

2. Labor Markets in Asia: Challenges and Opportunities in the AI Era¹

For decades, Asia's export-led, manufacturing-based model has driven rapid development, kept unemployment low, and made the region an engine of global growth. This route to job creation is becoming harder to follow because manufacturing is becoming more capital intensive and trade is becoming more fragmented. Demographic fortunes are also diverging. Many emerging markets in Asia are already facing high youth unemployment and hence must create jobs for large cohorts of young workers, whereas advanced economies confront shrinking workforces amid rapid aging. Into this setting arrives artificial intelligence (AI), which has already begun to change labor markets. Drawing on 40 million online job postings across 19 Asian economies, this chapter offers some of the first evidence on the impact of AI on labor markets in the region. Employer demand has fallen by nearly 10 percent in occupations more exposed to AI relative to less-exposed occupations. However, this impact appears to have stabilized even as AI capabilities have improved rapidly, suggesting that AI is reshaping work more than eliminating it. Indeed, demand is rising for workers with AI skills. The implications diverge across Asia. AI could make it harder for economies to create the jobs they need to harness demographic dividends, whereas it could help economies with aging populations cope with labor shortages. This raises pressing questions for policymakers about where future jobs will come from, how workers will acquire the skills they need, and how labor markets will adapt to AI-driven change.

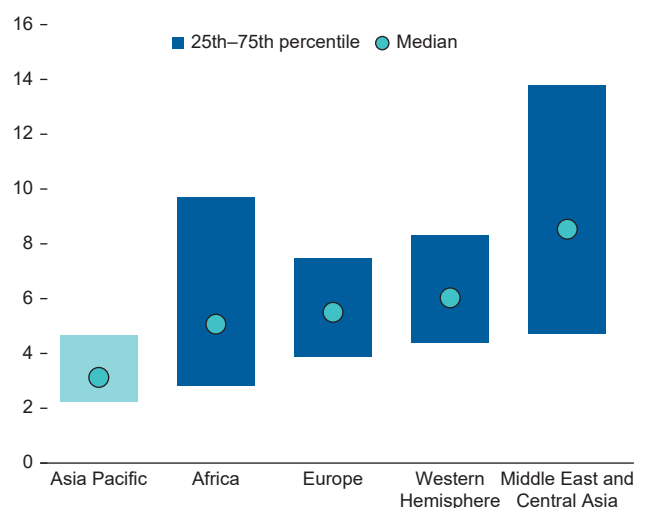
Context: Labor Markets and Demographic Trends in Asia

Asia's export-oriented development model has delivered rapid growth, but is increasingly strained, especially when it comes to creating jobs. Over several decades, industrialization has raised output; workers have moved from low-productivity occupations, such as in agriculture, to higher-productivity jobs in factories; and integration into global markets has supported production at scale (IMF 2026a), lifting hundreds of millions of people out of poverty. However, this model now faces two key challenges. First, manufacturing is becoming more capital- and technology-intensive, reducing the need for additional workers (IMF 2026a; Srinivasan 2026). Second, geoeconomic fragmentation is making access to external markets less predictable (IMF 2023).

Low Unemployment Masks Weaknesses

Low overall unemployment rates across much of Asia mask high youth unemployment and widespread underemployment. Unemployment rates in the region are lower than almost anywhere else in the world, suggesting that labor markets in Asia have delivered (Figure 2.1). Nevertheless, this measure conceals important weaknesses. It does not account for those who drop out of the labor market, especially

Figure 2.1. Unemployment Rate
(Percent, 2025)

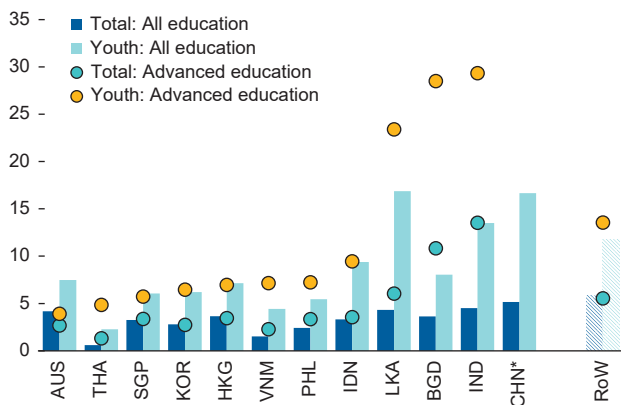


Sources: International Labour Organization; and IMF staff calculations.

¹ This chapter was prepared by Sakai Ando and Divya Kirti (lead) with contributions from Willa Lin and research assistance from Assyifa Szami Ilman, under the guidance of Alasdair Scott.

Figure 2.2. Unemployment Rate by Age and Education

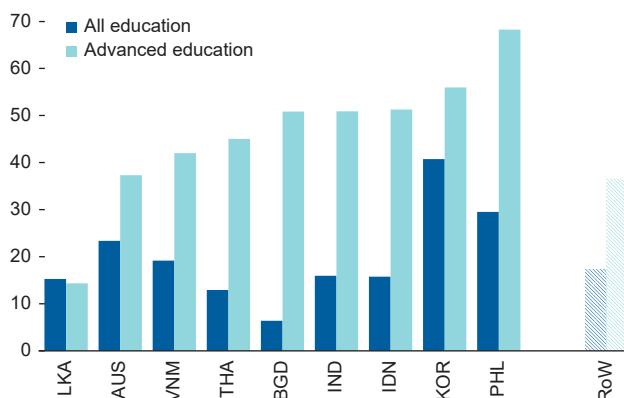
(Percent, latest year available)



Sources: Haver Analytics; International Labour Organization; and IMF staff calculations.
Note: See Online Annex 2.1.4.

Figure 2.3. Fraction of Overeducated Workers by Education

(Percent, latest year available)



young women in South Asia (ILO 2024). Moreover, it does not consider the quality of jobs. A formal contract is the exception rather than the rule across much of the region, and informal jobs—often in agriculture—are pervasive, offering little security and limited prospects (Donovan, Lu, and Schoellman 2023; World Bank 2026a).

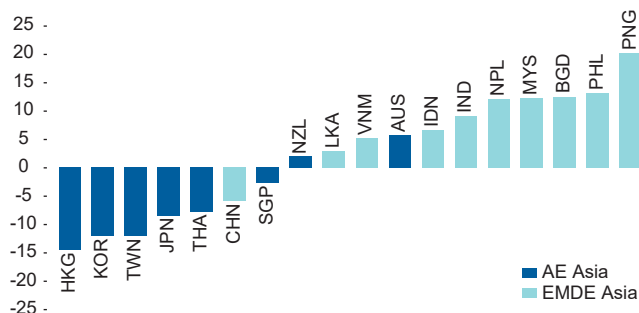
Part of the problem is that workers, particularly recent graduates, are not consistently equipped with the skills that employers want. The challenge is most visible at the moment young people try to enter the workforce. In several emerging market economies, youth unemployment runs far above the national average (Figure 2.2). This is particularly the case for highly educated youth: unemployment rates for young people with college degrees are close to 30 percent in some emerging market economies (Figure 2.2). Many college graduates have to wait for a long time to get a job that fits their qualifications (IMF 2026b). Across much of the region, many end up settling for jobs that do not require their level of education. For example, in the Philippines, nearly 70 percent of college graduates are in jobs that do not require their degrees (Figure 2.3).

A Demographic Divide

These strains are most concerning in emerging markets with young populations, where large cohorts of workers will need jobs in the years ahead. Demographic trends diverge sharply across the region (Figure 2.4, IMF 2017). At one end of the spectrum, the workforce is still growing across much of South and Southeast Asia. If handled well, this is an opportunity—a demographic dividend that could lift living standards, if young workers can be channeled into high-productivity jobs in manufacturing and services (IMF 2026a). If these economies do not create sufficient high-quality jobs and their education systems cannot equip graduates with the skills to find them, a whole generation may be disappointed and economies could stagnate. At the other end of the spectrum, aging economies in East Asia face shrinking populations and growing concerns about shortages of workers.

Figure 2.4. Growth of Working-Age Population

(Percent, projection over 2025-35)



Sources: United Nations World Population Prospects 2024; and IMF staff calculations.
Note: Working-age population is defined as individuals ages 15-64 years. Data labels in the figure use International Organization for Standardization (ISO) country codes.
AE= advanced economy; EMDE = emerging markets and developing economy.

This is the setting into which artificial intelligence (AI) arrives, adding to concerns about job creation, particularly in the economies with the greatest needs. For younger economies already struggling to generate enough job opportunities, AI threatens to move the goalposts, changing which sectors and skills are in demand even as more young workers need jobs. For aging economies, by contrast, if the disruption from AI can be managed, its impact could help make up for smaller workforces. Whether AI proves to be a headwind or tailwind depends on where economies stand in their demographic transitions and how prepared they are to adapt.

How Is AI Reshaping Labor Markets?

This chapter presents some of the first evidence on how AI is already reshaping labor markets in Asia. It draws on data on 40 million online job postings across the region covering 19 low-income, emerging, and advanced Asian economies.² The granular data set makes it possible to track the skills that employers demand by economy, industry, and occupation, offering a month-by-month window into shifts in labor demand through April 2026.³

Employer Demand Has Weakened in More-Exposed Occupations

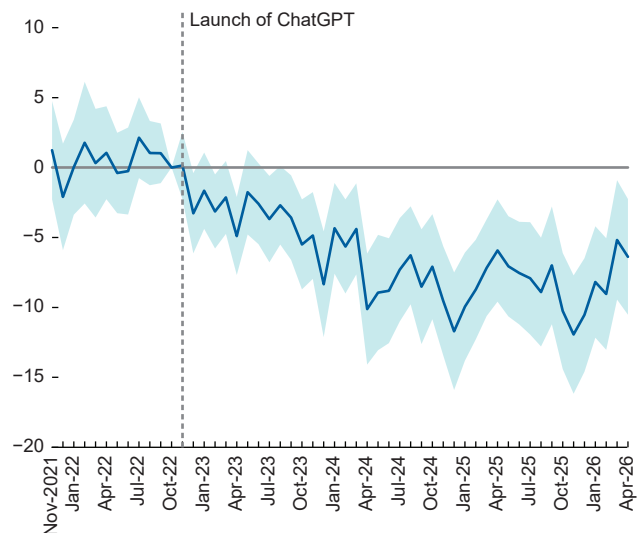
The chapter compares employer demand in occupations where AI is more useful with demand where it is less useful, before and after AI's arrival. Occupational exposure to AI is measured as in Pizzinelli and others (2023), who assess how closely AI can match the abilities workers need to succeed in each occupation. Two examples clarify the intuition: AI has become surprisingly good at writing code, a highly exposed occupation, but seems far less ready to take over relationships with suppliers, a less-exposed occupation. The analysis asks whether employer demand has weakened in more-exposed occupations (such as coding) relative to less-exposed occupations (such as managing relationships with suppliers) since the launch of ChatGPT in November 2022.

Making this comparison within the same economy and industry helps isolate the impact of AI from other forces affecting labor markets simultaneously. Vacancies may shift for many reasons, ranging from over-hiring in some sectors before the rise of AI to the growing importance of remote work in some occupations as economies reopened after the COVID-19 pandemic. To estimate the impact of AI, the analysis compares occupations within the same economy, industry, and month, and directly accounts for scope for remote work (Online Annex 2.1.3; Ando and others 2026).

AI has already had an impact in Asia: employer demand has fallen by nearly 10 percent in more-exposed occupations relative to less-exposed jobs (Figure 2.5). Prior to the launch of ChatGPT in 2022, hiring in the two groups of occupations moved in lockstep. Though little changed through mid-2023, employer demand did weaken measurably in more-exposed occupations,

Figure 2.5. Response of Labor Demand to the Launch of AI

(Percent change, high-exposure occupations versus low-exposure occupations)



Sources: Felten, Raj, and Seamans 2021; Lightcast; Pizzinelli and others 2023; and IMF staff calculations.

Note: The sample comprises 19 Asia-Pacific economies. Shaded bands show 95 percent confidence intervals. See Online Annex 2.1.3 for details.

² Previous work largely focuses on the United States and Europe. See, for example, Brynjolfsson, Chandar, and Chen (2026), Hampole and others (2026), and Jaumotte and others (2026). World Bank (2026b) is one exception offering more global analysis through mid-2025. See Ando and others (2026) for a fuller discussion of the literature. See Online Annex 2.1.1 for details on the economies included in the analysis and the approach used to select the sample.

³ The data set on job postings offers a granular, high-frequency window into labor markets but does have limitations. Actual hiring may differ from jobs posted online, as firms may change internal hiring practices or rely on different channels to advertise openings. Additional analysis that draws on granular data on employment and considers wages and hours worked would be valuable.

such as coding, by 2024 and 2025. Postings measure only new hiring, so the full weight of this shift will be felt gradually, as the shortfall accumulates over time.

Decline Has Stabilized Even as AI Has Improved

AI has grown far more capable over time, feeding fears that each new leap will affect more jobs. Next, the chapter shows how AI's impact on employer demand has evolved as AI has improved. Using external benchmarks for the length of tasks AI can complete, the analysis lines up shifts in employer demand with changes in what AI can do, factoring in its growing capabilities (METR 2026; Online Annex 2.1.3).

Surprisingly, the impact of AI on labor demand appears to have stabilized even as AI capabilities have advanced dramatically (Figure 2.6). When ChatGPT was launched, AI could do things such as answering simple arithmetic questions that would take a person a few seconds. There was little impact while AI capabilities remained at this basic level. However, by the time AI could handle tasks such as finding and fixing bugs in a small library of code—which would take a person an hour—employer demand in more-exposed occupations had fallen nearly 10 percent relative to less-exposed jobs. Now, AI can take on tasks that would take a person a whole day, such as training a machine learning model. But, surprisingly, the jobs picture has not worsened. Demand has declined, but the evidence to date suggests that employers do still see a need for workers, even in occupations where AI is more useful.

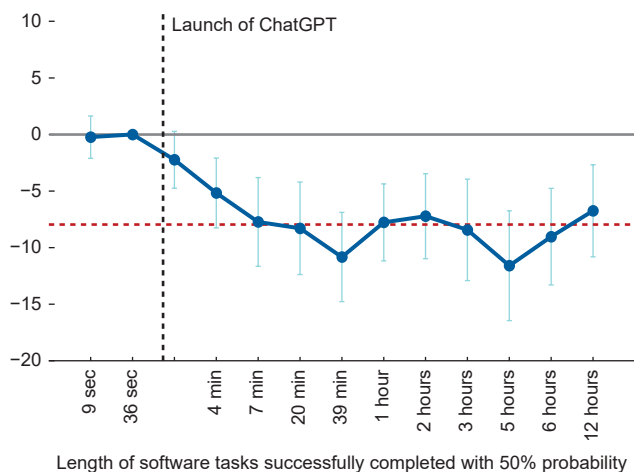
Offsetting Demand for Emerging AI Skills

To understand why the impact has stabilized, the chapter builds a new measure of employer demand for AI skills. The idea is to draw directly on what employers are looking for in job postings and focus on skills that did not exist before generative AI came along. The analysis identifies a set of emerging AI skills—such as prompt engineering, retrieval-augmented generation, and building AI agents—that meant little before 2023 and have since spread quickly (Ando and others 2026; Online Annex 2.1.2). Reassuringly, these emerging skills appear more often in occupations the analysis treats as more exposed (Figure 2.7), showing that comparing high- and low-exposure occupations does capture the impact of AI.

The explanation lies in growing employer demand for workers who can leverage AI to do more. Demand for these emerging skills is rising, particularly in occupations more exposed to AI (Figure 2.8). Employers increasingly want workers who can use AI effectively, build with AI, and connect AI to the knowledge and processes inside their firms. In other words, employers increasingly see that deploying AI well requires workers with these emerging skills.

Figure 2.6. Impact on Labor Demand and Development of AI Capabilities

(Percent change, high-exposure occupations versus low-exposure occupations)



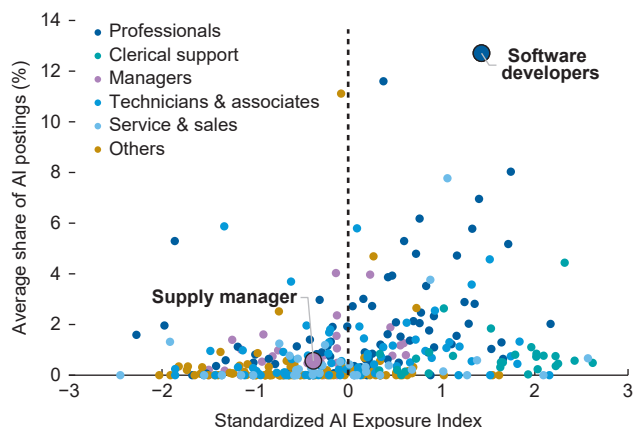
Sources: Felten, Raj, and Seamans 2021; Lightcast; Pizzinelli and others 2023; and IMF staff calculations.

Note: The sample comprises 19 Asia-Pacific economies.

The red dashed line indicates the impact on labor demand pooling observations after AI reached the 1-hour mark. Whiskers show 95 percent confidence intervals. See Online Annex 2.1.3 for details.

Figure 2.7. Demand for Emerging AI Skills across Occupations

(x-axis: standardized AI Exposure Index, standard deviations, y-axis: average share of AI postings November 2025–April 2026, percent)



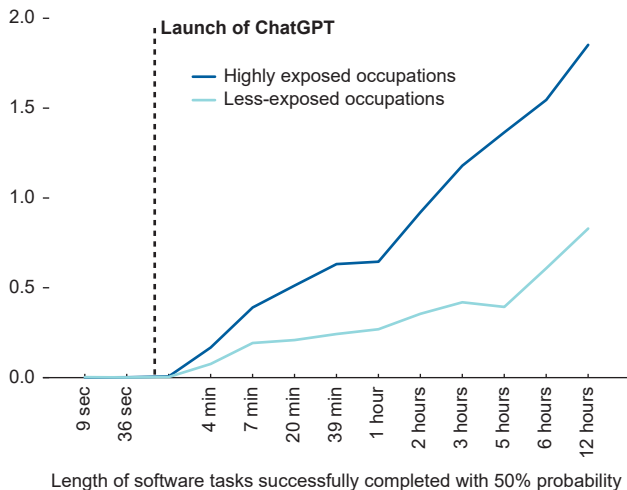
Sources: Atalay and others 2020; Felten, Raj, and Seamans 2021; Jaumotte and others 2026; Lightcast; Pizzinelli and others 2023; and IMF staff calculations.

Note: See Online Annex 2.1.4.

Firm-level analysis helps sharpen this picture: a dynamic group of AI-adopting firms drive this growing demand for emerging AI skills. About 6 percent of firms in Asia ask for AI skills in their job postings (Ando and others 2026).⁴ Demand for workers is growing faster at AI-adopting firms than at firms that do not ask for AI skills, even in more-exposed occupations (Figure 2.9). This helps explain why the hit to demand has leveled off. The fact that most firms have not yet adopted AI also points to the importance of barriers to incorporating this new technology into existing workflows and processes.⁵

Figure 2.8. Share of AI Postings and Development of AI Capabilities

(Percentage, average share of AI postings)

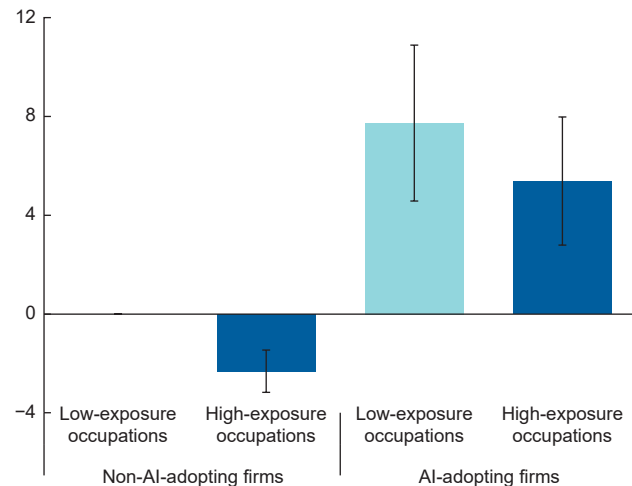


Sources: Atalay and others 2020; Felten, Raj, and Seamans 2021; Jaumotte and others 2026; Lightcast; METR 2026; Pizzinelli and others 2023; and IMF staff calculations.

Notes: The sample comprises Asia and Pacific Department economies. The figure shows the share of postings that feature an emerging AI skill, averaged across economy-industry-occupation cells.

Figure 2.9. Demand Growth by Firm Type and Exposure

(Percent, change in log postings relative to low-exposure occupations in non-AI-adopting firms)



Sources: Atalay and others 2020; Felten, Raj, and Seamans 2021; Jaumotte and others 2026; Lightcast; Pizzinelli and others 2023; and IMF staff calculations.

Notes: The sample comprises Asia and Pacific Department economies. Whiskers show 95 percent confidence intervals. AI = Artificial Intelligence.

Thus, AI's overall impact reflects two forces at once: less hiring in occupations where AI is more useful, and new opportunities for the workers who can put it to use. The evidence to date suggests that reduced hiring remains more important, explaining why demand has fallen in more-exposed occupations. However, offsetting opportunities have begun to emerge already for workers with the right skills. Furthermore, these opportunities appear to be growing over time. The strength of these forces can vary in individual economies—with little impact so far in lower-income economies (Ando and others 2026)—driving significant heterogeneity in the impact of AI across different parts of the world (Figure 2.10).

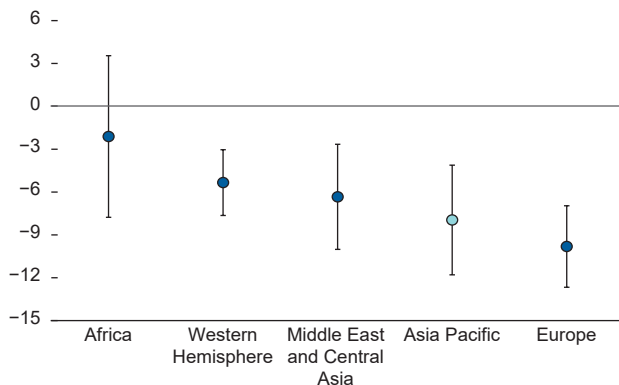
Diverging Implications for Countries

Taking this evidence to the economy level—accounting for differences in economic structure and demographics—reveals varied implications across Asia. To translate the estimates to the economy level, region-specific, occupation-level estimates are weighted by each economy's employment structure, as economies with many

⁴ Note that this should be interpreted as a lower bound for the fraction of firms that adopt AI, as this captures firms that want new employees to have AI skills. Firms could also adopt AI in ways that simply reduces new hiring needs, for example, by training existing workers to leverage AI.

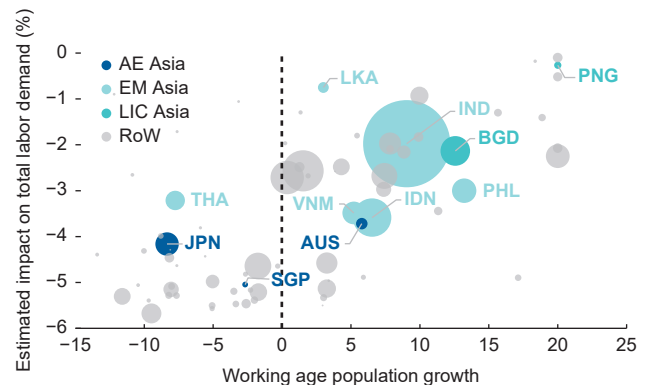
⁵ For example, even if AI can perform tasks previously handled by individual workers, it may not be obvious how to use the technology to make decisions currently made by groups of people. Newer models may also be more expensive to use with larger energy footprints. Moreover, firms may be experimenting with AI before making decisions about hiring needs. Indeed, the full impact of the introduction of electric power took decades to emerge; many firms did not adopt the technology and continued to organize factory layouts around mechanical power generated by water or steam (David 1990).

Figure 2.10. Impact on Labor Demand by Region
(Percent change, high-exposure occupations versus low-exposure occupations)



Sources: Felten, Raj, and Seamans 2021; Lightcast; METR 2026; Pizzinelli and others 2023; and IMF staff calculations.
Note: Based on the results from a global sample of 110 economies (see Online Annex 2.1.1 for details), the figure shows region-specific estimates from a regression that pools observations after AI reached the 1-hour mark. Whiskers show 95 percent confidence intervals.

Figure 2.11. Aggregate Impact of AI on Economy-Specific Labor Market Demand
(Percent change)



Sources: April 2026 IMF *World Economic Outlook*; Felten, Raj, and Seamans 2021; Lightcast; METR 2026; Pizzinelli and others 2023; United Nations World Population Prospects 2024; and IMF staff calculations.
Note: See Online Annex 2.1.4.

workers in more-exposed occupations will be hit harder.⁶ Plotting the resulting economy-level estimates against the projected growth in working-age populations in the coming decade illustrates the bottom line at the economy level (Figure 2.11).

The figure highlights the challenge for emerging market economies with younger populations and large job creation needs, such as India, Indonesia, and the Philippines. For now, they are partly shielded, because many workers are in sectors, such as agriculture, that are largely unaffected by AI. But this shield may also be a trap. To raise living standards, they must move workers into high-productivity manufacturing and services jobs: the very ladder that AI may now make harder to climb. The economies least exposed to AI today may still have the most at stake, because the jobs they need to create tomorrow are more exposed than the jobs they have now. AI preparedness may be critical. By contrast, AI could help economies with aging populations cope with shrinking workforces, if the near-term impact can be effectively managed.

Questions for Policymakers

AI is already reshaping labor demand. The evidence to date for Asia points to both reduced hiring in more-exposed occupations and new opportunities for workers with emerging AI skills. This raises pressing questions for policymakers about how to create jobs, how to educate young people, and how to help workers adapt.

Creating Jobs as AI Shifts Demand

How can economies keep creating good jobs as AI shifts which sectors, skills, and roles are in demand? This question is most urgent for emerging market economies with large job creation needs. These economies must find productive work for large cohorts of young people to harness their demographic dividends. They enter the

⁶ This approach assumes no impact from AI on less-exposed occupations and projects ahead based on the impact that has already materialized. Given limited evidence to date that AI is generating large productivity gains at the aggregate level, this is a reasonable and conservative assumption. If growing adoption of AI does support large productivity gains in the coming years and stronger growth supports aggregate demand, this may also support hiring in occupations that are less exposed to AI.

AI era with weaknesses in labor markets already visible, particularly high youth unemployment and persistent skill mismatches. If AI narrows the path to good jobs, demographic assets can turn into liabilities. AI preparedness may therefore be particularly important in these economies. By contrast, economies with aging populations need to evaluate where labor shortages may persist despite AI adoption and how any remaining gaps can be filled.

Rethinking Education

How should education systems adapt in this rapidly changing environment? This is an important, difficult, and open question. Policymakers should be mindful that many education systems, particularly in emerging market economies in Asia, already struggle to equip graduates with the skills they need to find good jobs. AI is now moving the goalposts further by changing which skills are in demand.

Helping Workers Adjust

Can workers realistically move across occupations as the map of labor demand is redrawn? New evidence from 65 million career histories in Asia highlights the challenge. Only about 5 percent of workers move across occupations in a year (Figure 2.12). Moreover, workers have not begun to move toward occupations that are less exposed to AI in recent years. Policymakers should evaluate whether enhanced active labor market policies are already needed to support upskilling and mobility and whether temporary income assistance programs are called for to protect workers while encouraging AI-driven innovation (see Chapter 3). In addition, they should ensure that policies do not lock workers into activities for which demand is persistently weakening.

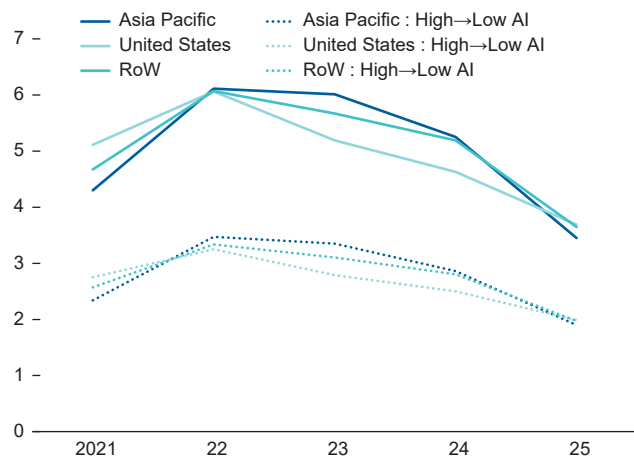
Looking Further Ahead

Because the technology is still so new, the ultimate scale of AI's impact remains deeply uncertain, ranging from manageable to highly disruptive. In a slower scenario, real constraints—in energy costs, digital infrastructure gaps, and difficulties with reorganizing how work is done—could stretch the adjustment over many years. By contrast, in a faster scenario, falling costs and dramatic further improvements in AI capabilities could accelerate adoption, and the full impact on labor markets may only become visible in the next downturn.

A more disruptive scenario would raise even larger questions, which policymakers would do well to start weighing now. Three stand out. First, can AI be steered toward a more labor-friendly path? Perhaps stronger competition policy and clear rights over worker know-how could help channel the technology in a direction that complements people (Acemoglu, Autor, and Johnson 2026). Second, can taxes on AI-related profits finance income support for a large share of households? Large profits for a few firms and falling labor shares of income would add to the case for stronger social safety nets laid out in Chapter 3 and make reforms to allow tax systems to effectively capture economic rents and capital income increasingly important (Brollo and others 2024). However, if frontier firms are clustered in just a few economies, other economies may find it hard to tax AI-related profits even as AI services become both more necessary and more expensive. Third, how can countries maintain their access to frontier tools? Indeed, many are already discussing the extent to which policymakers should prioritize domestic control over infrastructure, data, models, and expertise to build “sovereign” AI.

Figure 2.12. Probability of Transitions across Occupations

(Median share of profiles with cross-occupation moves, percent)



Sources: Felten, Raj, and Seamans 2021; Lightcast; Pizzinelli and others 2023; and IMF staff calculations.

Note: See Online Annex 2.1.4.

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