significant barriers to deploying their human capital.** In the East Asia and Pacific region, people with disabilities are less likely to be employed than people without disabilities (UNESCAP 2015). In Thailand, for example, 71 percent of people without disabilities are employed compared to 40 percent of people with disabilities. Social protection systems have the capacity to help people with disabilities to engage in work. However, disability schemes often do not provide sufficient support to facilitate employment, instead taking an “incapacity-to-work approach” (ILO 2017b). In the Cam Le district of Vietnam, for instance, few people with disabilities access disability-targeted benefits with links to employment such as vocational training and transportation discounts because of barriers including the application process, awareness of the programs, and the perceived utility of the benefits (Banks et al. 2019). Employment injury insurance schemes in the region have made some progress in expanding their focus to helping people who are injured on the job return to work. These programs are increasingly emphasizing injury prevention and return-to-work rehabilitation to limit the amount of time that workers spend not working. For instance, Malaysia’s new employment insurance scheme includes return-to-work programs that make vocational and physical rehabilitation facilities available. Korea also has a rehabilitation program that includes medical rehabilitation, welfare services, and vocational rehabilitation with a vocational training allowance, counseling services, and start-up support.

**Women also face a unique set of barriers to deploying their human capital.** As the Human Capital Index shows, accumulation of human capital in terms of schooling and schooling outcomes is about equal between females and males in the region with a slight advantage to females on some components (see Appendix 1). However, female labor force participation rates are lower than male rates in all countries in the region (Figure 8). This means that some of the human capital that young women have accumulated will not be put to use in employment. A major contributor to lower rates of female labor force participation is traditional childrearing roles combined with high costs of child care and the absence of jobs or access to or knowledge about these jobs. In the East Asia and Pacific Region the labor force participation rates of women drop after they give birth (World Bank 2012b).

**Increasing access to jobs can help facilitate women’s participation in the labor market.** Targeted employment and job matching services can help increase awareness of and access to higher paying jobs. For example, Jensen (2012) finds that providing targeted recruitment services to young women in rural villages in India for jobs in the business process outsourcing industry decreased the probability of marriage and having children and increased the likelihood of entering the labor market and obtaining additional schooling or training. India’s Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), which guarantees households in rural India 100 days of paid work each year and provides equal wages across genders while emphasizing female employment, has increased female labor force participation (Azam 2012). This, in turn, seems to have increased children’s time spent at school and improved grade progression, in part by increasing women’s bargaining power in the household (Afridi, Mukhopadhyay, and Sahoo 2016).

**Decreasing child care costs can also facilitate women’s participation in the labor market.** Several countries in the East Asia and Pacific region subsidize childcare to reduce the costs that mothers face when pursuing employment. For instance, Singapore subsidizes enrollment in child care centers for children under age 7 whose mothers are working (World Bank 2016). Malaysia offers tax deductions to employers that supply child care centers or child care allowances to their
employees and tax relief to workers who enroll their children in nurseries or preschool. Childcare provision can increase maternal employment. In Indonesia, Halim, Johson, and Perova (2019) find that access to public preschool, which itself has been shown to have benefits for child development, increases the likelihood that mothers of age-eligible children will be employed.\(^5\) Research also suggests that reductions in child care provisions and subsidies were partially responsible for declines in female labor force participation rates in urban areas in Mongolia (World Bank 2013; World Bank and ADB 2005) and China (Chi and Li 2008; Du and Dong 2010; Maurer-Fazio et al. 2011). Public works schemes similar to MGNREGA are increasingly considering how to incorporate child care into program design so that women are not doubly burdened by work and care responsibilities. However, implementation of these design elements has been weak thus far (Samman, Presler-Marshall, and Jones 2016).

**Countries in the East Asia and Pacific region also use parental leave policies to increase workplace flexibility and support women’s labor force participation.** Most countries in the region offer some form of maternity leave, though only China, Lao PDR, Mongolia, Myanmar, and Vietnam offer at least 14 weeks of paid leave (World Bank Group 2019). However, these benefits often only apply to formal sector workers and thus exclude a large share of working people (World Bank 2016). Maternal leave policies can increase female employment. An analysis of maternity leave policies in a cross-section of countries found that each additional week of paid maternity leave is associated with a 3.6 percent rise in the share of workers employed in a given firm who are women, an impact that grows when the leave is funded by the government rather than the employer (Amin and Islam 2019). Increasing men’s role in childcare is also an important means of supporting women’s employment. Eight countries in the East Asia and Pacific region offer paid paternity leave (World Bank Group 2019).\(^6\) Indeed, paternity leave is becoming more common in the region, though these policies remain limited in scale. Fathers in the Philippines and Vietnam, for example, are allowed up to 14 days of paid leave, while Indonesian public servants are allowed one month (Baird, Hill, and Gulessarian 2019). As in other parts of the world, take-up of paternity leave policies is likely to be a challenge. In Japan, for example, in 2015 only 2 percent of fathers took advantage of policies allowing them to take one year of leave to care for their children (Heilman et al. 2017).

**Elderly care responsibilities affect the ability of younger household members, particularly women, to engage fully in the labor force.** In developing countries of the East Asia and Pacific region, elderly care is supplied largely through informal family support, with elderly women (who tend to live longer than men) taking care of their husbands and then depending on their children or grandchildren for their own care (Glinskaya and Feng 2018). Indeed, 82 percent of individuals over the age of 60 in the region are living with non-elderly household members, the highest rate for co-residence in the world (Evans and Palacios 2015). Within countries, co-residence rates decline as household income increases, suggesting that high co-residence rates are often the result of the elderly being unable to afford to live alone. A consequence of this arrangement is that working aged family members, frequently women, may drop out of the labor force at younger ages in order to take on caregiving responsibilities. For instance, in Malaysia around 60 percent of women said they were not in the labor force because of housework. Furthermore, when families take on the financial costs of care and medical expenses, they can divert spending away from human capital investments in younger members.

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\(^5\) The authors caution, however, that these findings may not be valid in contexts where there are high rates of preschool utilization and high rates of maternal employment.

\(^6\) These are China, Indonesia, Lao PDR, Myanmar, the Philippines, Samoa, Timor-Leste, and Vietnam.
Social insurance and social assistance can increase elderly incomes and reduce the time and financial burdens of care placed on working age family members. For example, age-based social assistance programs can directly address poverty among older people, reducing reliance on informal family care and financial support (Evans and Palacios 2015). However, a challenge in several developing countries in the East Asia and Pacific region is that population ageing is taking place before public pension and health systems have had time to mature to meet growing demand. There is some movement towards transitioning old-age financial support from families to governments, but both pension and health systems remain fragmented (World Bank 2016). There are promising developments, however. For example, China is using a pilot program in 15 cities to explore the establishment of long-term care insurance (LTCI) that would help cover the expenses of daily and medical care for individuals with long-term disabilities (Glinskaya and Feng 2018).

The pressures of population ageing have made countries in the East Asia and Pacific region interested in how to encourage people to continue working later in their lives. As described above, working age populations are shrinking or will begin shrinking soon in much of the region. At the same time, the human capital of older workers is deteriorating more slowly, making older workers a potential target to compensate for the shrinking working age population. Indeed, the human capital of older workers in the region has improved substantially. In every country in the region except Timor-Leste, the number of years of health-adjusted life expectancy (HALEs) has increased since 2000 (Figure 15). Sixty year-olds in Brunei Darussalam, Cambodia, Malaysia, and Thailand can now expect to live around 2 more years than they would have in 2000. Longer work lives can also be good for mental and physical health (Heller-Sahlgren 2017; Wu et al. 2016). Still, higher labor force participation rates of older people are not always positive as higher employment rates can also be an indication that older people must work out of economic necessity and lack retirement options.

In this context, countries in the region are seeking to incentivize work among older people and reduce incentives to retire. This can include adjustments to the retirement age, financial incentives, and targeted employment services. Retirement ages in the East Asia and the Pacific region are low relative to life expectancy at retirement and have generally not changed as populations have aged (World Bank 2016). Malaysia has increased its retirement age from 55 to 60. Japan has taken a unique approach by requiring employers to raise their mandatory retirement age to 65, introduce a continued employment system to allow those employees who wish to work until age 65 to do so, or...
abolish their internal mandatory retirement age. Incentives for continued work are used in Korea, Singapore, and Japan. Korea provides an earned income tax credit to households without children, which disproportionately benefits older workers, and Singapore’s Special Employment Credit Scheme provides a subsidy to employers for up to 8 percent of the wages of workers over the age of 50, supplementing grants that promote firm-based initiatives to recruit, retain, or reemploy older workers (World Bank 2016). Concerns with such incentives include deadweight loss and the reinforcement of stigmas and negative attitudes toward older workers (OECD 2006). Overall, however, such incentives seem to have limited effectiveness on the hiring and retention of older workers (Boockmann 2015). Financial incentives can also be used to encourage employers to make adjustments for older workers in the workplace, which can help increase their productivity. Korea and Singapore provide subsidized loans and grants, respectively, for firms to upgrade their facilities. Finally, employment services can be targeted to older workers. In Japan, Older Persons Vocational Experience Utilization Centers provide free placement services for people over age 60, while Elderly Employment Support Centers assist middle aged and older workers to design career life plans (World Bank 2016).

**What obstacles does social protection face to building, protecting, and deploying human capital?**

**The prevalence of informality in the East Asia and Pacific region is a significant challenge for ensuring that social protection and labor market policies benefit human capital.** Informality is widespread in the East Asia and Pacific region, and in many cases is more widespread than in countries of similar income in other regions (Packard and Nguyen 2014). This informality limits social protection coverage. Unemployment insurance schemes, for example, tend to be accessible only to formal sector workers in both developed and developing economies, but the prevalence of informality in developing economies limits the potential coverage pool (Asenjo and Pignatti 2019). Pension coverage is low in many countries in the region, particularly given rapid population aging, and is particularly low among the poor who typically work informally (World Bank 2016). The challenges presented by continued high rates of informality, which are reinforced by the ongoing shift of work towards different forms of self-employment, have motivated a rethinking of how to expand social protection. The recent World Bank report *Protecting All: Risk Sharing for a Diverse and Diversifying World of Work* recommends redesigning social protection models to cover people regardless of how they earn a living and prioritizing expansions of coverage for the poor in a “progressive universalism” approach.

**More basic design issues can also affect the success of social protection and labor market policies.** Pension scheme design features such as early retirement ages can incentivize early withdrawal from the labor market, meaning that human capital is deployed for less time than it should be. Several countries in the East Asia and Pacific region have policies in place that actively encourage workers to retire even before official retirement ages, which are already low in the region relative to life expectancy. For instance, in the Philippines workers who retire early see their pensions increased, while those who retire later are penalized at a rate of 17 percent per year (World Bank 2016). Notably, the frequent concern that cash transfers could disincentivize employment seems to hold for older people but not for adults (Baird, McKenzie, and Özler 2018). For example, beneficiaries of the Filipino 4P CCT program were found to work at the same rates as non-beneficiary households (Acosta and Velarde 2015). In contrast, urban Chinese men and women who received a pension were 52 and 54 percent less likely to be working, respectively, than workers without pensions (World Bank 2016). Early retirement may have additional negative effects. In Vietnam, the retirement age for women is 55, 5 years younger than that for men. This discrepancy may contribute to a widening between the ages of 55 and 60 of a gender wage gap that is otherwise uniform across the lifecycle (Chowdhury et al. 2018). In rural China, the provision of pension benefits has been found
to have negative effects on the cognitive function of older people, particularly women (Nikolov and Adelman 2019).

**Such potential adverse consequences emphasize the importance of getting policy design right.** A recent policy note on job search monitoring provides a good example (Marinescu 2017). Job search monitoring checks whether beneficiaries of unemployment benefits comply with requirements to search for jobs, which are put in place to counteract the disincentive effect of the benefits. Such monitoring can increase job finding. However, job search monitoring that is intensive, requiring additional job search, and that includes sanctions can lead jobseekers to take lower quality jobs and even lead jobseekers to stop their job search and seek out disability benefits. This is a particular concern in developing economies, which tend to have weaker job search requirements but stronger sanctions (Asenjo and Pignatti 2019). A recent meta-analysis of randomized control trials of active labor market programs shows the importance of design and implementation in the effectiveness of these programs. Vocational training programs that include individualized coaching and follow-up, training focused on a specific industry, and the provision of monetary incentives are correlated with better outcomes (Yeyati, Montané, and Sartiano 2019). Even micro-level design issues are important. For instance, though severance pay is often targeted for reform, design issues related to administrative procedures that create uncertainty for employers may be more important to get right (Duval and Loungani 2019). Taking program context into account during design is also key. Benda, Koster, and Van Der Veen (2019) argue that the heterogeneity observed in impact evaluations of ALMPs is related to different employment protection and unemployment benefit regimes. Bergman et al. (2019) show that a package of search assistance, landlord engagement, and short-term financial assistance was more successful in motivating households in low-income areas in the United States to move to high-opportunity areas than increasing the value of vouchers, in part because the specific needs of each family were addressed by the package of assistance.

**Conclusion**

**Social protection can help build, protect, and deploy human capital throughout the lifecycle in the East Asia and Pacific region.** The World Bank’s Human Capital Project makes clear the vital connection between investments in human capital and economic development. Having established this link, the Project demands an investigation of investments that can improve human capital, and so further economic development. Social protection policies are a key ingredient of these investments. Social protection policies help build human capital in the early years and during school ages, as shown in (Figure 2). Income support programs on their own and when supplemented with incentives to access services help households invest in the education and health of their children. In the East Asia and Pacific region, conditional cash transfer programs that were successful in Indonesia and the Philippines are now migrating to other countries in the region like Cambodia, Lao PDR, and Myanmar. However, as Figure 2 shows, social protection policies are also essential after school and indeed throughout the lifecycle. As economies throughout the East Asia and Pacific region seek to recover from the COVID-19 outbreak in the context of technological developments that are changing the skills demanded, populations that are aging rapidly, and a changing climate that is increasing vulnerability to natural hazards, social protection policies will be even more important to build on, protect, and deploy human capital that is accumulated in the early and school age years. Countries in the East Asia and Pacific region have begun adjusting training programs to suit the needs of lifelong learning, exploring unemployment insurance systems that protect workers and their families in case of firing or dismissal, and strengthening employment services that can help match workers to better jobs. Continuing to pursue such policies while also adjusting social protection models to cover people regardless of their working arrangements will be a key part of investments to improve human capital in the region into the future.

37
References


Acosta, Pablo Ariel and Rashiel Velarde. 2015. "'Sa Pantawid, Malapit nang Makatawid!' (With Pantawid, We Are Closer To Getting out of Poverty!): An Update of the Philippine Conditional Cash Transfer's Implementation Performance," Philippine Social Protection Note No. 8, World Bank, Manila.


Snilstveit, Birte, Jennifer Stevenson, Daniel Phillips, Martina Vojtkova, Emma Gallagher, Tanja Schmidt, Hannah Jobse, Maisie Geelen, Maria Grazia Pastorello, and John Eyers. 2015. “Interventions for improving learning outcomes and access to education in low- and middle-


### The 2020 Human Capital Index of females in the East Asia and Pacific region by component

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<th>Harmonized Test Scores</th>
<th>Learning-Adjusted Years of School</th>
<th>Fraction of Kids Under 5 Not Stunted</th>
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"-" indicates not available.
Source: World Bank Human Capital Index.
The 2020 Human Capital Index of males in the East Asia and Pacific region by component

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"-" indicates not available.

Source: World Bank Human Capital Index.
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ABSTRACT

Social protection and jobs interventions are key to building, protecting, and deploying human capital. In the East Asia and Pacific region, these interventions are particularly important to ensure that countries in the region can keep up with and take advantage of technological and demographic development.

- Cash transfers can build health, nutrition, and education, the human capital foundations necessary for people to have productive working lives.
- Skills training, and for poorer households interventions that combine training with financial assistance and mentorship, can continue to build human capital throughout people’s working lives.
- Health and unemployment insurance can protect human capital during periods of negative shocks.
- Employment services and other active labor market policies can help deploy human capital in productive activities.

The objective of this note is to highlight how social protection can help lay the human capital foundations needed for poverty reduction and economic growth in the East Asia and Pacific region while also building, protecting, and deploying the human capital needed to keep up with and take advantage of technological and demographic developments. The note first introduces the human capital development challenge in the region in the context of the World Bank’s Human Capital Project. The note then discusses social protection policies that relate directly to the Human Capital Index, a cross-country indicator of progress on human capital that focuses on the early and school-age years. The final part of the note discusses social protection policies relevant to the broader aim of the Human Capital Project to initiate engagement with client countries about how human capital can be accumulated, protected, and deployed throughout the entire lifecycle.

ABOUT THIS SERIES

Social Protection & Jobs Discussion Papers are published to communicate the results of The World Bank’s work to the development community with the least possible delay. This paper therefore has not been prepared in accordance with the procedures appropriate for formally edited texts.

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