Advance Edition

The Global Jobs Challenge

Edited by Tommy Chrimes,
M. Ayhan Kose, and Kersten Stamm

WORLD BANK GROUP

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Summary of Contents

Contents

Boxes

Appendixes

Figures

Tables

Foreword

Since the dawn of the industrial age, successful countries have turned their young and expanding populations into tremendous engines of growth and development. Today, many of the forces that powered job creation over recent decades are losing steam.

At the same time, as this report documents, an unprecedented demographic transformation is unfolding in Sub-Saharan Africa, with major shifts in the Middle East and North Africa and South Asia as well. Even as the pool of adults in the main years of their working lives dwindles in advanced economies and in many large emerging markets, huge pools of young people are entering the workforce across developing countries as a whole.

Without jobs, it is difficult to open up pathways out of poverty and toward higher living standards. That is why job creation is now at the core of the World Bank Group's operations. Generating enough jobs for the young people of tomorrow would unlock an enormous demographic dividend in the countries that need it most, reinvigorating global growth and prosperity.

Failing to do so, on the other hand, would have bleak consequences. If the macroeconomic trends of recent decades persist, the jobs shortfall will widen. As this report notes, the challenge will be most acute in the parts of the world least equipped to handle it. In Sub-Saharan Africa—which over the next quarter-century will account for three-quarters of global working-age population growth—incomes are lower, government debt is higher, and institutions are weaker: not just against other regions today, but also relative to other regions' own peak population bulges. Today's developing countries also face new hurdles: a slowing global economy, trade tensions, growing energy insecurity, increasingly frequent extreme-weather events, and the potentially disruptive impacts of artificial intelligence on jobs.

Many of the additional young people entering the labor force in the coming years will be women—who happen to be better educated than any generation that has come before. They will need jobs. Job-seekers will increasingly gravitate toward employment in cities, where demand for housing and public services already exceeds capacity. If they cannot find what their families will need close to home, the consequences will be grim: living standards will deteriorate, social unrest will flare, and pressures to migrate to other parts of the world.

A jobs crisis is not pre-ordained. Population, you might say, sets the stage, but policy writes the script. If governments and private enterprise in Africa, the Middle East, and Asia conjure the policy magic necessary to deliver enough productive jobs to their populations, the dividend would be extraordinary:

sustained economic growth, an expanding middle class, and the elimination of extreme poverty. And economic development in poor parts of the world would again start to catch up with the pace in higher-income economies.

Developing countries must themselves take up the challenge. The World Bank Group's jobs agenda is designed to help them do exactly that. It centers on targeted, country-specific actions to support the policy priorities of job creation: first, invest in foundational infrastructure, including human capital; second, foster a business environment where institutions and regulations strengthen rather than stifle job-creation prospects; and, third, mobilize private capital from both domestic and international sources.

The defining global development challenge of the coming decades will be to create enough—and progressively better—jobs in places where they are needed most. All countries, rich or poor, have a crucial stake in the outcome. A predictable international policy environment would rejuvenate cross-border trade and investment, the jet fuel of job creation. Countries with aging populations, moreover, share an economic interest with countries whose workforces are young and growing: they should seek to coordinate their efforts. Finally, international organizations like the World Bank Group must engage to their fullest capacity: by providing clear-eyed, well-tailored, and consistent advice and financial support, and by building on the latest evidence and data to help countries achieve the biggest bang for their buck.

Indermit Gill
Senior Vice President and Chief Economist
The World Bank Group

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Abbreviations

ADB	African Development Bank
AE	advanced economy
AI	artificial intelligence
CPI	consumer price index
EAP	East Asia and Pacific
ECA	Europe and Central Asia
EMDEs	emerging market and developing economies
ESMAP	Energy Sector Management Assistance Program
FCS	fragile and conflict-affected situations
FDI	foreign direct investment
GDP	gross domestic product
HIC	high-income countries
ICRG	International Country Risk Guide
ICT	information and communication technology
IDA	International Development Association
IEA	International Energy Agency
IFC	International Finance Corporation
ILO	International Labour Organization
ILOSTAT	ILO Modelled Estimates Database
IMF	International Monetary Fund
LAC	Latin America and the Caribbean
LEADS	Learn. Adapt. Scale.
LICs	low-income countries
LMC	lower-middle-income countries
MIC	middle-income countries
MNA	Middle East, North Africa, Afghanistan, and Pakistan
NBER	National Bureau of Economic Research
NEET	not in employment, education, or training
OECD	Organisation for Economic Co-operation and Development
R&D	research and development
SAR	South Asia
SMEs	small and medium-sized enterprises
SSA	Sub-Saharan Africa
TPF	total factor productivity
UMC	upper-middle-income countries
UN	United Nations

WAP	working-age population
WBL	Women, Business, and the Law
WDI	World Development Indicators
WEO	World Economic Outlook
WWBI	Worldwide Bureaucracy Indicators

EXECUTIVE SUMMARY

Emerging market and developing economies (EMDEs) face a jobs challenge of historic proportions. Over the decade to 2035, around 1.2 billion young people in these economies are set to reach working age, the largest youth cohort the world will likely ever see. Yet global economic growth is at a multi-decade low, constraining job creation prospects. Many of these young people live in economies ill-equipped to confront the challenge. Although projections for employment over the next decade are highly sensitive to underlying assumptions, an illustrative extrapolation suggests that, of these 1.2 billion young women and men, just over 400 million would be employed in 2035, while about 300 million would not be in employment, education, or training. Jobs are at the heart of development: they provide income, purpose, hope, and dignity, while strengthening social cohesion and stability. Job creation underpins growth, poverty reduction, and shared prosperity.

Creating sufficient job opportunities for this large wave of young working-age people is thus a pivotal development challenge and a potentially transformational opportunity. Without prospects for jobs, many young people risk being left behind. Yet while the obstacles are significant, if the challenge is met, the opportunity is enormous. Jobs can help propel the next generation of young people—who are better educated than previous cohorts—toward a more hopeful future. These young people could then in turn strengthen domestic demand, reinforce economic and social stability, and drive global prosperity for years to come.

To capitalize on the potential this young generation represents, policy makers should focus on three pillars that have underpinned successful job creation efforts in the past: delivering foundational infrastructure, fostering a business-enabling environment, and mobilizing private capital. This study offers a framework for policy makers centered around these three pillars. It also highlights five sectors that the World Bank Group has identified as having particular potential for resilient local job creation at scale.

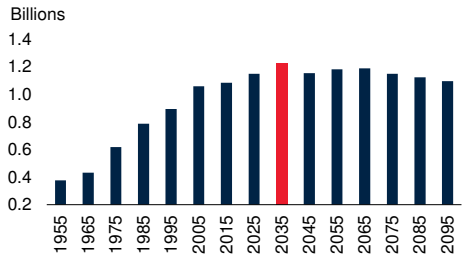
A historic and multifaceted jobs challenge

The 1.2 billion young people reaching working age over the next decade in EMDEs will constitute the largest youth cohort ever (figure ES.1.A). The numbers are large across all EMDE regions. However, they are becoming more concentrated in certain parts of the world, most notably Sub-Saharan Africa. In 2035, over 330 million young people will live in Sub-Saharan Africa, almost two-and-a-half times as many as in the year 2000 (figure ES.1.B). The Middle East and North Africa, as well as South Asia, will also see larger youth cohorts in 2035 than at the start of the millennium. In Sub-Saharan Africa

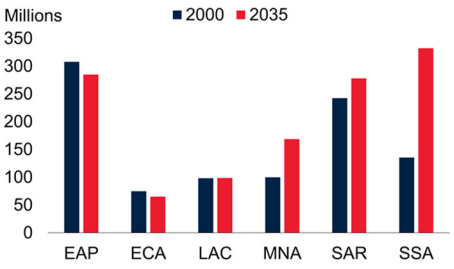
FIGURE ES.1 The global jobs challenge

Over the decade to 2035, around 1.2 billion young people in EMDEs are set to reach working age, the largest youth cohort the world will likely ever see. The youth surge in Sub-Saharan Africa and the Middle East and North Africa over the next decade will be their largest to date, making job creation an urgent priority. Yet global potential growth looks set to be one-third lower in the 2020s than in the 2000s. In the four regions with the largest incoming youth cohorts, recent job creation has not been sufficient to keep pace with projected growth in working-age populations over the next decade in the majority of countries. Investment growth is a priority: economies that have recorded higher investment growth have tended to record stronger employment growth.

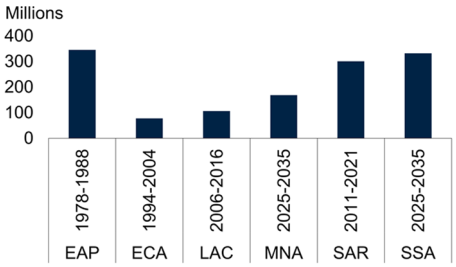
A. Young working-age people in EMDEs



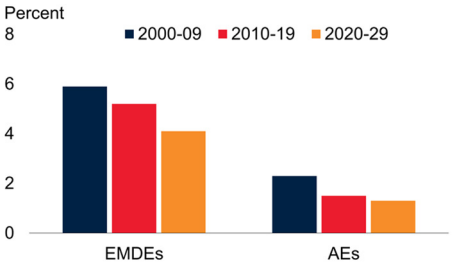
B. Youth cohorts by EMDE region, 2000 and 2035



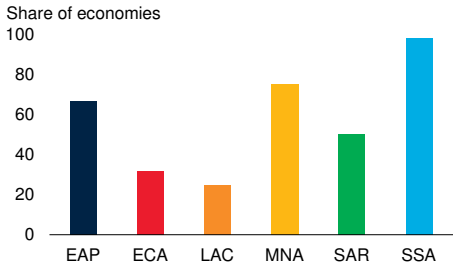
C. Peak youth cohort entering working age in EMDE regions



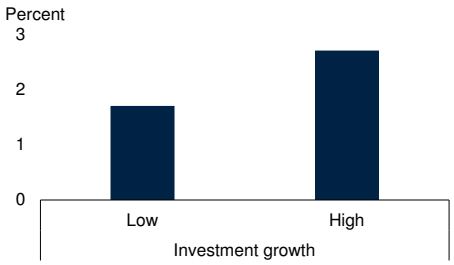
D. Potential growth



E. EMDEs with higher projected working-age population growth over 2025–35 than average employment growth over 2010–19



F. Employment growth in EMDEs with high and low investment growth



Sources: Haver Analytics; ILOSTAT (database); Kose and Ohnsorge (2024); UN World Population Prospects (2024); WDI (database); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.

A.B. Bars show the number of young people (aged 15–24), living in (A) EMDEs in each year, and (B) in each region in 2000 and 2035.

C. Bars show each region's peak inflow of young people (aged 15–24) over a decade.

D. Bars show GDP-weighted averages, from Kose and Ohnsorge (2024). Sample includes 53 EMDEs and 30 advanced economies.

E. Bars show the share of economies in a region that are projected to have higher working-age population growth over 2025–35 (number of people, on average, per year), than annual employment growth over 2010–19 (number of jobs, on average, per year).

F. Bars show group medians. "Low" and "High" indicate annual investment growth in the bottom and top third of the distribution. Differences in median employment growth are statistically significant at the 1 percent level. Sample includes 69 EMDEs from 2000–23.

and the Middle East and North Africa, these incoming youth cohorts will be the largest these regions have seen to date (figure ES.1.C). Other regions have already passed their peak youth cohort periods. In East Asia and Pacific, almost 350 million young people entered working age in the decade to 1988, that region's largest youth cohort, fueling a transformative growth experience that showed that large youth populations can help drive economic growth and development.

The global economic backdrop accentuates the jobs challenge. Global growth has slowed markedly in recent decades, amid weak investment, modest trade growth, and elevated uncertainty. Potential growth is projected to remain low in EMDEs over the current decade (figure ES.1.D). The overlapping crises of recent years have put strain on fiscal positions, constraining scope for policy action. Export-led growth strategies that helped power development in some countries in the past may be harder for EMDEs to execute going forward. Structural shifts, including emerging technologies such as artificial intelligence, offer new opportunities but also introduce fresh uncertainty about job creation prospects.

Most countries expected to see large increases in working-age populations over the next decade (and beyond) have not been able to sustain job creation at the same pace in recent years, including almost all countries in Sub-Saharan Africa (figure ES.1.E). Moreover, in some of the regions most-affected by the jobs challenge, initial conditions—including per capita incomes, institutional strength, skill levels, and debt-to-GDP ratios—are unfavorable, not just relative to other EMDEs now, but also compared to when other regions experienced their largest cohorts of young people reaching working age. More than one-fifth of the 1.2 billion young people set to reach working age over the next decade live in places currently classified as fragile and conflict-affected situations.

Turning the jobs challenge into an opportunity

Today's young people brim with potential. Although the jobs challenge is daunting, there are also causes for hope. The regions in which the challenge is largest often face difficult circumstances, but also have other attributes that, if harnessed effectively, could support sustained and rapid development progress. Even as traditional engines of growth are stuttering and uncertainty persists, new opportunities are also emerging. Policy action can help determine the path forward and create the conditions for sustained job creation.

There is no universally-applicable prescription for creating jobs, but three broad policy pillars can set the stage for strong investment and output growth. These pillars have been central to successful episodes of sustained job creation, as historical examples attest. Foundational infrastructure (spanning physical, human, digital, and natural capital) helps connect potential workers to job opportunities. A business-enabling environment, underpinned by macroeconomic stability allied with effective and efficient regulation and institutions, facilitates firm growth and job creation. Mobilizing private capital is vital for the higher investment growth that is needed to create additional jobs at scale.

Since 2000, those economies that have registered higher investment growth have also recorded much higher employment growth (figure ES.1.F). The optimal policy approach will depend on country circumstances, but all three pillars are essential.

Structural changes in the global economy—including new technologies, the energy transition, and shifting approaches to trade—will bring challenges but also opportunities, including in EMDEs. Infrastructure (including energy), agribusiness and farming, health, tourism, and value-added manufacturing represent five sectors with the potential to create large numbers of jobs in EMDEs, jobs that may also be relatively resilient to global developments.

Demographics are a slow-moving but powerful force: less prominent than many pressing challenges facing the world, but inevitably consequential, whether policy makers act or not. Job creation is a fundamental concern for policy makers, but there are other important employment-related considerations: advancing productivity and wage growth; addressing informality; and ensuring adequate working conditions and well-calibrated social support.

The central question, however, is whether policy makers in developing countries, supported by the international community, can translate the wave of young people in their economies into a demographic dividend that powers growth and prosperity, or whether demographic pressures instead become a drag on development. The World Bank Group has therefore placed jobs at the center of its development strategy. Drawing on its global and country-specific knowledge, it is leveraging its resources to provide tailored and timely financing, policy advice, and technical assistance to help governments unlock growth, catalyze private capital, strengthen markets, and create jobs at scale. Initiatives such as Mission 300 (bringing electricity access to 300 million people in Africa) and AgriConnect (transforming smallholder farming), sit alongside core diagnostics and measurement tools that integrate job creation and support policy makers.

Jobs will continue to be a cornerstone of efforts to advance poverty reduction and promote better living standards. In a changing world, the challenge is to create more and better jobs for the next generation.

A job is the best way to drive a nail in the coffin of poverty.

Ajay Banga (2025)
President
World Bank Group

CHAPTER 1

Overview

A record 1.2 billion young people are set to reach working age in emerging market and developing economies (EMDEs) between 2025 and 2035, making job creation a central development priority. These young women and men will likely represent the largest youth cohort ever: more than over any previous decade, and more than projected for any decade over the rest of this century. Although they represent a global cohort, the number of young people is projected to be increasingly concentrated in Sub-Saharan Africa, the Middle East and North Africa, and South Asia (figure 1.1.A; United Nations 2024).[1] The number of young working-age people in Sub-Saharan Africa has already doubled since the turn of the century.

There is hope and opportunity associated with this record wave of young people. They are better educated than previous generations and are expected to live longer. To tackle extreme poverty and promote shared prosperity effectively, most of these young people will ultimately need productive employment. Yet if current trends continue, almost 300 million of them will not be in employment, education, or training in 2035. This sharpens the need for a substantial expansion in job creation, especially in the countries most affected by this demographic bulge.

Delivering more jobs for the resulting larger workforces in EMDEs, especially those with surging numbers of young people, will be central to development progress over the next decade and beyond. Jobs matter to people. Recent global survey results document that concerns around work (unemployment, employment, and working conditions) and the economy (living standards, high prices, and low wages) are the two most-named issues globally, especially in low-income countries (LICs) and lower-middle-income countries (Gallup 2026).

Job creation is vital for driving economic growth, addressing inequality, and tackling poverty. Labor income has been the most important contributor to poverty reduction in the past (Azevedo et al. 2013). Jobs are also important to individuals' well-being, self-esteem, and happiness—they can provide purpose, stability, and hope—as well as to broader social cohesion (World Bank 2024a). Conversely, high levels of inactivity constitute a waste of resources, are a drain on human welfare, and can raise social tensions. Access to productive job opportunities can help set the next generation on a positive path.

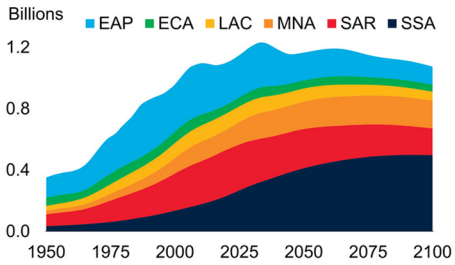
Note: This chapter was prepared by Tommy Chrimes, M. Ayhan Kose, and Kersten Stamm.

[1] This study focuses on the regions in which the World Bank Group operates: East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa (this region includes Afghanistan and Pakistan), South Asia, and Sub-Saharan Africa. This allows for a systematic assessment of where job creation needs are most urgent. Refer to appendix D for a list of economies included in this study.

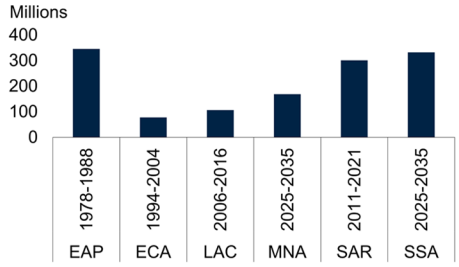
FIGURE 1.1 The global jobs challenge

The 1.2 billion young people set to reach working age in EMDEs over the next decade will be the largest youth cohort ever, but the distribution of the EMDE youth cohort is also shifting across regions. Moreover, in Sub-Saharan Africa, which is facing its largest ever youth cohort over the next decade, per capita incomes are low and government debt is high. FCS are more likely than other EMDEs to have large jobs needs.

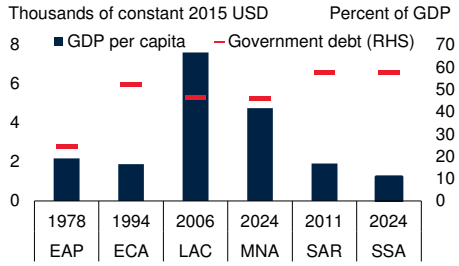
A. Regional breakdown of number of young working-age people in EMDEs, 1950-2100



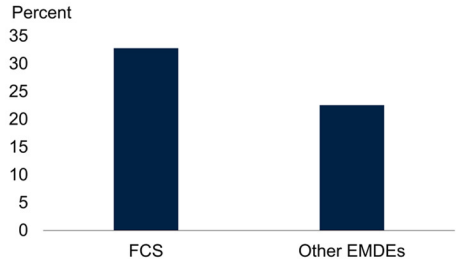
B. Peak youth cohort entering working age in EMDE regions



C. GDP per capita and government debt-to-GDP on eve of peak youth-surge decade



D. Young people as share of total working-age population in EMDE groups, 2035



Sources: Kose et al. (2022); UN World Population Prospects (2024); WDI (database); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; FCS = fragile and conflict-affected situations; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Panel shows the number of young people in each EMDE region, based on the full sample of UN data and projections out to 2100. The wave-like pattern in some regions reflects echo-generations following baby-boom years (World Bank 2021).
B. Bars show each region's peak inflow of young people over a decade.
C. Bars show median values by EMDE region at the start of the decade during which the largest inflow of young people aged 15–24 was recorded (or as close as data allows).
D. Bars show the median share of young people aged 15–24 as a share of the total working age population in FCS and other EMDEs excluding FCS in 2035.

In some respects, concerns about population growth are not new, but the challenges now are different.[2] The rate of population growth has already peaked in all regions, including Sub-Saharan Africa (Lam and Leibbrandt 2023). Even so, the number of young people reaching working age, and the working-age population as a whole, both continue to expand substantially in many EMDEs. The projected numbers of young

[2] The 1984 *World Development Report* focused on population growth (World Bank 1984). It warned of the task of achieving development objectives alongside rapid population growth in LICs and stressed the role of public policy in addressing associated human challenges. The 2013 *World Development Report* highlighted jobs as a critical driver of development (World Bank 2013).

people in the Middle East and North Africa and Sub-Saharan Africa look set to be the largest these regions have ever recorded (figure 1.1.B). In the past, many countries have succeeded in maintaining or raising the share of their working-age populations in employment over time. Some achieved this against a backdrop of significant numbers of young people. Such experiences, though not necessarily directly replicable in the years ahead, nevertheless contain lessons and convey hope for economies facing a jobs challenge today.

Many of the young people reaching working age in the years ahead will need jobs—indeed over time, most will. Evidence suggests that, without policy action, job creation will struggle to keep pace with the record projected numbers of young working-age people (and the related rises in total working-age populations) in the most affected regions. Since the 2000s, the share of young working-age people not in employment, education, or training (NEET) has risen in Sub-Saharan Africa, while the rate of job creation has not kept up with the increase in working-age populations. Over the next decade, almost all countries in Sub-Saharan Africa are expected to see their working-age populations grow faster each year than the average annual pace of job creation between 2010 and 2019. The same is true for two-thirds of countries in East Asia and Pacific, and almost three-quarters in the Middle East and North Africa.

The jobs challenge of today is further complicated by a combination of global headwinds, domestic fragilities, and compounding effects. Investment has declined significantly over the last two decades, pulling down global growth prospects (Adarov 2025; Kose and Ohnsorge 2024). Amid tepid trade growth and rising protectionist tendencies, growth strategies oriented around goods exports may be more difficult to execute successfully in future. Overlapping crises that have hit the global economy since 2020 have damaged fiscal positions, including in many of the countries most affected by the jobs challenge (Mawejje 2025). These crises have also contributed to elevated uncertainty, weighing further on investment growth and hiring decisions. Evolving structural shifts, including those associated with new technologies such as artificial intelligence (AI), as well as the energy transition, add to uncertainty around aggregate job creation prospects.[3]

Moreover, initial conditions in some of the regions most affected by the jobs challenge are stark, only relative to other regions today, but also compared with those prevailing in other regions on the eve of their own respective peak decades of young people reaching working age. Notably, in Sub-Saharan Africa today, incomes per head are lower, while government debt as a share of GDP is higher, squeezing scope for policy action (figure 1.1.C). Institutional quality is also relatively weak. Among EMDEs, the share of young people in the working-age population is projected to be particularly high in countries currently classified as fragile and conflict-affected situations (figure 1.1.D). In these economies alone, 270 million young people will reach working age by 2035. In Sub-

[3] On AI, refer to, for example, Acemoglu and Restrepo (2019a, 2019b), Cazzaniga et al. (2024), and the upcoming *World Development Report* on AI and development (World Bank, forthcoming). On climate change and the energy transition, refer to, for example, Feriga, Lozano Gracia, and Serneels (2024) and IMF (2022).

Saharan Africa, the number of young working-age people has already more than doubled since 2000. In many countries in Sub-Saharan Africa, the coming surge in young people follows several consecutive generations of sustained rapid population growth. This can put strain on already-limited infrastructure and services, complicating job creation efforts.

Although the jobs challenge is daunting, there are reasons for optimism. Diverse examples show that policies can positively shape job creation. Even though growth models that powered development in the past may have lost some impetus, new possibilities are emerging. Structural and technological shifts will bring opportunities for job creation, not just risks to existing roles. Sectors including infrastructure and energy, agribusiness and farming, health, tourism, and value-added manufacturing all show promise as engines of growth and employment for economies facing a jobs challenge (Bhorat et al. 2025; Development Committee 2025).

The youth surge itself also represents a huge opportunity, not just a challenge. If sufficient job opportunities can be created for the record wave of young people reaching working age in EMDEs, the dividend would be huge: this generation could power development progress and help reinvigorate global growth.

Against this backdrop, this study presents a comprehensive overview of the jobs challenge in EMDEs: creating sufficient job opportunities for the record wave of young people reaching working age. It focuses primarily on the next decade, but also looks out further beyond that, addressing three main questions:

- What is the global jobs challenge, and how should it be measured?
- Why is overcoming the jobs challenge harder now?
- What policies can help tackle the jobs challenge?

Contributions

This study sheds light on key issues shaping policy debates and makes several contributions to the literature.

Demographic and employment-related trends. The study provides an overview of key population trends and projections for population growth, youth cohorts reaching working age, and changes in the working-age population as a whole across EMDE country groups and regions. The literature to date generally has a more limited regional focus.[4] This global perspective helps to shed light on evolving dynamics and regional divergences. The study also assesses wider employment-related data over the last quarter-century, marrying this with insights about links between employment, demographics,

[4] For studies that have addressed regional or national job-related issues, refer to, for example, IMF (2024), Lam and Leibbrandt (2023), and World Bank (2023a) for Sub-Saharan Africa; Gatti et al. (2024) for the Middle East and North Africa; Beyer (2018) and World Bank (2024a) for the South Asia region; and Gill, Huang, and Kharas (2007) and World Bank and PRC (2012) for East Asia and Pacific.

and economic growth (including in appendix C). This study focuses on the near-term jobs challenge of a historic number of young people reaching working age but also offers a longer-term perspective as the jobs challenge becomes increasingly concentrated in Sub-Saharan Africa (box 3.1).

Assessment and magnitude of the jobs challenge. The study outlines different terms and methodologies for articulating the scale of the jobs challenge (box 2.1; appendix B).[5] The number of young people reaching working age offers a simple and impactful perspective over the short to medium term. This "youth method" is the primary approach used in the study. Assessing changes in the working-age population offers complementary insights to the youth method, particularly over longer time horizons. The simplicity of these methods makes them helpful for global comparisons. More complex approaches, including efforts to account for employment growth, make additional assumptions, adding refinements but also introducing extra uncertainty. The study presents results from these different methods and explains how they can offer complementary insights, discussing limitations and advantages associated with each approach.

Considerations for policy makers. Policy choices can affect job creation through different channels as policy makers seek to address the jobs challenge. The study gathers insights from empirical evidence and case studies of countries that have experienced sustained periods of job growth and employment ratio growth (box 4.1 and appendix A). It also considers lessons from the literature on job creation. Additional material summarizes the five high-potential sectors identified by the World Bank Group (box 4.2). The study uses these insights to outline key considerations for policy makers aiming to address the jobs challenge, including around the role of the public sector.

Playbook for country-level analysis. Drawing on the analysis and policy recommendations in this study and other relevant work, the study presents a concise playbook for assessing the scale and nature of country-specific jobs challenges and developing policies to address them (box 1.1). The playbook provides a strategic starting point. It should be complemented with more detailed country- and sector-specific evidence and insights.

Discussion of issues surrounding job quality. Much of the existing literature stresses concerns around the quality of employment.[6] Measures to enhance productivity and wage growth, address informality, and ensure appropriate working conditions and protections for the labor force are also important for furthering economic development

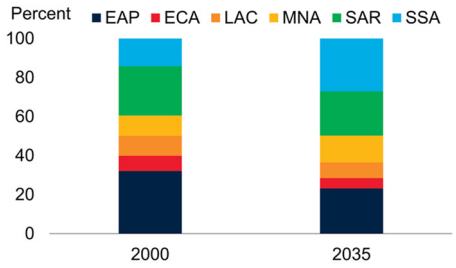
[5] Most approaches in the literature derive from working-age population projections. For example, ADB (2019) extrapolates labor force growth based on working-age population projections; Fox et al. (2020) focus on the number of young people entering working age in addition to the working-age population; ILO (2014, 2024) both apply different employment-to-working-age population ratios; IMF (2024) also utilizes assumptions about labor force growth; Viollaz et al. (2023) use a micro-macro simulation framework to project employment growth; and World Bank (2023a, 2024b) both project recent employment growth trends into the future. For more details, refer to appendix B.

[6] A range of studies have emphasized issues relating to the quality of jobs globally. Refer to, for example, World Bank (2013, 2019a). Cross-country studies focused on aggregate employment levels are less common.

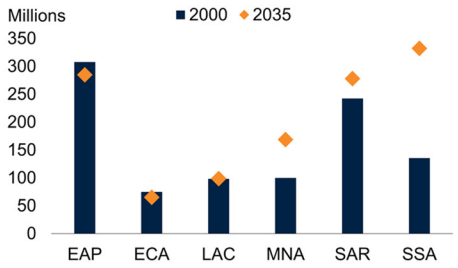
FIGURE 1.2 Shifting regional dimensions of the jobs challenge

The geographic distribution of young people reaching working age is shifting. By 2035, Sub-Saharan Africa will have the largest share of young working-age people in EMDEs, and will also account for the majority of working-age population growth through 2050. Large numbers of young people in EMDEs are not in employment, education or training. This varies by region, with the share in the Middle East and North Africa particularly high, and the number in Sub-Saharan Africa rising.

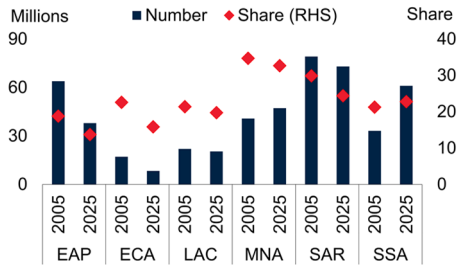
A. The distribution of EMDE young people by region, 2000 and 2035



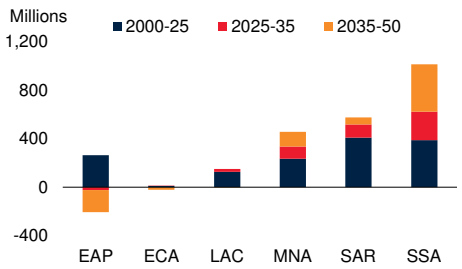
B. Young people by EMDE region, 2000 and 2035



C. Young NEETs by EMDE region, 2005 and 2025



D. Working-age population change by EMDE region, past and projected



Sources: ILOSTAT (database); UN World Population Prospects (2024); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; NEET = not in employment, education, or training; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Panel shows the share of young people living in each region, out of the total population of working-age young people (those aged 15–24) in all EMDEs, as of 2000 and as projected for 2035.

B. Bars show the number of young people in each region in the year 2000, diamonds show the number of young people in each region in the year 2035 (projected).

C. Bars show the number of young people not in employment, education, or training (NEET). Diamonds show the share of young people not in employment, education, or training (NEET). Data for 2025 are projections.

D. Bars show the change in the working-age population, those aged 15-64, in each region over the indicated time period. The change in the working-age population is the combination of new people turning 15, and individuals exiting the working-age population.

and prosperity. This study highlights these issues as parallel objectives to job creation, providing an overview of them to place the jobs challenge in a broader policy context.

Main findings

The study offers the following main findings:

Magnitude of the challenge

The number of young people set to reach working age in EMDEs over the next decade is historic and may never be surpassed. As described in chapter 2, this youth wave includes

large numbers of young people from each EMDE region, but is also evolving over time (figure 1.2.A). Over the next decade, three EMDE regions stand out in particular: Sub-Saharan Africa (330 million people reaching working age by 2035), South Asia (280 million), and the Middle East and North Africa (170 million). While the 280 million in East Asia and Pacific is also large, it is substantially lower than the equivalent figure at the dawn of the century; in Europe and Central Asia too, the number of young people reaching working age over the next decade (65 million) will be lower than it was in the decade leading up to 2000. In Latin America and the Caribbean, the youth wave over the decade to 2035 (100 million) is similar in size to that in 2000 (figure 1.2.B).

A significant number of existing young working-age people are not engaged in employment, education, or training. These figures are significant enough to cause concern in many advanced economies. In EMDEs, as of 2025, they represented about 240 million people in total. However, in some EMDE regions, more than one-quarter of young people fall into this category (figure 1.2.C). In Sub-Saharan Africa, the number of young people not in employment, education, or training has increased by over 70 percent since 2005, to 60 million, and in LICs it has doubled, to 40 million, over the same period.

Projections of the number of young people reaching working age provide a clear and powerful headline articulation of the jobs challenge. This approach, the "youth method," is the primary one used throughout the study. Projections for the working-age population as a whole, factoring in those leaving the working-age population, as well as those entering it, provide a useful complementary perspective that is robust over longer timeframes, and can be expressed in either millions of people or as a percentage change over time.

Both the youth method and the working-age method provide simple, clear anchors for evaluating the jobs challenge, with limited scope for distortion via assumptions. More complex methods—factoring in labor force participation, employment ratios, and/or projected employment growth—can add further insights. However, by layering additional assumptions onto working-age population projections, they add refinements but also increased uncertainty, especially over medium- and long-term horizons.[7] Overall, the three most common approaches to quantifying the jobs challenge—the youth method, working-age population projections, and ratio methods—reveal a largely consistent picture in terms of the evolution of the jobs challenge and the most-affected countries, though the youth method's focus on numbers of people naturally gives additional weight to those regions and countries with larger current populations.

Measured in millions of people reaching working age, several large, populous countries—including China, India, and Nigeria—rank among those projected to have the

[7] Accurately gauging the jobs challenge is complex because key drivers, such as employment ratios, labor force participation, and employment growth, vary widely across countries and can shift quickly. Estimates of the gap between people needing jobs and available employment are subject to significant uncertainty, especially over longer horizons. For example, one study shows that simply varying labor force participation assumptions in India produces a range of between 60 and 148 million jobs that would need to be created by 2030 (Alonso and MacDonald 2024).

largest youth surges over the decade to 2035. The top ten countries on this metric span five different EMDE regions. However, when this youth cohort is expressed as a share of the total working-age population, a different set of economies, mostly from Sub-Saharan Africa, see a larger youth wave.

Looking further ahead beyond the next decade, job creation pressures may become even more concentrated in Sub-Saharan Africa. Considering changes to the working-age population as young workers enter and older workers exit, between 2025 and 2050, the working-age population in EMDEs will increase by 800 million. Three-quarters of these additional people will come from Sub-Saharan Africa, while the working-age population in East Asia and Pacific is projected to decline, a notable shift from the previous 25 years (figure 1.2.D). This is driven by young people but also by rising life expectancy swelling the ranks of working-age people. The projected increase in Sub-Saharan Africa's working -age population over the next quarter-century, in terms of the number of people added, is larger than any region has ever experienced over an equivalent 25-year period, and it is also larger in percentage increase terms than in any other region's peak.

Many EMDEs are facing job creation challenges even as global population growth is slowing and populations are aging. Patterns of youth surges vary across and within EMDE regions. In many economies where a large share of the population reached working age over the past decade, the share of young working-age people not in employment, education, or training has tended to rise (figure 1.3).

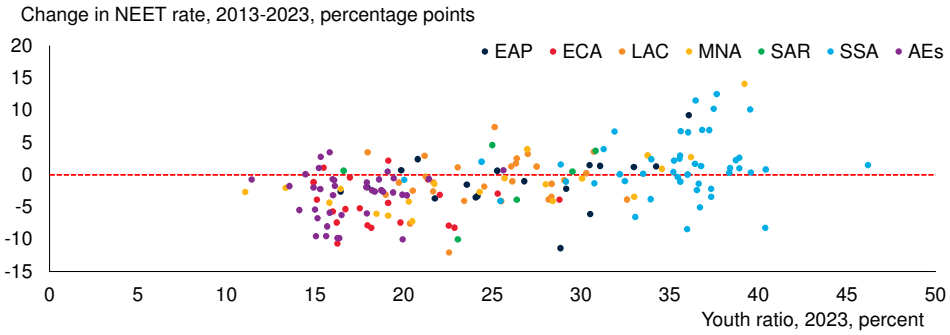
Yet in other advanced economies and several large emerging markets, the number of young people reaching working age is falling, and working-age population growth is stalling or even reversing. Large older populations create different policy predicaments. The share of the total population aged 65 or above grew in every region between 2000 and 2020. Over the second half of this century, in most regions, the cohort aged 65 or over will outnumber those under 25. Declining fertility and increasing life expectancy are global phenomena that will also impact EMDEs facing a jobs challenge over the coming years. Aging societies are exacerbating fiscal and social pressures and slowing potential growth. In many EMDEs, this aging process looks set to happen faster than in advanced economies. EMDE policy makers will therefore need to plan for aging alongside taking steps to address the jobs challenge.

Factors that complicate addressing the jobs challenge—and some that offer hope

As discussed in chapter 3, a weaker and highly uncertain global growth environment will likely make it harder to generate the necessary employment growth in regions facing a large jobs challenge. Potential output growth in EMDEs is expected to average just 4 percent a year in the 2020s, down from 5 percent in the 2010s and 6 percent average growth in the 2000s (Kose and Ohnsorge 2024). Weak investment and slow productivity growth, as well as elevated trade and geopolitical uncertainty, are contributing factors. In EMDEs excluding China, investment growth averaged about 6 percent per year in the 2000s but fell to 3 percent in the 2010s.

FIGURE 1.3 Young people as a share of the working-age population in 2023 and change in NEET rates, 2013–23

The number of young working-age people varies by economy within regions as well as across them, but some EMDE regions, notably Sub-Saharan Africa, have a larger share of young people within their working-age populations. Over recent years, these younger economies have tended to see an increase in the rate of young working-age people not in employment, education, or training.



Sources: ILOSTAT (database); UN World Population Prospects (2024); World Bank.
Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; NEET = not in employment, education, or training; SAR = South Asia; SSA = Sub-Saharan Africa. The x-axis shows the share of young working-age people (aged 15-24) in the total working-age population in EMDEs and advanced economies in 2023. The y-axis shows the cumulative percentage point change in the share of 15–24 year olds not in employment, education, or training over the preceding 10-year period during which these young people reached working-age. Each dot represents one country. Red dashed line indicates no change in the NEET rate between 2013 and 2023.

Stalling population growth in advanced economies and several large EMDEs that account for most current global demand hampers export prospects for countries facing a jobs challenge. There has been a significant slowdown in global trade growth, an engine of development earlier in the century, with the annual average rate almost halving since the 2000s (World Bank 2025a). In parallel, the number of trade-restricting policy measures has surged.

Many countries facing historic waves of young people reaching working age and a surge in their working-age populations are not as well placed to cope with the challenge as their predecessors. Sub-Saharan Africa, where the jobs challenge is most acute, scores poorly on several key economic and social indicators relative to other EMDE regions at the start of their historical peak youth surge decades. All other regions had higher per capita incomes when their respective surge decades began. Only one other region had a higher debt burden, and half had more educated workforces. Alongside weak initial conditions, fiscal policy choices have been further constrained by the overlapping global shocks since 2020 (Chrimes et al. 2024; Mawejje 2025).

Employment-related issues are already substantial in affected regions. Pervasive informality, high levels of low-productivity employment (notably in agriculture in many LICs, and in the public sector in some countries), and widespread economic inactivity (including large-scale youth unemployment) all pose significant obstacles for many EMDEs (IMF 2024; World Bank 2024a). A further doubling of populations in many of

these countries over the next 25 years will put more pressure on existing physical infrastructure and government capacity.

Addressing the jobs challenge is also complicated by weaknesses in some key labor market trends. The gap between working-age population growth and employment growth has widened in EMDEs since 2010. In almost all of Sub-Saharan Africa, as well as three-quarters of countries in the Middle East and North Africa and half of countries in South Asia, expected average annual growth in the working-age population between 2025 and 2035 exceeds average annual employment growth seen over 2010–19. Absent sufficient new job creation, a multitude of economic, social, and political pressures could emerge in regions with fast-growing populations as more young people approach working age. Various countries and regions generated significant jobs growth in the past (Lam and Leibbrandt 2023). However, some strategies that have historically generated jobs growth may not be as effective for those countries facing a large jobs challenge in the future.

Evolving technological changes, including AI, may bring opportunities, although they also introduce additional uncertainty into efforts to address the jobs challenge. New technologies such as AI could boost productivity and may even enhance wages for some. Historically, technological advances, including labor-augmenting technologies, have tended to open up new opportunities for job creation (Autor et al. 2024; World Bank 2019a). Yet there will also be a labor substitution effect from AI, with hundreds of millions of jobs potentially vulnerable (Briggs and Kodnani 2023). The net impact of these offsetting forces on jobs is uncertain (Acemoglu and Restrepo 2019a). The immediate impacts of AI may be more muted in EMDEs relative to advanced economies. The longer-term effects on employment will depend partly on the flexibility of labor markets and the retraining of displaced workers. EMDEs, however, are less well placed to capture the economic benefits of AI—including employment gains—because of weaker digital infrastructure and skills bases. This could widen the digital divide between advanced economies and EMDEs (Cazzaniga et al. 2024).

The energy transition could also have important implications for employment. Weather-related changes are already harming some workers, especially in the agricultural sector; the frequency and intensity of weather-related economic disruptions are expected to grow (Feriga, Lozano Gracia, and Serneels 2024). The impacts will likely be more acute in many lower-income countries (World Bank 2023b). The energy transition, moreover, will involve sizable—though not unprecedented—shifts in employment, including from emissions-intensive industries toward greener sectors (IMF 2022; World Bank 2023c).

There are potentially transformational opportunities in the global jobs challenge, if EMDEs can act to secure the significant investment they need and deploy it successfully to support job creation. At the heart of this hope, the youth population itself holds huge promise. Today's young people in EMDEs are better educated than previous generations. Countries with younger populations also tend to be better placed to adapt to new technologies (Dieppe 2021). Meanwhile, despite the complex macroeconomic backdrop, many of the countries that face a large jobs challenge also hold natural advantages, from

mineral deposits to tourism potential, that could—if leveraged effectively—help create jobs and close development gaps (Chrimes et al. 2024).

Policies can help turn the tide. As outlined in chapter 4, policy action to reverse weakening macroeconomic trends, repair losses inflicted by recent shocks, facilitate the flow of cross-border capital to countries facing a jobs challenge, and equip economies and the labor force to navigate future developments will all be vital to sustainable job creation. Case studies highlight that a range of countries have undertaken policy changes that helped yield sustained increases in employment growth and the share of adults in work.

Policy messages

There is no magic bullet for generating jobs on the scale required to overcome the jobs challenge, but common themes emerge from country case studies and the literature. Jobs are a function of economic activity, and even though the strength of the link between economic growth and job creation varies over space and time, economic growth is necessary for sustained and durable employment growth. Policies that can unlock sustainably higher investment and productivity growth are likely to be key. The World Bank Group's jobs strategy revolves around three pillars—foundational infrastructure (spanning physical, human, digital, and natural capital), a business-enabling environment, and private capital mobilization—as central to efforts to boost job creation (Development Committee 2025). Improvement on several dimensions of these pillars is a common thread across the case studies.

Foundational Infrastructure

Well-functioning infrastructure and public services are important foundations for private sector job creation. Infrastructure helps join up supply with demand: jobseekers with job opportunities, and products and services with markets. Physical infrastructure can help ease the drag of geographic impediments to economic activity, smoothing and facilitating connections between individuals and firms, and between firms and markets. Well-functioning basic infrastructure—such as transport, energy, and clean water—serve as the backbone of economic activity and can be a catalyst for job growth when stakeholders join forces to solve complex barriers to growth, as in the Mission 300 initiative which aims to provide 300 million people with electricity access by 2030. In the modern world, reliable digital infrastructure, itself dependent on electricity connections, plays a complementary role in breaking down distance-related barriers and enhancing productivity. Digital infrastructure will impact how firms and individuals are able to leverage new technologies such as AI.

In addition to physical infrastructure, tackling the jobs challenge effectively also depends on the skills and capacities of workers (Lam and Leibbrandt 2023). Better human capital can help improve the quality of labor supply and better match it to evolving demand. Healthy and well-educated people are more likely to find jobs and to create them.

Investment in education and health care can bolster employment prospects, productivity, and poverty reduction (Adarov 2025; Gill, Revenga, and Zeballos 2016).

Enhancing skills across the whole labor force, including underrepresented groups and those engaged in declining sectors, is a crucial part of packages to deliver sustained high aggregate employment (World Bank 2018, 2024c). Technical and vocational initiatives are important, though circumstances and program design matter. Enhancing early-stage education, nutrition, and health care can generate long-run benefits, including for employment prospects.[8] Better links between educational institutions and employers can help ensure those joining the working-age population are equipped with the skills sought by firms (Cunningham and Villaseñor 2016).

A business-enabling environment

Fostering an environment in which firms can grow and invest is pivotal to job creation efforts. Macroeconomic stability is the bedrock of an enabling environment: without this, it is difficult for firms to make investments and hiring decisions. Fiscal credibility, robust monetary policy, and well-calibrated oversight of financial markets, all underpinned by strong institutions, can together serve as a platform, enabling additional reforms to drive additional investment and economic growth (Adarov 2025; Development Committee 2026).

The business environment also hinges on wider institutional strength and effective, efficient regulation. Clear, consistently applied rules and laws, including to protect property rights, promote competition, and encourage formal sector participation, can support the expansion of productive firms (World Bank 2019b). In turn, this can support job creation. Reform packages to this end have tended to be more effective in boosting investment in countries where institutional standards are already high (Stamm and Yu 2024). This underscores the importance of building and maintaining institutional credibility over time.

Wider government policy settings can also influence the business environment. These can include openness to cross-border flows of goods, services, capital, or labor. Policy settings can shape how firms and individuals adapt to structural shifts, including new technologies (Acemoglu and Restrepo 2019a; World Bank forthcoming). They can also include labor market policies to facilitate labor mobility and smooth frictions that impede efficient matching of potential workers to vacancies, reducing structural unemployment.

Private capital mobilization

Unlocking private investment depends in part on the first two pillars: having good physical, human, digital, and natural capital in place helps to attract investors, and so

[8] There is a wide literature on childhood experiences shaping long-run outcomes. For example, Akseer et al. (2022), Cunningham and Villaseñor (2016), and Fox and Gandhi (2021) all emphasize the importance of early-life interventions on individuals' later employment and broader economic prospects.

too does a stable and enterprise-friendly macroeconomic environment (Development Committee 2026). These pillars can also be mutually reinforcing. Firms frequently cite inadequate access to finance as an impediment to doing business and expanding; deeper financial markets can help alleviate this constraint. Similarly, while foundational infrastructure is critical to unlocking private capital, private investment can play an important role in providing such public goods, particularly in the context of constrained public finances (Adarov 2025).

Country case studies

Many countries have successfully achieved sustained employment growth, often through a comprehensive set of growth-enhancing policy reforms. Five country episodes of sustained high employment growth and improving employment-to-population ratios are examined. Insights from other examples are also mentioned. The right policy mix depends on country circumstances, and success has often resulted from multi-layered policies implemented over several years. In some cases, strong employment growth episodes have resulted from broader growth strategies, involving sectoral shifts in output and employment, accompanied by improving education levels and a suite of structural reform measures. In other cases, labor market reforms have played a central role. In several examples, significant reforms to enhance macroeconomic stability have been important in creating the conditions for sustained output and employment growth.

Complementary policies beyond the three pillars

Beyond the three pillars, there are also sectoral dimensions to creating more and better jobs, including the role of sectoral transformation in driving investment and productivity growth (refer to, for example, Ohnsorge, Rogerson, and Xie 2024; World Bank 2024c). Meanwhile, as structural shifts challenge growth models that served a number of EMDEs well in the past, new sectors stand out as holding particular potential for delivering resilient local job creation at scale.

The World Bank Group has identified five sectors with strong potential for job creation: infrastructure (including energy), agribusiness and farming, health, tourism, and value-added manufacturing (Development Committee 2026). These sectors could make outsized contributions to employment and economic growth, not only by creating jobs directly, but also by supporting broader growth and job opportunities in ancillary segments of the economy.

Infrastructure—especially transport, energy, and digital connectivity—can be a catalyst for private-sector expansion. Farming and agribusiness employ hundreds of millions of workers in EMDEs, and there is potential to create more and better jobs along the wider agribusiness value chain. The AgriConnect initiative, which targets the transformation of smallholder farming, is leveraging the potential of agribusiness and technologies such as small-AI. Investment into health can have economy-wide growth benefits, including through human capital. Tourism is a labor-intensive, tradable service sector with wide employment spillovers, linkages to other sectors, and strong job creation potential.

Value-added manufacturing is critical for structural transformation and the energy transition, with potential for resource-rich economies in particular to create additional jobs along the value chain.

Country-level policy reforms and a supportive international environment will both be critical for reinvigorating growth. Growth and job creation are both likely to be driven by the private sector, but they will be shaped by government policies. The public sector must play an enabling role, through direct investment, co-financing, and by the establishment of clear rules and incentives that foster private-sector-led growth.

Tackling the jobs challenge also requires policies to better integrate underrepresented segments of the population—especially women—into the workforce. Female participation varies significantly by sector, with education, health, tourism, and other service-sector growth areas often employing more women. It also varies by region, with low rates in South Asia and the Middle East and North Africa, partly a product of cultural norms. Creating more jobs for women in these regions will be crucial in addressing the jobs challenge and enhancing shared prosperity. Closing education gaps and providing other flexibilities to facilitate the participation of underrepresented groups in the labor force would support aggregate employment, maximize productive capacity, and underpin growth.[9]

For the foreseeable future, creating jobs will remain a principal pathway to poverty reduction and better living standards in EMDEs. Yet as discussed in chapter 5, job creation alone will not solve all problems: issues relating to the quality of jobs (including boosting productivity and wage growth, addressing informality and inclusion, and ensuring labor standards and rights) are also vital employment objectives for advancing development (World Bank 2013, 2024a). In some cases, measures to improve the quality of jobs might support aggregate job creation, but not always. Policy makers must calibrate their approaches in the context of limited resources. Job creation—over the short and the long term—should be a key consideration for policy makers in countries everywhere, but it is a particular priority in economies with large numbers of young people reaching working age.

International cooperation

International cooperation will be critical to addressing the jobs challenge and can be mutually beneficial. Cooperation to foster an open, responsible, and predictable international economic system can provide greater certainty for firms and investors. Timely international coordination to resolve unsustainable debt situations can free up fiscal space for vulnerable countries to address the jobs challenge and help contain spillovers. Maintaining trade openness and stability and facilitating the orderly movement of capital flows between countries, including those with a jobs challenge, can

[9] Reductions in gender and racial barriers have been found to explain 20–40 percent of economic growth between 1960 and 2010 in the United States, for example (World Bank 2024c).

generate mutual benefits. Even if global trade growth remains muted, there is potential for expanding trade between EMDEs (World Bank 2025b). Maximizing cross-border opportunities would require collaborative and carefully calibrated policy design, as well as broad-based political will and social acceptance across countries.

Countries with shrinking working-age populations share an incentive to cooperate with countries with growing working-age populations. Well-managed movement of labor, including legally across borders, could help fill labor supply gaps in economies facing worker shortages, easing global mismatches of supply and demand for labor (OECD 2024; World Bank 2023d). The looming divergence in youth cohorts and working-age population growth will likely be a key driver in global migration flows. Addressing this constructively and cooperatively through partnerships could bring benefits and limit risks for all parties.

Effective support from donors and international organizations can play a valuable role in addressing the jobs challenge, strengthening foundations and catalyzing investment. To this end, the World Bank Group is putting jobs at the center of its development strategy and operations. Its concessional lending arms, the International Bank for Reconstruction and Development and the International Development Association, along with the International Finance Corporation (focused on the private sector in EMDEs) and the Multilateral Investment Guarantee Agency, are working in concert—providing financing, policy advice, and technical assistance—to unlock growth, catalyze private capital, strengthen markets, and create jobs at scale.

Successfully addressing the jobs challenge in the most-affected regions would contribute to better development outcomes and have positive global spillovers. As discussed in chapter 6, job creation is key for sustained economic development and for social stability (Gill, Huang, and Kharas 2007). Absent adequate job opportunities, young people of working age will face increasingly bleak choices, including a subsistence-level existence or unstable, sporadic informal work. Some will turn to crime or violence. Without effective job creation, demographic trends could exacerbate fragility and conflict.

The jobs challenge is not confined within borders. Poor economic opportunities and increased conflict, violence, or persecution may drive migration (World Bank 2023d). Conversely, harnessing the potential of growing working-age populations effectively would deliver significant economic dividends (World Economic Forum, World Bank and African Development Bank 2017). These include lower dependency ratios, stronger growth, and better development outcomes. However, these dividends will only materialize if these additional working-age people can secure jobs (World Bank 2016).

BOX 1.1 A jobs playbook

The jobs challenge—how to create enough employment opportunities for large numbers of young people reaching working age—is acute in many emerging market and developing economies (EMDEs). The scale and nature of the challenge, as well as the underlying constraints, vary across countries. This box presents a three-step "jobs playbook" to guide policy makers, based on the analysis and policy recommendations of this study, including the country case studies. Overcoming the jobs challenge involves: 1) identifying the dimensions of the jobs problem; 2) analyzing bottlenecks to job creation; and 3) designing and implementing the right policies. The World Bank Group supports countries in designing and implementing customized approaches to address their specific jobs challenge.

Step 1. Identify the nature, magnitude, and duration of the jobs challenge

There are different approaches to quantifying how many jobs a country will need to create. Some techniques focus solely on demographics, either tallying the number of young people entering working age over a given period, or considering the overall net change in the working-age population, commonly defined as those aged 15-64. It is important to consider the jobs challenge both relative to the working-age population size and in terms of the absolute number of jobs needed. More complex estimates try to incorporate projections of employment growth to estimate a "gap" between working-age population growth and employment growth. Where available, robust, granular labor force data on sectors, age groups, and other dimensions can be instrumental in assessing the scope of the jobs challenge.

The jobs challenge relates to large numbers of people reaching working age (or related measures) and the job opportunities needed for these additional people. Other employment-related issues can also be vitally important complementary objectives. These include advancing productivity and wage growth, addressing informality, the quality of jobs, and unemployment and underemployment. These other issues can exist in parallel to a jobs challenge. For some countries, they may be more significant.

World Bank Group analytical tools and operational products can help countries identify and diagnose their jobs challenge and other jobs-related issues. The World Bank Group can also help countries undertake and implement jobs-related surveys and steps to strengthen statistical capacity.

Note: This playbook was prepared with inputs from across the World Bank Group.

BOX 1.1 A jobs playbook *(continued)*

Step 2. Analyze bottlenecks to job creation

Countries that have overcome a jobs challenge in the past have usually done so by addressing key bottlenecks, generating both output growth and employment. Initial conditions, both in-country and in the global environment, are important. Demographic trajectories, natural resource endowments and geography, sectoral contributions to output, and other country characteristics can shape job creation constraints and opportunities. The World Bank Group can leverage both in-depth country knowledge and cross-country experiences to help develop the evidence base for what is holding back job creation and to highlight untapped potential.

- **Determining the extent of required foundational investments and identifying priority areas.** Infrastructure for clean air, water, transportation, and energy is vital for people and businesses to thrive. Human capital helps to build a productive workforce and reduce poverty. Lifelong learning and targeted skills training for fast-growing sectors, such as AI-powered health care, can help workers adapt to changing labor markets. Climate resilience and adaptation protect against shocks that threaten food security and public health. Capital markets are often underdeveloped in many developing economies, especially in low-income countries (LICs) and fragile and conflict -affected situations.

- **Assessing the strength of institutions and governance systems.** Credible institutions and consistent policies reduce uncertainty, foster macroeconomic stability, and create a supportive business environment that strengthens output and employment growth and the functioning of labor markets. Identifying constraints to private sector growth—such as excessive or ambiguous regulation, an unclear or inconsistent legal environment, distorting barriers or subsidies, or high risk and uncertainty for investors—is critical to developing effective policy strategies. So is assessing governments' capacity to implement reform measures and ensure regulatory predictability. Historically, countries with better institutional quality have been more effective in attracting investment through regulatory reforms.

Step 3. Develop and implement the right policies

Comprehensive policy strategies should focus on three broad pillars: foundational infrastructure for jobs(spanning physical, human, digital, and natural capital); fostering a business-enabling environment (including through macroeconomic stability, efficient and effective regulation, and strong institutions); and mobilizing private capital. Effective policy strategies may require both near-term and longer-run components. The public sector plays an enabling role in unlocking

BOX 1.1 A jobs playbook *(continued)*

progress across different areas: through direct investment or co-financing, or by creating conditions and setting incentives to facilitate private sector involvement.

The World Bank Group supports countries in designing, implementing, and financing comprehensive jobs strategies. In addition to financing, it provides policy advice, technical assistance, and analytical tools to help identify gaps in foundational policies, impediments in the business environment, and constraints to private sector financing. Countries which face a large and persistent jobs challenge may require multi-pronged strategies that combine immediate measures with longer-term reforms. Drawing on both its global knowledge base and country-specific diagnostics, the World Bank Group offers a wide range of services to help governments craft timely, effective, and context-specific responses. Within the World Bank Group, the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation, and the Multilateral Investment Guarantee Agency work in concert—providing financing, policy advice, and technical assistance—to help countries unlock growth, catalyze private capital, strengthen markets, and create jobs at scale.

Foundational infrastructure for jobs

Well-functioning basic infrastructure and public services are the foundation for sustained job creation and prosperity. Investments in schooling and lifelong learning, a healthy workforce, a clean environment, reliable and efficient transportation systems, and affordable and reliable energy are important ingredients for a vibrant private sector. Effective, targeted public investment into these public goods can underpin job creation and growth, including by crowding in private investment. Even in many fragile settings, the private sector will play a central role in filling investment gaps, including in the financing and provision of infrastructure.

- **Investing in human capital.** Early-childhood interventions set the stage for subsequent long-term outcomes. Initiatives range from addressing stunting to fostering cognitive and physical development through childcare and pre-primary education. Improving secondary and tertiary education outcomes to deliver the skills and training needed in job markets today and in the future is critical. In schools, better management and monitoring, a focus on learning over grades, the effective use of digital technologies to aid instruction, teaching at the right level, and support for struggling schools can contribute to improved outcomes. Beyond the classroom, vocational training through apprenticeships, public works that enhance workplace skills, and support for job searchers help close existing gaps. Affordable childcare, the removal of

BOX 1.1 A jobs playbook *(continued)*

distorting regulations that discourage hiring, and other measures to enhance labor mobility can combat underutilization of labor and skills.

- **Improving access to health care, sanitation, clean air, and water.** Health interventions such as deworming, malaria control, improved sanitation, and child nutrition are often recognized as high-return investments. Public investment in essential services can support households and strengthen economic activity. Decentralized service delivery models can empower local institutions to effectively supply public goods.
- **Strengthening transportation infrastructure.** Investments in public infrastructure and services help workers and firms benefit from urban agglomeration and industry clusters. Policies should focus on competitive transport supply chains, including inputs such as fuel and labor; related industries such as repair services; and effective regulation and coordination between regulatory agencies. Strong transportation infrastructure requires investments in roads, rail, and waterways, including through private sector participation, streamlining port and border procedures, and managing congestion.
- **Ensuring affordable, accessible, and reliable energy.** Policy makers should focus on boosting access and energy efficiency, as well as removing regulatory constraints and strengthening regional power grids. In much of the world, renewable energy can now deliver affordable, accessible, and reliable power. In some contexts, natural gas may be appropriate. Nuclear power could also be part of the long-run energy mix. Investing in transmission infrastructure and developing regulatory, institutional, and market frameworks can help countries integrate into regional power grids. Off-grid renewable energy solutions can boost access and the resilience of energy connections.
- **Boosting digital infrastructure.** Expansion of digital technologies and widespread, reliable access to them can increase efficiency and support job creation, reducing the impact of physical distances, speeding up activities, and increasing the sharing of information. Success hinges on investment in the right underlying infrastructure.

Fostering a business-enabling environment

Job creation at scale is more likely when institutional quality is high, the macroeconomic environment is stable, regulation is efficient and effective, and policy makers implement credible policy frameworks that reduce uncertainty—an especially important priority in fragile and conflict-affected situations. Policies that encourage productive small and medium-sized enterprises to grow (and facilitate the exit of less productive firms from the market) are fundamental.

BOX 1.1 A jobs playbook *(continued)*

- **Advancing institutional reforms.** Effective policy interventions strengthen independent regulatory institutions, prioritize judicial independence and enforcement, reduce discretionary actions, and commit to predictable long-run policy frameworks.
- **Fostering a stable macroeconomic environment, a friendly business climate.** Sound fiscal positions and credible medium-term fiscal policy frameworks, as well as independent monetary policy, can help secure a stable macroeconomic environment. Comprehensive reform packages that improve the business climate often include competition reform, lower barriers to entry for firms, and improvements in the efficiency of business regulation. Better financial regulation and supervision, the elimination of harmful and distorting subsidies and barriers to trade, and improved land and regulatory frameworks can also reduce constraints to firm growth and formalization.
- **Enabling young, productive, growing enterprises.** Focusing on young and growing firms can be effective: these firms are more likely to embrace new technologies, frequently update their practices, and employ skilled workers. Firm growth and job creation can be accelerated by improving flexibility in hiring and training workers, promoting regional industry clusters by enhancing physical and digital infrastructure, and making it easier for firms to integrate into regional and global value chains. Making sure that less productive firms can cease operations and free up valuable talent and capital, which can then be used by competitive, growing private firms, is a key part of a job-friendly regulatory arrangement.

Mobilizing private capital

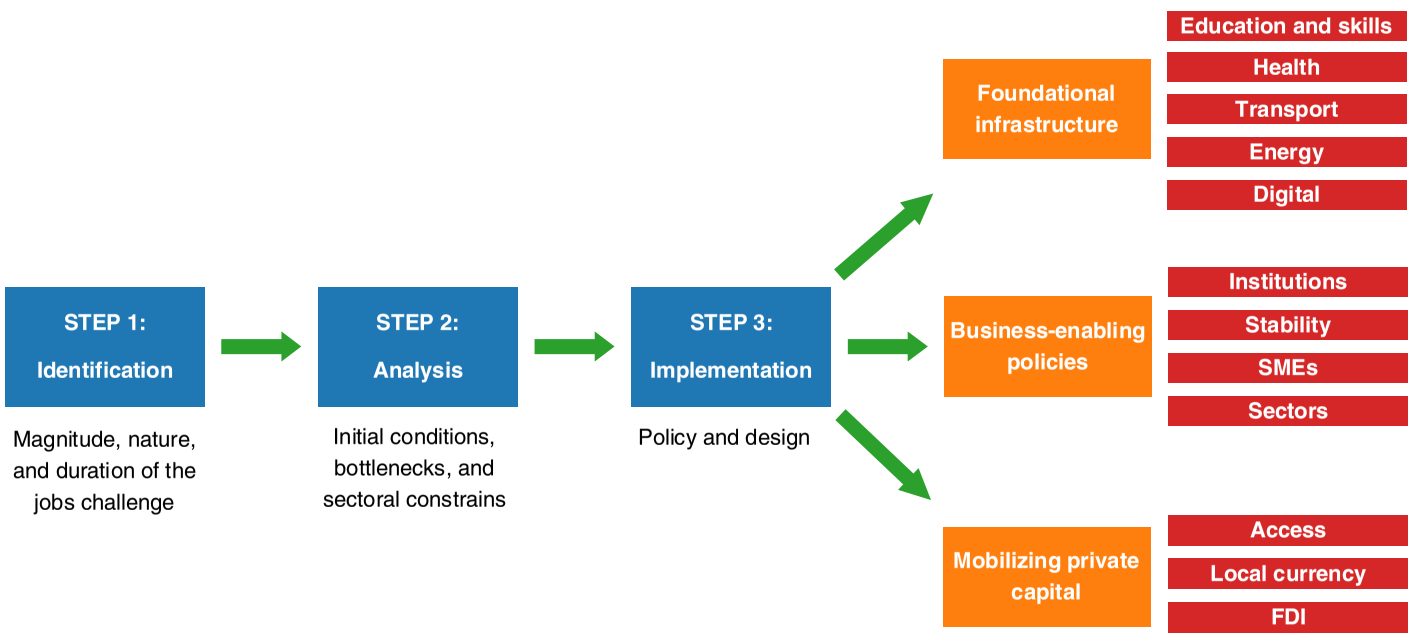
Firms grow and create jobs when capital markets are deep and offer affordable local-currency solutions. Such conditions help ensure access to finance and knowhow, including via foreign direct investment (FDI), and help buffer enterprises from exchange-rate fluctuations.

- **Deepening and improving the efficiency of capital markets to increase access to credit.** Policies that support capital-market development can include strengthening contract enforcement to reduce uncertainty and the easing of collateral requirements; reducing barriers to capital mobility (such as weak bankruptcy frameworks); mitigating country-specific risks and market failures through partial credit guarantees for financial intermediaries (potentially with a focus on financing for priority sectors); expanding bond and equity markets; and enhancing digital infrastructure to lower transaction costs.

BOX 1.1 A jobs playbook (*continued*)

FIGURE B1.1.1 A jobs playbook

A three-step "jobs playbook" helps guide policy makers in addressing the jobs challenge, drawing on the analysis and policy recommendations of this study, including the country case studies. Overcoming the jobs challenge requires: (1) identification of the dimensions of the jobs problem; (2) analysis of bottlenecks to job creation; and (3) design and implementation of the right policies.



Source: World Bank.

BOX 1.1 A jobs playbook *(continued)*

- **Developing local-currency markets.** Deepening local-currency equity and debt markets can draw institutional investors to economies with limited financial intermediation, opening markets to pension funds, private equity, or venture capital firms that often have a higher risk tolerance. Multilateral development banks play a key role in developing these markets by providing local-currency liquidity and supporting governments with technical assistance and policy advice to establish robust regulatory and institutional frameworks.
- **Facilitating FDI.** Removing barriers to capital flows can help attract foreign investors. Such policies can involve investment treaties, lower restrictions on FDI, efforts to facilitate greater integration into regional and global value chains, and more effective use of investment promotion agencies and special economic zones.

Strategic sectors with the potential to create jobs at scale

Focusing on strategic sectors that offer resilient growth opportunities in a changing global economy—together with greater openness to trade, especially in smaller economies—offers significant promise.[a] The sectors with the greatest potential for future job creation may be different from those that worked in the past.

- **Infrastructure and energy.** Investing in energy and infrastructure can not only boost growth by enabling private sector activity, but also create direct jobs in the operation, construction, and maintenance of this infrastructure.
- **Agribusiness and farming.** Job creation in this sector can be boosted by policies that modernize farming and animal husbandry, support the transition from family farms to more established businesses, improve supply chains and technology, and strengthen linkages between rural and urban markets, as well as with export markets. Expanding up the value chain is a promising avenue in LICs. Small AI can also provide solutions to smallholder farmers, enhancing output and facilitating movement of labor to more productive uses.
- **Health.** The health sector can create both direct and indirect jobs. Investing in training, digital tools, and boosting private-sector partnerships can grow the primary health care sector directly, including through investments to build and maintain clinics, laboratories, and hospitals. Further job opportunities lie in the health value chain, such as pharmaceuticals, biotechnology, medical technology, digital health, and support services. Reskilling and task-shifting can help reshape the health workforce as technologies adapt.

a. These sectors are set out in Development Committee (2025). Bhorat et al. (2025) makes the case for a similar set of sectors in relation to Africa.

BOX 1.1 A jobs playbook *(continued)*

- **Tourism.** Tourism is a labor-intensive, tradable service sector with wide employment spillovers and linkages to other sectors underscoring the sector's growth and job creation potential. Tourism employs a large share of young people and women, offering accessible entry points into the labor market, compared to some other sectors. Tourism supports both high- and low-skilled jobs in hospitality, transport, construction, and creative industries. Many skills can be learned on the job.
- **Value-added manufacturing.** Integration into local and regional value chains—particularly in resource-linked and light-industrial activities and mining—offers opportunities to expand the manufacturing sector, a sector with above average employment elasticities. Many value-added manufacturing activities overlap with the other sectors (for example, agribusiness, health supply chains, or construction), further amplifying indirect job impacts while creating direct new job opportunities.

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The first challenge is to generate enough jobs to accommodate the inflow of new entrants into the labor market.

Michael Spence (2011)
2001 Sveriges Riksbank Prize in Economic Sciences
in Memory of Alfred Nobel

CHAPTER 2

What Is the Jobs Challenge?

A major jobs challenge—ensuring the creation of sufficient employment opportunities for large numbers of young people reaching working age—is looming in emerging market and developing economies (EMDEs). About 1.2 billion young people will reach working age between 2025 and 2035: a historic youth surge impacting all EMDE regions. At the same time, even as population growth slows globally, three EMDE regions—Sub-Saharan Africa; the Middle East and North Africa; and South Asia—are expected to see large increases in working-age populations. Most of these additional people will need jobs. Yet EMDE employment growth in recent years has not kept pace with surging working-age populations. There are different approaches to measuring the jobs challenge. The number of young people reaching working age offers a simple and impactful articulation of the challenge. Other approaches yield different point estimates but reveal broadly similar trends.

2.1 Population, young people, and working-age population growth

Population

The global population has risen from 2.5 billion in 1950 to over 8 billion today. According to the United Nations' *World Population Prospects* , population growth was at its highest in the 1960s and, pushed down by falling fertility rates, is expected to turn negative in the 2080s (United Nations 2024).[1] The global population is projected to peak then at about 10.3 billion—an increase of over two billion relative to 2025, about three-quarters of which is attributable to rising life expectancy at birth (figure 2.1.A; United Nations 2024).[2] The global population is also expected to age further: as of 2025, one in four people is aged 14 or younger, down from one in three in 1990, and this trend is expected to continue (figure 2.1.B).

Population growth in EMDEs has been slowing: it was 1.4 percent per year on average in the 2000s, but over the next ten years, it is expected to further fall to 0.9 percent per year. There is large variation across country groups. In low-income countries (LICs), population growth is still expected to be high, at 2.6 percent per year, over the next decade.

Note: This chapter was prepared by Tommy Chrimes, Kersten Stamm, and Collette Wheeler.

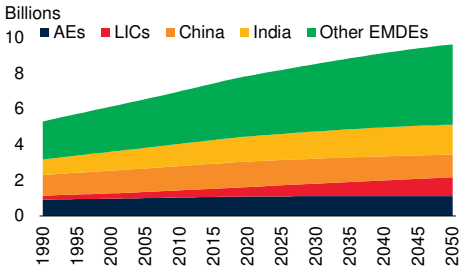
[1] The numbers in this study are based on the central scenario (formally the "medium variant scenario") of the 2024 update of global population projections produced by the United Nations. Relative to United Nations projections from a decade ago, the world's population is now expected to be 6 percent (or 700 million people) smaller in the year 2100, partly because of lower-than-previously-assumed fertility in some large economies.

[2] After falling due to the pandemic, life expectancy has returned to pre-pandemic levels in nearly all countries and is expected to rise further, reaching 77.4 years in the 2050s (United Nations 2024).

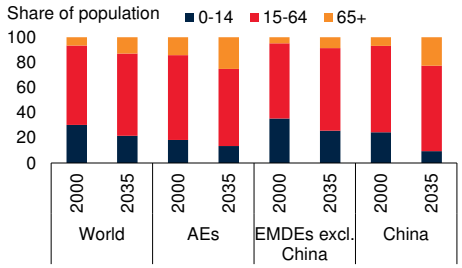
FIGURE 2.1 Global population

The global population in 2025 stood at 8.2 billion and is projected to peak at about 10.3 billion in the 2080s—an increase of 2.1 billion. Over the next decade, the global population will increase by about 650 million, with an additional 1.5 billion people expected by 2050. Over the next 10 years (to 2035), the share of the population aged 15–64 will fall in advanced economies and China, as the 65+ cohort grows, but it will still rise in other EMDEs. EMDEs are driving the global population increase, especially in Sub-Saharan Africa and the Middle East and North Africa, even as population growth rates slow everywhere (and reverse in China, as well as in some advanced economies).

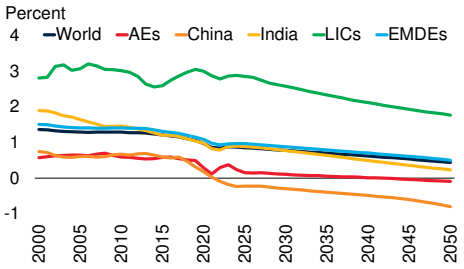
A. Total world population



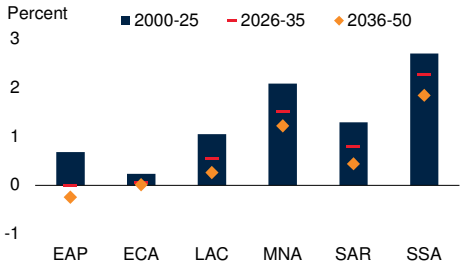
B. Shares of population by cohort in 2000 and 2035



C. Population annual growth



D. Average annual growth of population, by EMDE region



Sources: UN World Population Prospects (2024); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; excl. = excluding; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Chart shows the evolution of total population over time by country group.

B. Stacked bars show the distribution of population by age cohort for each country group.

C. Lines show the annual growth of the total population over time by country group.

D. Panel shows the average annual growth rate of the total population by country group.

Looking further ahead, in EMDEs, the population is expected to increase over 2025–50, but more slowly than in previous decades. Average population growth in the 2040s is expected to be less than half that of the 2000s (0.6 percent a year compared with 1.4 percent), with further slowing in the 2050s. Population growth rates have already peaked in all regions. Almost every country worldwide has seen a significant fall in birth rates in the recent past (Goldin 2025). All regions are projected to experience slowing population growth through 2050 (figure 2.1.C). Nevertheless, average annual population growth is expected to remain substantial in three EMDE regions: South Asia; the Middle East and North Africa; and, most strikingly, Sub-Saharan Africa (figure

2.1.D). Population growth is projected to be negative over 2025–50 in nearly one-half of advanced economies, compared with fewer than one-quarter of EMDEs. China is projected to see a significant decline in population.

Youth population

Around 1.2 billion young people will reach working age (joining the 15–24 group) in EMDEs by 2035. This youth population lies at the heart of the jobs challenge. Just over 330 million of this large youth cohort will live in Sub-Saharan Africa, with about 280 million each in South Asia and East Asia and Pacific. The Middle East and North Africa region is projected to see 170 million young people reach working age. Latin America and the Caribbean, and Europe and Central Asia, will account for the remaining 165 million (figure 2.2.A). That demographic momentum constitutes a potential dividend, but only if sufficient job opportunities are available for these large numbers of young people.

These 1.2 billion young people will represent the largest 10-year youth cohort in history. Global population projections imply that youth cohorts entering working age will become smaller over time as the number of births fall (figure 2.2.B). The youth cohort of 15–24-year-olds in 2035 (or expressed differently, all those who will reach working age between the end of 2025 and 2035) will be the largest youth cohort ever seen in EMDEs, and the largest projected through the end of the century, by which time the EMDE population is expected to be falling (figure 2.2.C).

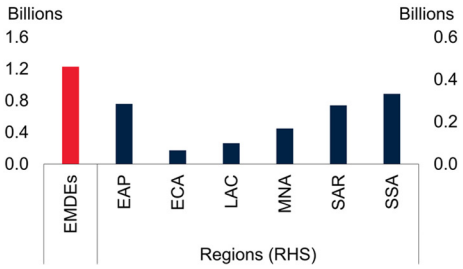
Within EMDE regions, the geographic concentration of young people is shifting. In the year 2000, about 960 million 15–24-year-olds lived in EMDEs. Of these, one-third lived in East Asia and Pacific, compared with less than one-quarter projected in 2035. Meanwhile, in Sub-Saharan Africa, the number of young people has already more than doubled since 2000 (figure 2.2.D). Between 2000 and 2035, the number of young people is expected to decline slightly in East Asia and Pacific, and Europe and Central Asia, while remaining steady in Latin America and the Caribbean. The Middle East and North Africa region is also experiencing rapid growth of the youth population, with the number of 15–24-year-olds projected to expand by 70 percent between 2000 and 2035. In South Asia, the growth rate of this cohort has slowed and turned negative in the early 2020s. Globally, the share of countries with a growing youth cohort has been on a declining path. In the 1990s, nearly three-quarters of countries saw growing youth populations. By the 2040s, this share is expected to fall below 40 percent (figure 2.2.E).

This geographic concentration is also reflected in the size of youth influxes relative to current working-age populations. The projected 330 million young people entering working age between 2025 and 2035 in Sub-Saharan Africa represent over 40 percent of the 2025 working-age population in the region, and in the Middle East and North Africa, the share is projected to be 33 percent. In contrast, the number of young people entering working age by 2035 will amount to 25 percent of the 2025 working-age population in South Asia, 22 percent in Latin America and the Caribbean, 21 percent in Eastern Europe and Central Asia, and just 19 percent in East Asia and Pacific.

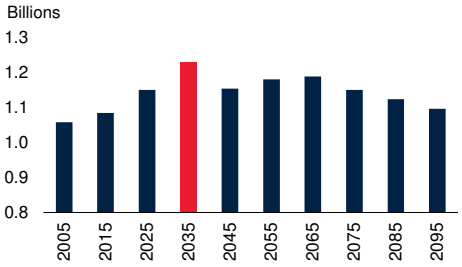
FIGURE 2.2 Youth population, aged 15–24

About 1.2 billion young people aged 15–24 will live in EMDEs in 2035. These young women and men will reach working age over the next decade and represent the largest youth cohort ever seen in EMDEs. Although youth population growth is slowing globally, Sub-Saharan Africa, South Asia, and the Middle East North Africa, Afghanistan, and Pakistan regions are projected to have a larger youth population in 2035 than in 2000. For Sub-Saharan Africa, and the Middle East and North Africa, these cohorts will also be the largest youth cohorts to date; other EMDE regions experienced their peak youth cohorts in the past.

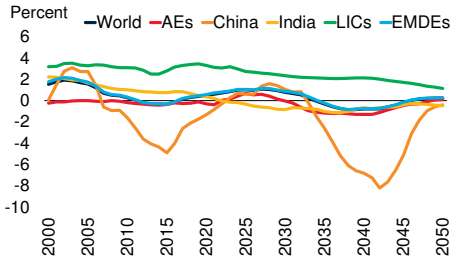
A. Young working-age people in EMDEs in 2035



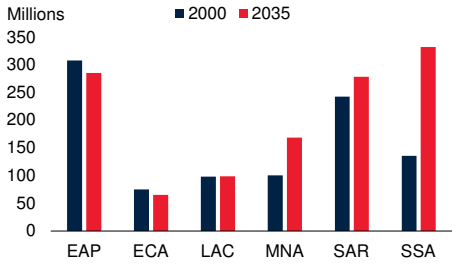
B. 10-year youth cohorts in EMDEs



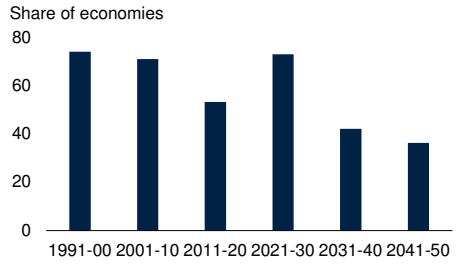
C. Growth of youth population



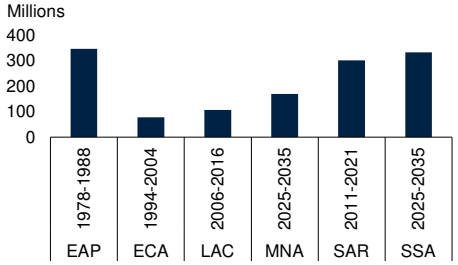
D. Youth population in 2000 and 2035



E. Share of economies with a growing youth population



F. Peak youth cohort entering working age in EMDE regions



Sources: UN World Population Prospects (2024); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Bars show the number of young people aged 15–24 living in each region in 2035.

B. Bars show the number of young people aged 15–24 living in EMDEs in each year. Those turning 15 years of age between January 1, 2026 and December 31, 2035 represent the largest youth cohort EMDEs have ever seen or are projected to see through the end of the century.

C. Lines show the growth rate of the youth population aged 15–24.

D. Bars show the number of young people aged 15–24 living in each region.

E. Bars show the share of economies with a growing youth population in each decade globally.

F. Bars show the maximum numerical increase in the youth population over any 10-year period on record (or projected, for MNA and SSA through 2035), by EMDE region.

The cohorts of young people reaching working age over the next decade in Sub-Saharan Africa and the Middle East and North Africa will be the largest these regions have ever seen (figure 2.2.F). Other regions have already passed their peak youth cohort decades and are at different stages of their demographic transition. In East Asia and Pacific, almost 350 million young people reached working age in the decade ending in 1988—the region's largest youth cohort—with numbers falling since then. Over the next decade, 70 million fewer young people will enter working age in the region compared with its peak decade. The region's transformative growth experience shows that large youth populations can contribute to economic growth and development. In Latin America and the Caribbean, and in South Asia, peak decades of young people reaching working age were relatively recent. In both the Middle East and North Africa and Sub-Saharan Africa, the next decade will see more young people reach working age than any previous decade in history. However, there is heterogeneity within regions. For example, some Pacific island countries have shares of young working-age people in their populations comparable to those of economies in Sub-Saharan Africa (World Bank 2026).

Working-age population

The working-age population offers an additional perspective on demographics and future job needs. Changes in the working-age population—defined as the number of people aged 15–64—capture both young people reaching working age and those exiting the working-age population. The working-age population follows a trend similar to that of the total population, but with a lag and somewhat slower growth (reflecting the increasing size of the 65+ cohort as life expectancy continues to increase in many countries). The global working-age population increased from about 1.5 billion in 1950 to around 5.3 billion in 2025. It is projected to reach around 5.8 billion by 2035 and is expected to peak around 2070 (earlier than the total population).

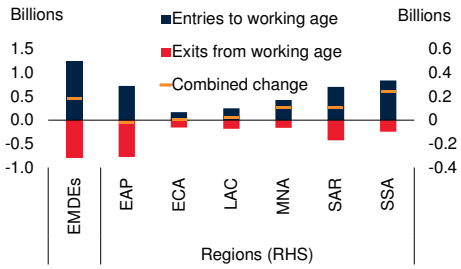
The working-age population in EMDEs has continued to grow in recent decades, but at a slowing rate. It is projected to grow by almost 450 million people between 2025 and 2035. This net increase captures the 1.2 billion young people set to reach working age over the next decade, as well as more than 750 million people who are expected to exit working age over the same period (figure 2.3.A).

Over the past three decades, the geographic distribution of working-age population growth has shifted markedly from East Asia and Pacific and South Asia toward Sub-Saharan Africa. This process looks set to continue as working-age population growth slows globally, turning negative in advanced economies and China (figure 2.3.B). In the 2000s, more than half of the increase in the EMDE working-age population came from the East Asia and Pacific and South Asia regions, with only one-sixth from Sub-Saharan Africa. Yet between 2025 and 2035, East Asia and Pacific will see its working-age population shrink slightly, while more than half of the growth in the EMDE working-age population will be in Sub-Saharan Africa. This is despite both regions registering similar numbers of young people reaching working age over the next decade: in East Asia and Pacific, this is entirely offset by large numbers graduating out of the 15–64 cohort, as the region—and China in particular—ages.

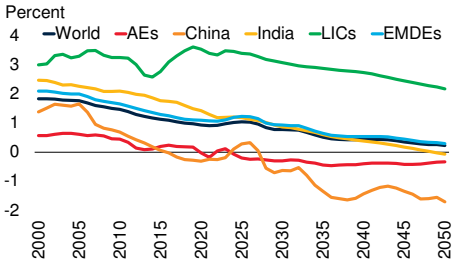
FIGURE 2.3 Working-age population

The global working-age population (those aged 15-64) is projected to continue growing, but at a slowing pace. Most of the increase is expected to be in Sub-Saharan Africa. The share of countries with a growing working-age population remains large but is expected to fall.

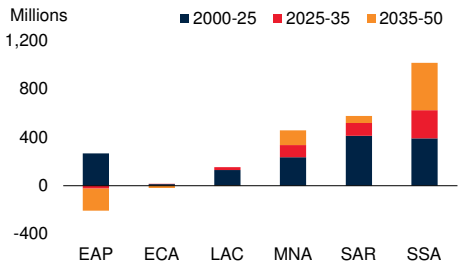
A. Working-age population entries and exits, 2025–35



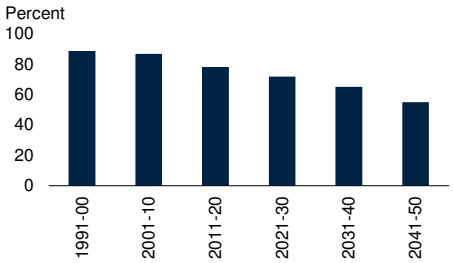
B. Growth in the global working-age population



C. Changes in EMDE working-age population



D. Share of countries with a growing working-age population



Sources: UN World Population Prospects (2024); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa. Working-age population is defined as the population aged 15–64 years.

A. Blue bars show young people (aged 15–24) entering working age. Red bars show the number of people exiting working age. Tick marks show the net change in the working-age population.

B. Lines show the annual growth of the working-age population over time by country group.

C. Bars show the difference in the working-age population in each period.

D. Bars show the share of countries with a growing working-age population in each decade globally.

Already, over the next decade (2025–35), Sub-Saharan Africa will be the region with the largest increase in the working-age population, adding over 230 million people. South Asia and the Middle East and North Africa regions will both add around 100 million people. Over the second quarter of this century, Sub-Saharan Africa stands out even more starkly: it will be the only EMDE region to register a larger increase in its working-age population than in the first quarter of the century (figure 2.3.C). In fact, this will constitute the largest increase in the working-age population any region has ever experienced over a 25-year period. The Middle East and North Africa and South Asia regions will also see significant increases in their working-age populations through 2050, but smaller than those experienced over the last 25 years. Europe and Central Asia, and

Latin America and the Caribbean, are both expected to see modest net changes to their working-age populations through 2050, while a decrease of more than 200 million people is anticipated in East Asia and Pacific.

In the 1990s and 2000s, the working-age population was growing in almost 90 percent of countries worldwide, but this share has been falling and is expected to shrink further, to 55 percent in the 2040s (figure 2.3.D). The working-age population is projected to increase in all but two countries in Sub-Saharan Africa over the quarter-century to 2050. Ten countries in the region are expected to more than double their working-age populations over the second quarter of this century (appendix B; table B.3). Outside Sub -Saharan Africa, only one other EMDE, Afghanistan, is expected to more than double its working-age population between 2025 and 2050. Five Sub-Saharan African countries—Nigeria, the Democratic Republic of Congo, Ethiopia, Tanzania, and Uganda—are expected to add more people to their working-age populations between them over the 25 years to 2050 than any other region.[3]

2.2 Labor force and employment trends

Many of the young people entering working age over the next decade will need jobs. Not every person of working age will be in work or seeking employment at any given time, but a majority will. There are many possible reasons why individuals participate or do not participate in the labor force: economic necessity, social and cultural norms, engagement in education, domestic or caregiving responsibilities, and health can all play a role. Another factor closely related to the jobs challenge is the availability of job opportunities—a key determinant of the level of employment.[4]

Globally, about two-thirds of all individuals of working age belong to the labor force, but participation varies significantly across regions, between countries, and over time. Across EMDEs as a group, labor force participation rates are lower for younger, older, and female individuals. Overall, they are also low relative to advanced economies, although participation rates vary significantly by EMDE region (Kose and Ohnsorge 2024).

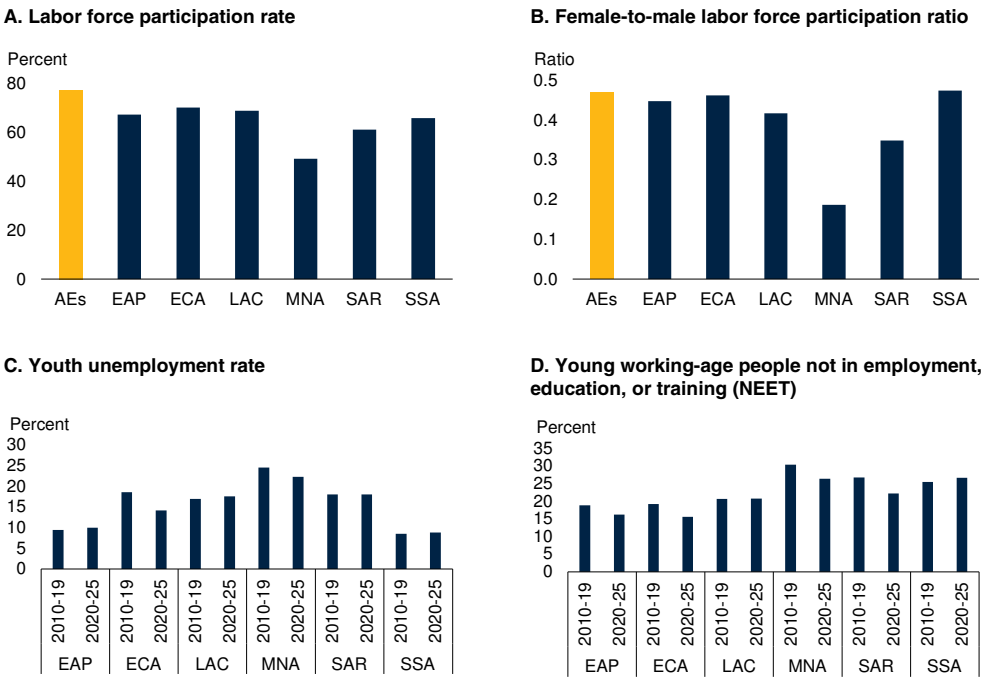
Both the employment-to-working-age population ratio and labor force participation remain notably low in two EMDE regions facing a significant jobs challenge: the Middle East and North Africa and South Asia (figure 2.4.A). Overall, labor force participation—at about 49 percent and 58 percent as of 2023 in these regions respectively— has remained well below the global and EMDE averages, largely due to relatively low female participation rates (figure 2.4.B). In contrast, labor force participation rates have

[3] Together, working-age populations in these five countries are projected to increase by 304 million people between 2025 and 2050. The region with the second-largest increase in the working-age population after Sub-Saharan Africa—the Middle East and North Africa—is projected to gain 224 million between 2025 and 2050.

[4] For example, Bhalotra and Fernández (2024) and Klasen et al. (2019), studying female labor force participation, both mention the role of employment opportunities. Examining declining labor force participation in the United States, Krueger (2017) also notes the link with demand for labor.

FIGURE 2.4 Labor force participation

Labor force participation rates remain relatively low in the Middle East and North Africa and in South Asia—two of the regions facing a significant jobs challenge—largely reflecting relatively low female participation rates. Youth unemployment rates also differ by EMDE region, as does the share of young people not in employment, education, or training (NEET).



Sources: ILOSTAT (database); WDI (database); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; NEET = not in employment, education, or training; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Panel shows the median labor force participation rate (as percentage of the working-age population aged 15–64) in 2023.

B. Panel shows the median female-to-male labor force participation ratio in 2023.

C. Bars show the median unemployment rate for young people (aged 15–24) by decade.

D. Bars show the median NEET (not in employment, education, or training) rate for young people (aged 15–24) by decade.

remained comparatively high in Sub-Saharan Africa, averaging about 66 percent in 2023, with relatively high female participation at almost the same rate as men (whereas across EMDEs as a whole, the female participation rate is about two-thirds that of men's). This higher participation rate likely reflects the large share of female workers in small-scale agriculture in the region.

In South Asia and the Middle East and North Africa, low rates of female labor force participation hold back economies from delivering on their economic potential. Even though some countries in these regions have seen progress, there remains a significant gap relative to other regions. The reasons for low female labor force participation can be complex and multifaceted, but the fact remains that in economic terms, a large share of the working-age population is outside of the workforce, and represents untapped

economic potential (Dieppe 2021; World Bank 2024a). A greater share of working-age women entering the labor force would help unlock this potential, provided they have the right opportunities and support.

High youth unemployment and low youth labor force participation are also major challenges in many EMDEs. Weak job creation in EMDEs could particularly impact young people entering the labor force for the first time, as they lack relevant experience and their marginal productivity tends to be low. The labor force participation rate for the cohort aged 15 to 24 has declined globally since the early 1990s—a trend observed, on aggregate, in advanced economies as well as in EMDEs—partly due to rising enrollment in education (a broadly positive development). Secondary and post-secondary education enrollment both doubled in the average EMDE over the quarter-century prior to the pandemic (Ahn et al. 2019). However, youth labor force participation remains low in the regions most affected by the jobs challenge. Moreover, across all EMDE regions, those young people who are in the labor force face relatively high youth unemployment rates (figure 2.4.C).

Youth labor force participation remains especially low in the Middle East and North Africa, where high youth unemployment and a lack of job prospects help explain the large share of young people not in employment, education, or training (NEET) (figure 2.4.D; Ahmed, Guillaume, and Furceri 2012; World Bank 2022). In South Asia—where youth participation has also remained low relative to other EMDE regions—and in Sub-Saharan Africa, robust population growth has meant that the number of jobs created has struggled to match the number of new entrants to the labor force. Given projected population trends, difficulties in creating sufficient job opportunities for young people could persist in all three regions in the coming years. Across all income groups, NEET rates are highest in LICs (ILO 2024).

Labor force participation is an important economic concept which provides useful insights; however, when considering the jobs challenge, the employment-to-working-age population ratio can be more useful. Although labor force participation is a commonly-used metric, current labor force participation rates may understate the full scale of the jobs challenge. Under the right circumstances, the optimal level of employment, both economy-wide and for individuals, may be higher than the level implied by the current rate of labor force participation.

People of working age may not participate in the labor force for a range of different reasons: continuing education, poor health, family reasons, and lifestyle choices. These reasons can all be rational, and in some cases may be optimal for individuals or for the economy at large. In general, however, a higher share of the working-age population is considered positive. The employment-to-working-age population ratio captures this principle, measuring the share of all working-age people with a job, whereas labor force participation denotes the share who are employed or seeking employment (box 2.1). The employment ratio is in some ways a simpler measurement concept and can offer additional insights about the jobs challenge.

BOX 2.1 Working-age population, labor force, and employment: Basic concepts

There are different approaches to defining the working-age population and the labor force, and to defining and measuring employment. This study adopts the most common international definitions.

Working-age population is defined as the population aged 15–64. The working-age population is a broader concept than the labor force, which includes only those members of the working-age population who are in a job or actively seeking employment. Not everyone in the working-age population will be seeking employment. Young people—those aged 15–24—might be in full-time education, developing skills that will allow them to be more productive later on. Some people may be unable or unwilling to work. Furthermore, as populations grow older, a greater share of those aged 65 and above might also engage in some form of employment, although in Sub-Saharan Africa, this group currently represents only a small fraction of the total population.

The working-age population, as defined here, excludes those older than 64 or younger than 15 who work or are seeking employment. Social, cultural, health, and other factors can mean that interpretations of "working age" differ across regions. A significant number of teenagers may still be in full-time education, for example, while retirement norms vary across countries and over time. Nevertheless, this definition of the working-age population is commonly used across policy institutions and academia and allows for global comparisons.

Young people reaching working age is a subset of the working-age population, and in this study, generally refers to those aged 15–24 at the end of a decade-long period. This number essentially maps to the sum of people turning 15 each year over the period. Alternative thresholds can be used, for example focusing on 18-year-olds rather than 15-year-olds, but this generally does not change headline figures much. It is projected that 1.2 billion people in emerging market and developing economies (EMDEs) will be aged 15–24 in 2035, but 1.2 billion young people are also projected to turn 18 over the decade to 2035.

The labor force is the total of those within the population who are employed or actively looking for work. Labor force participation describes the *share* of the adult population that is either working or actively looking for work. A related concept, the employment-to-working-age population ratio, also referred to as the employment ratio, measures the share of the working-age population actually in employment. The labor force is, therefore, a narrower concept than the working-age population. In this study, labor force participation is expressed as a percentage of the population aged 15–64, unless otherwise noted.

BOX 2.1 Working-age population, labor force, and employment: Basic concepts (*continued*)

Employment is defined as engagement in activities to produce goods or provide services for pay or profit, consistent with the current International Labour Organization (ILO) definition. This broad measure, used for most labor statistics, includes the self-employed and part-time workers and covers both the formal and informal sectors. It does not include own-use production or volunteer work (although an earlier ILO definition of employment included own-use production of goods, and some ILO modelled estimates still adhere to this earlier definition). Generally, ILO surveys consider a person employed if they have undertaken at least one hour of work for pay or profit over a reference period of seven days (ILO 2013). These surveys, therefore, do not factor in underemployment, which is an important limitation. The ILO's estimated dataset is comparable across countries. It includes some model-based estimates because of data limitations.

Unemployment generally refers to the share of the labor force not currently in work but available for, and seeking, employment. Unemployment can be a symptom of—and a contributor to—the jobs challenge. Reducing high levels of unemployment, whether structural or cyclical, may be an important priority for policy makers. However, unemployment only captures one segment of the non-working working-age population. It does not reflect low labor force participation, which is also important in some regions facing a large jobs challenge. In addition, data on unemployment in developing countries, or related categories (such as the number of people not in education, employment, or training) is sometimes limited in scope, quality, and frequency. As a result of these limitations, although unemployment is clearly an important feature of labor market outcomes, unemployment data is not used in the core approaches to measuring the jobs challenge outlined in this study.

Those **not in employment, education, or training (NEET)** constitute a related group to the unemployed. However, NEET is a broader category than unemployment: in addition to those who are not employed but are seeking employment, it includes people who are not participating in the labor force or in educational or training activities, whether by circumstance or choice. In the context of young people, NEET rates can offer a different and complementary perspective to youth unemployment rates.

The jobs challenge is likely to ease if employment growth exceeds working-age population growth. Most working-age people need employment (simply participating in the labor force is not sufficient: the labor force also includes those searching for work). Jobs will need to be created at a pace that matches the demand for employment from growing populations. Ensuring that employment growth is at least as fast as working-age population growth should be an important policy objective for countries facing a jobs challenge. This equates to maintaining or increasing the employment ratio—the share of the working-age population actually employed. The dynamics of employment are therefore crucial to addressing the jobs challenge. Backward-looking employment data, discussed below, provides useful insights, but comes with significant caveats, including that employment data is survey-based, is often published with significant time lags, and is of variable reliability across countries. Moreover, the future evolution of employment is difficult to project with much certainty beyond the very near term.

Employment growth was higher in EMDEs than in advanced economies in the 2000s and 2010s, with particularly strong employment growth in LICs. In EMDEs, employment growth averaged about 1.2 percent in the 2010s: slightly higher than in advanced economies (1.1 percent), but down from about 1.7 percent in the 1990s and 2000s. Average annual employment growth in LICs during the 2010s was much higher, at 2.5 percent. Across EMDE regions, employment growth was highest in the Sub-Saharan Africa region in the 2010s; during the 2000s, the Middle East and North Africa recorded the highest employment growth, followed by Sub-Saharan Africa (figure 2.5.A).

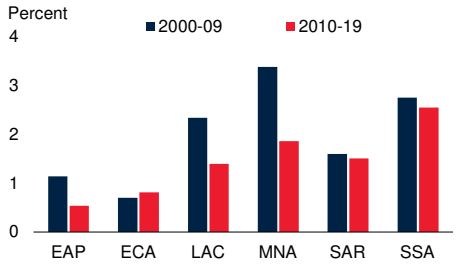
Employment growth has fallen short of working-age population growth in recent decades. The employment ratio in EMDEs fell from almost 69 percent in 1991 to 64 percent in 2019. The decline in the global employment ratio has been driven by EMDEs, including LICs (figure 2.5.B). In advanced economies, employment growth outstripped working-age population growth in the 2010s. Rising female labor force participation over time supported this trend (OECD 2023). In two EMDE regions with aging populations—Europe and Central Asia, and Latin America and the Caribbean—employment also grew faster than the working-age population in the two decades before the pandemic (figure 2.5.C). This is largely due to stalling population growth rather than strong employment growth. In South Asia, as well as in the Middle East and North Africa, low employment ratios partly reflect exceptionally low rates for women—the result of cultural, economic, and legal restrictions (figure 2.5.D; World Bank 2024b). All other EMDE regions have higher employment ratios. In Sub-Saharan Africa, this partly reflects a large share of informal employment, much of it in self-employment in the agricultural and services sectors.

Falling employment ratios are not always undesirable: in some circumstances, they could reflect progress toward other development objectives. In particular, some declines in employment ratios reflect increased participation in education by young adults. Increased educational enrollment has contributed to falling youth employment ratios across LICs, and in both South Asia and the Middle East and North Africa. Declines in

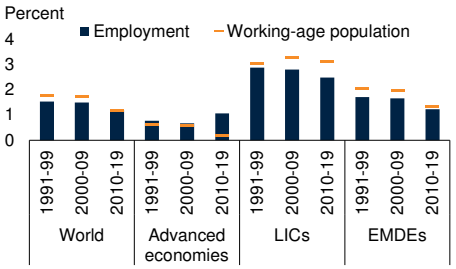
FIGURE 2.5 Employment growth and ratios

Employment growth in EMDEs, especially LICs, has generally been higher than in advanced economies in recent decades. But in most EMDE regions it was slower in the 2010s than in the 2000s. EMDE employment growth was outstripped by working-age population growth in both decades. Employment ratios are already lower in the EMDE regions facing rapid working-age population growth, and lowest in the Middle East and North Africa. The sectoral share of agricultural employment has fallen in EMDEs, though remains high in LICs, while the services share has risen. GDP growth has been above employment growth in all EMDE regions.

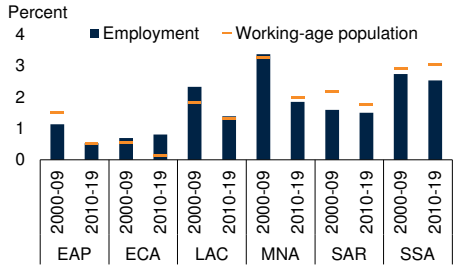
A. Employment (15+) growth, by EMDE region



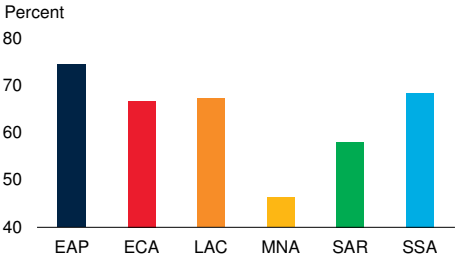
B. Employment and working-age population growth, by group



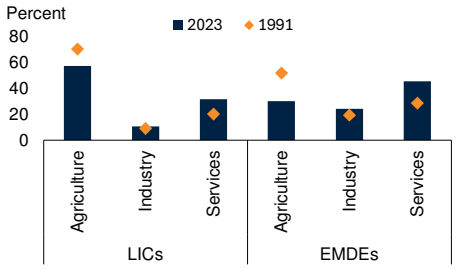
C. Employment and working age population growth, by EMDE region



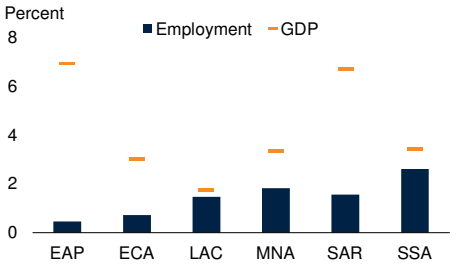
D. Employment ratios, by EMDE region, 2023



E. Sectoral share of employment



F. Average GDP and employment growth, 2010–19



Sources: ILOSTAT (database); UN World Population Prospects (2024); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDE = emerging market and developing economy; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Bars show the average annual growth rate of aggregate employment for each country group.
B.C. Bars and dashes show average annual growth rate of the working-age population and 15+ employment for each country group.
D. Bars show the employment-to-working-age population ratio for each EMDE region in 2023.
E. Bars and diamonds show the sectoral share of total employment for each group.
F. Panel shows the average annual percentage change in real GDP and employment for each region.

employment ratios in LICs, and in EMDEs more broadly, might also reflect the shedding of low-productivity labor in agriculture as resources are shifted toward more productive non-agriculture sectors (Bhorat et al. 2025; World Bank 2024c). These declines could temper over time if manufacturing and services employment increase. Overall, agriculture's share of total EMDE employment fell from 52 percent in 1991 to 30 percent in 2023, with corresponding increases mostly in the services sector, especially in LICs (figure 2.5.E). However, falling employment ratios often hint at concerning underlying developments. The decline in employment ratios in fragile and conflict-affected situations is one such example (World Bank 2025).

Three regions projected to experience a large jobs challenge—Sub-Saharan Africa, the Middle East and North Africa, and South Asia—are home to most of the world's extreme poor, but their demographics offer potential. Job creation in these regions has not kept pace with working-age population growth in recent years. Surging young populations will still contribute positively to potential growth prospects in LICs and some EMDE regions, including the Middle East and North Africa, South Asia, and Sub-Saharan Africa (Kasyanenko et al. 2023; World Bank 2024b).

Raising employment growth above working-age population growth could allow these regions to expand and deliver on their potential. With sufficient job opportunities, they could boost GDP growth and output per capita, reduce poverty, and bolster public finances—particularly if new employment is in the formal sector. This, in turn, could help address other development objectives.

2.3 Output and employment growth

GDP growth has outpaced employment growth in recent decades in both EMDEs and advanced economies, although they tend to move in the same direction (figure 2.5.F). The relationship between output growth and employment growth is captured by estimates of the employment-output elasticity. Estimates of these elasticities usually range between 0 and 1, with employment growth generally lagging output growth—a historical relationship that reflects the fact that output per employee (that is, labor productivity) tends to rise over time. Employment-output elasticities differ by country groups and regions, and they tend to be weaker in EMDEs than in advanced economies.[5]

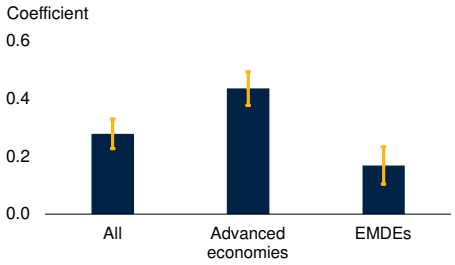
The relationship between employment and output growth varies depending on a country's income level, as well as the type of employment, education level, and distribution of the working-age population. In the short term in EMDEs, a 1-percentage-point increase in output growth corresponds to a 0.2 percentage point rise in employment growth (figure 2.6.A; appendix C). When examining the cumulative effects of sustained output growth over the medium term, the employment-to-output

[5] There is a growing literature on employment-output elasticities in EMDEs (refer to, for example, Ahn et al. 2019; Ball et al. 2019; Ball, Leigh, and Loungani 2017; Crivelli, Furceri, and Toujas-Bernate 2012; IMF 2016; Loungani, Luttini, and Pallan 2025).

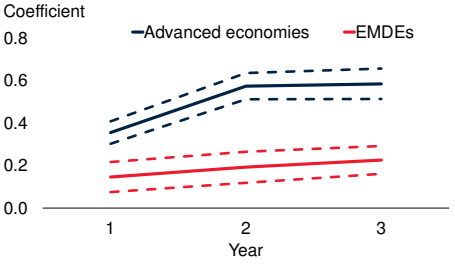
FIGURE 2.6 The relationship between output growth and employment growth

Employment elasticities measure the response of employment growth to changes in output growth. These elasticities are lower in EMDEs than in advanced economies over both the short and medium term, indicating that employment responds less to output growth in EMDEs. The relationship between employment and output is positive for wage employees, but negative for the self-employed (a proxy for informal workers). Elasticities are also lower in countries facing a high jobs need, for both young people and prime-age adults.

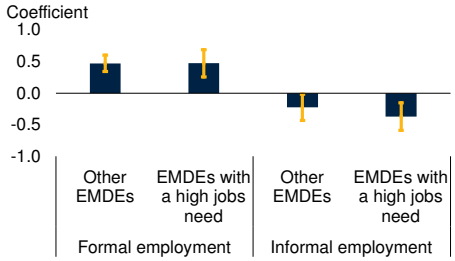
A. Short-term employment elasticities



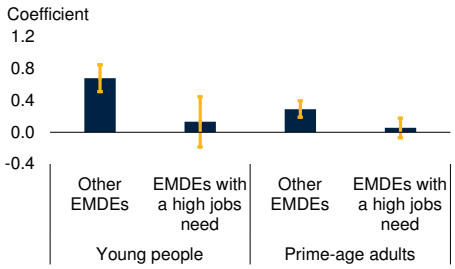
B. Medium-term employment elasticities



C. Employment elasticities, by employment type in EMDEs



D. Employment elasticities, by age group in EMDEs



Source: Loungani, Luttini, and Pallan 2025; World Bank.
Note: EMDEs = emerging market and developing economies.
A.B. Short term refers to one year, medium term refers to three years.
A. Bars are employment-to-output elasticities based on estimating equation (C.1) in appendix C. Whiskers show 90-percent confidence intervals.
B. Cumulative employment-to-output elasticities based on equation (C.3) in appendix C. Dashed lines show 90-percent confidence intervals.
C. Bars show the cumulative informal and formal employment-to-output elasticity based on equation (C.3) in appendix C. "EMDEs with a high jobs need" refers to EMDEs defined as being among the 20 countries with the largest increases in the working-age population by 2030.
D. Bars show the cumulative employment-to-output elasticity based on equation (C.3) in appendix C. "EMDEs with a high jobs need" refers to EMDEs defined as being among the 20 countries with the largest increases in the working-age population by 2030. Age groups are defined as young people (15–24) and prime-age adults (25–54).

elasticity increases in advanced economies but remains relatively stable in EMDEs (figure 2.6.B). In advanced economies, the short-term elasticity is 0.4, rising to 0.6 in the medium term. This divergence can be partly explained by the employment structure in EMDEs, where informal work makes up a larger share of total jobs than in advanced economies. In EMDEs, formal wage-employment growth shows a positive and statistically significant relationship with output growth, while informal employment growth exhibits a weaker, often negative, relationship as workers move between informal

and formal employment over the business cycle. These dynamics are especially notable among EMDEs facing a high jobs need (figure 2.6.C).

Employment growth among young people and individuals with basic education tends to be more responsive to changes in economic activity. For example, a 1-percentage-point increase in GDP growth results in a 0.5-percentage-point rise in youth employment growth in EMDEs, roughly three times the medium-term employment-to-output elasticity for these economies. However, this responsiveness is much more muted among EMDEs facing a high jobs need (figure 2.6.D). Similarly, for individuals with basic education, a 1-percentage-point increase in output growth is associated with a 0.2-percentage-point increase in employment growth (Loungani, Luttini, and Pallan 2025).

In lower-income countries, a somewhat weaker link between growth and job creation could partly reflect macroeconomic and labor market structures. Countries with high rates of poverty, informality, and skill mismatches, as well as those with weak institutions and a strong concentration of small- and medium-sized enterprises (SMEs), tend to exhibit weaker links between output and employment.[6] In many LICs, a large share of the working-age population is self-employed, either in subsistence agriculture or in some informal non-farm activity. While these activities are accounted for as jobs in employment data, the adjustment to business cycles is likely to be observed through earnings, working hours, and/or shifts in employment within the informal sector (Farole, Ferro, and Gutierrez 2017). Nevertheless, even in EMDEs, employment growth remains positively correlated with broader macroeconomic growth. A healthy economy—growing strongly and sustainably and underpinned by sound institutions and policy frameworks—is important for employment prospects.

2.4 Quantifying the jobs challenge

The simplest approach to understanding the jobs challenge in the short to medium term is to consider the projected number of young people entering working age. Because these individuals are already alive today, the size of this cohort over the next few years is well-understood and relies on very few assumptions. Many (though not all) of these young people will seek jobs. This straightforward approach is helpful in communicating the scale of the jobs challenge.

Other formulations can offer complementary insights or refinements on the jobs challenge. Measuring the aggregate change in the working-age population is also simple and transparent, and considers those exiting the working-age population as well as those entering it. This approach can be particularly helpful for comparisons over long time horizons. Jobs challenge estimates based on the number of young people or the total working-age population can be refined to reflect additional assumptions, for example about labor force participation, although there is significant variation across regions, as well as within regions and over time (ILO 2026).

[6] For an overview, refer to Lee et al. (2020). There appears to be considerable cross-country heterogeneity in the short-run relationship between output and job creation in developing countries (An et al. 2017). Skill levels also play an important role (Almeida and Carneiro 2006).

If the objective is to estimate the future "jobs gap" between the number of people needing work and the number of jobs available, employment projections must also be considered. A "gap" hinges not only on the demand for jobs from a given cohort of potential workers, but also on the supply of jobs, which depends on wider macroeconomic variables. Projecting the number of available jobs with any degree of reliability is problematic, especially over long time horizons. Modest differences in output growth assumptions or in approximations of the elasticity between output and employment growth can result in wildly different estimates of the jobs "gap."

Despite methodological differences, the three most common approaches to quantifying the jobs challenge suggest a largely consistent picture of how the challenge will evolve. These three approaches are the youth method (used throughout this study when referring to countries with a large jobs challenge, unless otherwise specified), working-age population projections, and ratio methods. Four key determinants merit consideration when trying to quantify the jobs challenge:

- *Youth population growth*. The young working-age population (aged 15–24) is foundational for understanding the jobs challenge. Most of the new entrants to the labor market will need jobs. How the youth population evolves is a primary driver of how many jobs an economy needs to create. In its most basic form in this study, the jobs challenge relates to the expected number of young people entering working age over a decade.

- *Working-age population*. The number of young people reaching working age is a powerful concept. But considering the working-age population as a whole—factoring in those leaving it, not just those entering—can provide a helpful additional lens on the scale and nature of the jobs challenge. An implied assumption is that older and younger workers are substitutes: as workers retire, their jobs become vacancies, which are assumed by others in the working-age population, ultimately opening up positions for young people. This substitution is generally not direct: older and younger workers typically have different skill sets. Some evidence suggests that the relationship between the employment of older and younger workers may even be positive (Jasmin and Abdur Rahman 2021).

- *Labor force participation and the employment ratio.* The share of individuals in a given cohort who are employed or actively seeking work—such as the broader working-age population (15–64) or young working-age people (15–24)—has a significant influence on the scale of the jobs challenge. Labor force participation and the employment ratio—a related but distinct concept that measures the share of the working-age population actually in employment—both differ across countries and can also change significantly over time. Maintaining a high labor force participation ratio, or raising it, would imply that more jobs will be needed to absorb a given increase in the working-age population. Yet since jobs are key for individuals or households to break free from poverty and enhance living standards, a high employment ratio is generally viewed as a positive feature in an economy.

- *Employment growth*. If employment growth outstrips working-age population growth, then the jobs challenge will ease over time. If, on the other hand, employment growth is slower than working-age population growth, an imbalance arises. This imbalance will grow unless additional jobs are created. Crucially, employment growth is contingent on the labor demand as well as labor supply. It therefore depends on both the demand for output and the interaction between labor and other factors of production. Changes to aggregate demand and supply, and to technology and intangible elements that determine the mix of factor inputs and their productivity, will thus shape employment demand. These elements are difficult to predict with confidence, especially over longer time frames. Indeed, detailed country-level GDP growth forecasts produced by international organizations generally extend to five years at most.

Even over a 10-year time horizon, estimates of the magnitude of the jobs challenge in EMDEs vary considerably based on the approach used, but broad trends also reveal common patterns. Across the three approaches presented here, headline estimates of the number of new jobs that might be needed over the 10-year period spanning 2026–35 range from 270 million to 1.2 billion (figure 2.7.A). Over longer time horizons, the divergence among different estimates widens. Yet the trends and regional dynamics are broadly consistent across different methods (figure 2.7.B). This chapter summarizes three broad categories of approaches to estimating the jobs challenge: the "youth method," which simply considers the number of young people entering working age and is the primary method used in this study; the "working-age method;" and "ratio methods" (for further details, refer to appendix B).

The youth method

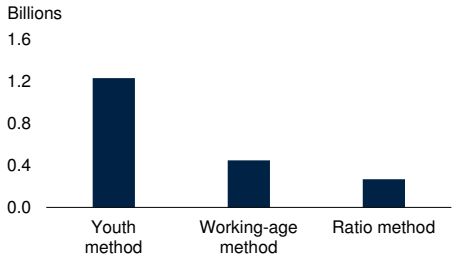
The projected number of young people reaching working age—the youth method—is the primary quantitative articulation of the jobs challenge used in this study. Between 2025 and 2035, around 1.2 billion young people will enter the working-age population in EMDEs. This headline number is a core articulation of the jobs challenge and reflects its global nature. Large countries contribute substantial numbers of new entrants to the working-age population, as do young countries, particularly in Sub-Saharan Africa. This simple approach is the primary method used in this study to describe the magnitude of the jobs challenge, where it is concentrated, and how it changes over time. The regions facing the largest inflows of young people into the working-age population are Sub-Saharan Africa, with 330 million new entrants, South Asia, with 280 million new entrants, and East Asia and Pacific, with 285 million new entrants.

The youth method offers a simple and impactful perspective and is particularly useful if the primary policy concern is the fate of young people. The youth method focuses explicitly on young people entering working age. In the vast majority of countries, these young people are better educated than their parents (Narayan et al. 2018). The youth method can be a powerful standalone approach to communicating the scale of the jobs challenge, especially over shorter time horizons (refer to, for example, Fox et al. 2020; World Bank 2024d). This method also has simple data requirements. UN demographic

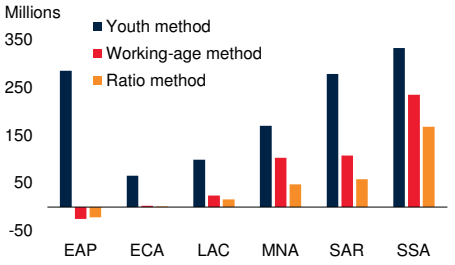
FIGURE 2.7 Global jobs challenge, 2025–35

The jobs challenge can be measured in different ways, yielding different headline numbers, but all lead to the same primary conclusion: most EMDEs face a jobs challenge. The jobs challenge faced by EMDEs is largest in Sub-Saharan Africa, South Asia, and the Middle East and North Africa, although under the youth method, large numbers of young people will enter working age in East Asia and Pacific.

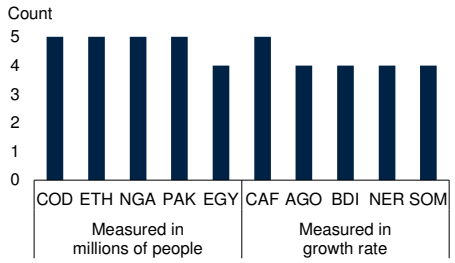
A. EMDE jobs challenge estimates



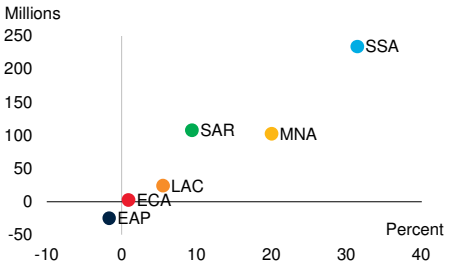
B. The jobs challenge, by EMDE region



C. Number of times an EMDE was among the 10 highest estimates of the jobs challenge, across five estimates



D. Growth in working-age population, by EMDE region



Sources: Crivelli, Furceri, and Toujas-Bernate (2012); ILOSTAT (database); Loungani, Luttini, and Pallan (2025); UN World Population Prospects (2024); WEO (database); World Bank.

Note: AGO = Angola; BDI = Burundi; CAF = Central African Republic; COD = Democratic Republic of Congo; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EGY = Egypt, Arab Rep.; EMDEs = emerging market and developing economies; ETH = Ethiopia; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; NER = Niger; NGA = Nigeria; PAK = Pakistan; SAR = South Asia; SOM = Federal Republic of Somalia; SSA = Sub-Saharan Africa.

A.B. Youth method: new entrants into the working-age population from 2025–35; Working-age method: net change in the working-age population, 2025–35; Ratio method: net change in the working-age population over 2025–35, scaled by the country-specific average 2010–19 employment ratios. Positive numbers show a jobs challenge, while negative numbers imply an improvement.

C. Bars show the number of times an economy ranks among the top 10 economies with the largest challenge, either in numerical magnitude or in percentage growth relative to the 2025 working-age population, across 5 estimates. The estimates include three ratio-method variants based on employment-to-population ratios, historical employment growth, and employment-growth elasticities (refer to appendix B for a description of the five methods).

D. Panel shows the change in the working-age population over 2025–35 by EMDE region, in millions of people (y-axis) and relative to the 2025 working-age population, in percentage terms (x-axis).

projections are comprehensive and published regularly; their central scenarios have proven reasonably accurate over time.[7]

[7] For commentary on UN population projections, refer to, for example, Ritchie (2023). These projections have been probabilistic since 2014, more formally quantifying the uncertainty about future fertility and mortality. Importantly for this study, even though population projections can attract scrutiny, everyone who will reach working-age between 2025 and 2035 (though not those who will reach working age thereafter) is already alive today.

The working-age method

The working-age method considers entrants to the working-age population (captured by the youth method) but also factors in those leaving it. A growing working-age population implies a proportionate increase in the number of net new jobs an economy will need to create. It implicitly assumes movement in jobs along the demographic chain, with young workers ultimately assuming jobs left behind by retiring workers. Change in the working-age population is also an anchor for most other methods used in the literature, making this approach viable for estimating the jobs challenge in all countries and over extended periods of time (appendix B). The youth method becomes less tractable over long time horizons, but working-age population comparisons remain meaningful.

As working-age populations grow, most of these additional individuals will need jobs, even though labor force participation varies across regions and can also shift over time. About 450 million additional people will join the EMDE working-age population between 2025 and 2035, and over 800 million between 2025 and 2050. Sub-Saharan Africa, South Asia, and the Middle East and North Africa will collectively add 445 million people to their working-age populations between 2025 and 2035. The working-age method highlights that future growth in the working-age population is heavily concentrated within these three EMDE regions, while working-age population growth stalls in other regions and is projected to decline in East Asia and Pacific.

The working-age population method provides valuable additional insights to complement the youth method. Measuring exits from the working-age population as well as entrants brings a broader perspective and shines a particular light on those economies where labor forces are likely to expand significantly in the aggregate, implying a particularly acute need for job creation. This can be obscured by simply focusing on the number of young people entering working age. On the other hand, looking at changes in the working-age population in isolation can mask the number of young people entering working age in economies that are aging (precisely because this young cohort is partly counterbalanced by those leaving the working-age population).

Ratio methods

Ratio methods attempt to refine these projections and can also help estimate a "jobs gap," but they are based on additional assumptions. Ratio method estimates take projections of the working-age population or youth cohorts and apply a ratio (for example, employment as a share of the working-age population) based on assumptions about labor market participation and/or employment growth. Though ratio methods aim to refine estimates of the number of jobs that will be required, these refinements may not be reliable—especially over longer time frames—because they are based on assumptions about the evolution of additional uncertain variables.

Ratio method estimates depend on assumptions about participation in labor market and/or employment growth. For example, they may recognize that not everyone in the

working-age population will be employed or seeking work. They may therefore scale the working-age population based on historical employment or participation ratios, or on other assumptions about the future path of participation or employment. More complex variants of these approaches may make projections about future employment growth—either based on historical trends or via estimated employment-output elasticities and future output growth forecasts.

Mechanically, these ratio methods generate smaller jobs challenge estimates than those implied by the numbers under the youth or working-age methods. Simply applying recent country-level employment ratio averages to working-age population projections, for example, would result in an employment projection of 3.2 billion out of 5.1 billion working-age people in EMDEs in 2035: a jobs challenge of around 270 million additional people needing work between 2025 and 2035. This is the headline variant of the ratio method presented in this study.

Versions of ratio methods can be applied to youth cohorts, again using assumptions. For example, depending on the employment-to-young-working age population ratio assumption that is applied, most simple projections suggest that between 400 and 450 million of the 1.2 billion young working-age people in 2035 would be employed. Many would be in some form of education, but assuming recent trends continue to hold, almost 300 million would not be in employment, education, or training.

Precise estimates of the jobs challenge under ratio methods can vary widely and are contingent on the assumptions used. Employment ratios or participation rates can differ significantly across countries and over time. So too can output growth projections and the relationship between employment and output; indeed, long-term projections of these are rare and highly uncertain. Estimates using ratio methods therefore yield widely differing results depending on the variant used and the assumptions contained within it. For example, applying two different labor force participation assumptions for India—the current rate versus a target rate—generates a wide range of estimates for new jobs needed. Researchers project that India will need between 60 million and 148 million jobs by 2030, and between 143 million and 324 million by 2050 (Alonso and MacDonald 2024).

Considerations and overview

Over short to medium horizons, the youth method provides a clear and impactful way of articulating the jobs challenge. The working-age method offers a complementary perspective and can be more meaningful for long-run comparisons. However, when used in isolation, it can underplay an important component of the jobs challenge: large numbers of young people reaching working age in aging economies. Ratio methods involve layering multiple variables and assumptions, each uncertain and becoming more uncertain over time. While they offer more refined estimates of job creation needs, the uncertainty around these layers of assumptions makes it difficult to have confidence in ratio methods' longer-run point estimates. Although forecasts for working-age population growth are generally stable over a period of a few decades, it is much more difficult

to have confidence in projections for participation rates, the jobs elasticity of output growth, or indeed GDP forecasts themselves. Therefore, the youth method, based simply on the projected number of young people entering working age, and which offers a clear and transparent articulation of the jobs challenge, is the primary method used in this study.

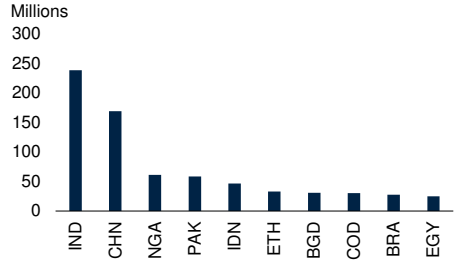
Different methodologies all point to a broadly similar pattern for the jobs challenge, even though quantitative point estimates differ considerably (table B.1). In fact, the sets of countries facing the largest numerical jobs challenge or the largest percentage jobs challenge are very similar across the three headline methods (figure 2.7.C). Under all three methods, the jobs challenge is largely concentrated in LICs as a group and, regionally, in Sub-Saharan Africa, the Middle East and North Africa, and South Asia (figure 2.7.D). Sub-Saharan Africa is consistently the region with the largest estimated jobs challenge. South Asia follows in second place, but the gap is much larger when using the working-age or ratio methods.

At a country level, in terms of number of people projected to reach working age through 2035 (as per the youth method), populous economies dominate, with India and China leading the way (figure 2.8.A). The Central African Republic is projected to have the largest influx of young people reaching working age over the next decade as a share of its 2035 working-age population (figure 2.8.B). Most of the economies that are projected to see the largest increases in the working-age population over the next 10 years are also among the top 10 economies projected to see the largest working-age population change between 2025 and 2050 (figures 2.8.C and 2.8.D).

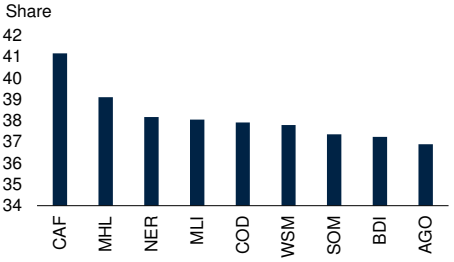
FIGURE 2.8 EMDEs with the greatest jobs challenge

Many populous and young economies are projected to face the largest jobs challenge, as measured in both millions of young people and the change in the working-age population, among EMDEs. This also holds true between 2025 and 2050. Over the next decade, the Central African Republic is projected to see the largest influx of young people as a share of its current working-age population.

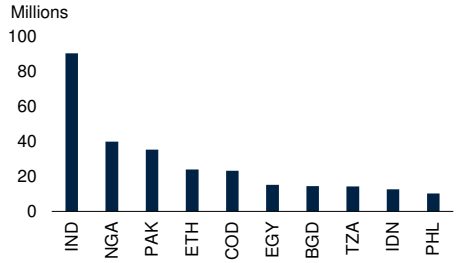
A. EMDEs with the largest level jobs challenge (number of young people reaching working age), 2025–35



B. EMDEs with the largest youth bulges (young working-age people in 2035 as a share of 2035 working-age population)



C. EMDEs with the largest working-age population increases, 2025–35



D. EMDEs with the largest working-age population increases, 2025–50

Sources: UN World Population Prospects (2024); World Bank.

Note: AFG = Afghanistan; AGO = Angola; BDI = Burundi; BGD = Bangladesh; BRA = Brazil; CAF = Central African Republic; CHN = China; COD = Democratic Republic of Congo; EGY = Egypt, Arab Rep.; EMDEs = emerging market and developing economies; ETH = Ethiopia; IDN = Indonesia; IND = India; MHL = Marshall Islands; MLI = Mali; NER = Niger; NGA = Nigeria; PAK = Pakistan; PHL = Philippines; SOM = Federal Republic of Somalia; TZA = Tanzania; UGA = Uganda; WSM = Samoa.

A.B. Bars show top 10 EMDEs with (A) a jobs challenge according to the youth method (young people aged 15–24 in 2035), in millions of individuals, and (B) young people reaching working age over the next decade, as a share of the 2035 working-age population.

C.D. Bars show top 10 EMDEs with a jobs challenge according to the working-age method (net change in the working-age population) over 2025–35 and 2025–50, in millions of individuals.

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We don't know the probabilities of future events. Still, you have to take action.

Robert Shiller (2015)
2013 Sveriges Riksbank Prize in Economic Sciences
in Memory of Alfred Nobel

CHAPTER 3

Why Is Tackling the Jobs Challenge Harder Now?

Weakening drivers of economic growth, a less supportive global environment, and evolving structural trends complicate efforts to create jobs over the next decade. Many countries facing large inflows of young people into the working-age population also face difficult initial conditions, including persistent macroeconomic and fiscal weaknesses and limited institutional capacity. Overlapping international shocks since the emergence of the COVID-19 pandemic have accentuated these pressures. Moreover, emerging market and developing economies (EMDEs)—particularly low-income countries (LICs)—already exhibit a weaker relationship between economic growth and employment than do advanced economies. Structural and technological shifts also loom large: although these bring opportunities, there are risks too; countries with the largest job needs are often among those least well-placed to adjust.

3.1 Weakening drivers of growth

Key drivers of economic growth have weakened across the world in the past decade—a trend that is expected to persist, dampening job creation prospects. Weaker global growth—partly a function of aging populations in some parts of the world—softens global demand for labor, making it harder to generate jobs. Growth has been slowing notably in large higher-income countries that together account for the majority of current global demand, partly because population growth is stalling or already negative in some of these countries. Looking ahead, demographic evolution is likely to have a dampening effect on output growth in some large EMDEs such as China, even though the number of young people reaching working age will remain substantial.

Projections suggest that potential growth in all EMDE regions will be weaker in the 2020s than in the 2010s. In most regions, potential growth in the 2010s was already weaker than it was in the 2000s (figures 3.1.A and 3.1.B).[1] Overall, EMDE potential growth is estimated to be one-third lower over the 2020s than in the 2000s. All major sources of potential growth slowed: human capital formation and labor force growth, as well as investment and total factor productivity (TFP) growth (Kose and Ohnsorge 2024). Policy reforms and new technologies could turn the tide, but in the absence of decisive policy action, and if disruptive uncertainty persists, potential growth could slow further still.

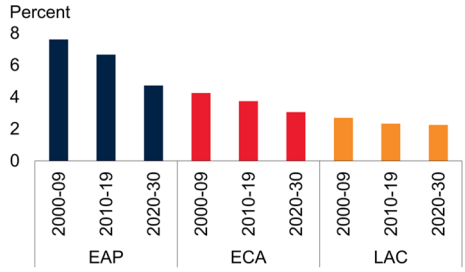
Note: This chapter was prepared by Tommy Chrimes and Kersten Stamm.

[1] In Sub-Saharan Africa, the Middle East and North Africa, and in South Asia, two-thirds of EMDEs with available data are projected to see a slowdown in potential growth (Kose and Ohnsorge 2024).

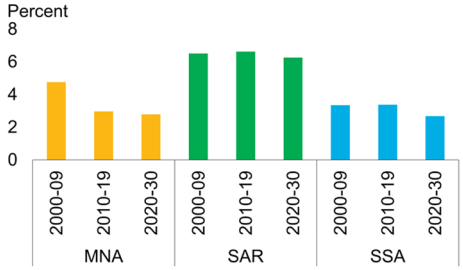
FIGURE 3.1 Potential output growth and external environment

Potential output growth has been declining in most EMDE regions, driven by a slowdown in all factors of production. Investment growth in EMDEs has slowed since the 2000s. The recovery in EMDE investment has been much weaker since the COVID-19 pandemic than after the global financial crisis. Trade growth remains below historical averages, and the number of new trade-distorting measures has surged.

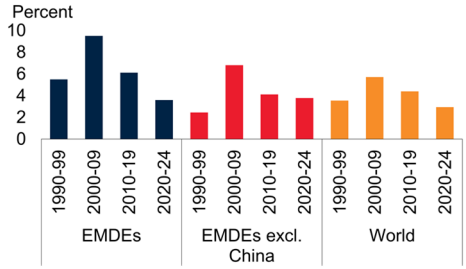
A. Potential output growth, by EMDE region



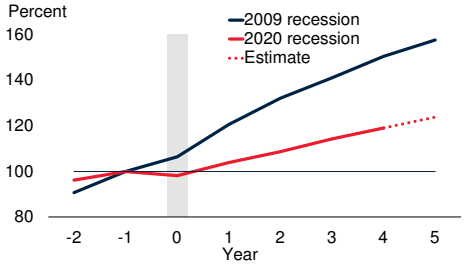
B. Potential output growth, by EMDE region (cont.)



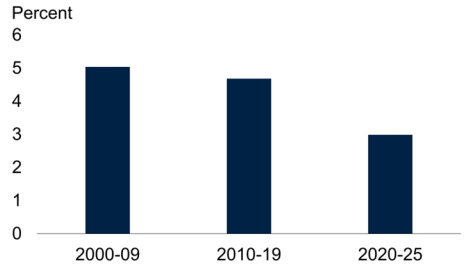
C. EMDE investment growth



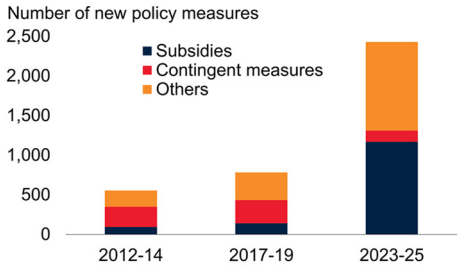
D. Investment recovery in EMDEs following the 2009 and 2020 recessions



E. Global trade growth



F. Trade-distorting policy measures



Sources: Adarov 2025; Global Trade Alert (database); Haver Analytics; Kose and Ohnsorge (2024); WDI (database); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; excl. = excluding; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.
A.B. Based on a production function approach; refer to Kose and Ohnsorge (2024).
C. Investment growth averages for each group. Sample includes up to 103 economies, including 68 EMDEs.
D. Investment is indexed to 100 in the year before the global recession.
E. Trade in goods and services is measured as the average of export and import volumes.
F. Data include policy measures affecting goods trade. Implemented interventions discriminate against foreign commercial interests. Contingent trade-protective measures include trade defense instruments such as safeguard investigations and anticircumvention, antidumping, and countervailing measures. Subsidies cover state loans, financial grants, loan guarantees, production subsidies, and other forms of state support, excluding export subsidies. Adjusted data (for reporting lags) as of April 9, 2025.

The outlook for global investment growth is weak, and productivity growth has been disappointing in many countries for years. Investment looks set to remain subdued out to at least 2030, following a decade of already sluggish investment growth in all six EMDE regions (figure 3.1.C; Adarov 2025). The recovery in global investment following the COVID-19 pandemic has been weaker than the corresponding recovery after the global financial crisis (figure 3.1.D). Meanwhile, TFP growth had already begun to weaken in advanced economies before the global financial crisis and declined notably thereafter in EMDEs, including in LICs (Dieppe 2021). Although forecasts vary across regions, there is no discernible upward trend in projections for investment growth across EMDEs.

Global trade growth is also expected to remain below historical averages (figure 3.1.E). Trade policy uncertainty is high, and the number of new trade-restricting policies introduced globally over the past three years was more than three times greater than in the three years preceding the COVID-19 pandemic (figure 3.1.F). Export-oriented growth strategies may become more difficult to implement successfully than in the past, reducing associated job creation. More muted prospects for global trade growth do not mean that EMDEs—including those facing a jobs challenge—should no longer seek trade-related opportunities to boost job creation. However, the avenues open to them may be different.

The overlapping global shocks since the pandemic also continue to weigh on EMDE growth and job creation prospects. Geopolitical uncertainty has been elevated for several years, with large spikes, including in the first half of 2026, as instability persists and new conflicts flare (figure 3.2.A). Recoveries in per capita output growth in the five years since the pandemic have been mixed across the global economy but weaker in many EMDEs than in the five years following the global financial crisis. Over one-quarter of EMDEs are estimated to have been poorer in 2025, in per capita terms, than they were on the eve of the pandemic. Among LICs, the equivalent figure is 43 percent, while 58 percent of economies in fragile and conflict-affected situations (FCS) had lower per capita GDP in 2025 than they did in 2019 (figure 3.2.B; World Bank 2026a).

Moreover, as a share of advanced-economy per capita GDP, EMDEs excluding China and India saw no gains between 2019 and 2025, and LICs and FCS economies have both seen the gap to advanced-economy income levels widen (figure 3.2.C). On a per-worker basis, investment in EMDEs also remains low relative to advanced economies. In 2024, investment per worker in LICs stood slightly below 3 percent of that in advanced economies (figure 3.2.D; Adarov 2025).

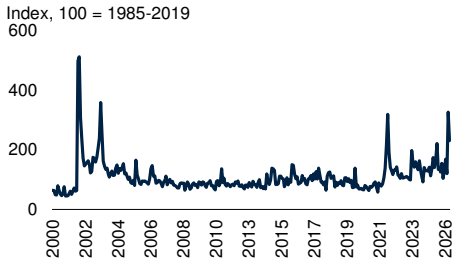
3.2 Initial conditions

The jobs challenge is global, but it represents a large and even historic challenge in the EMDE regions least equipped to respond effectively. Sub-Saharan Africa is set to see its largest youth cohort to date mature over the next decade to 2035, with just over 330 million young people reaching working age. This is close to the largest any EMDE region has ever experienced, surpassed only by East Asia and Pacific over the decade

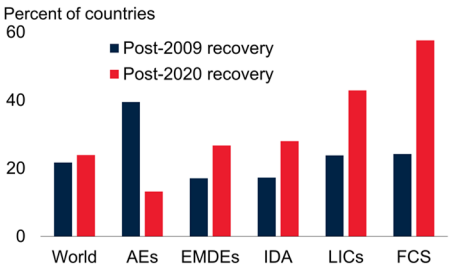
FIGURE 3.2 Uncertainty and the post-pandemic recovery

Geopolitical uncertainty has been elevated in recent years, with large spikes. Many vulnerable economies have seen weaker recoveries after the COVID-19 pandemic than after the global financial crisis, both in terms of absolute per capita GDP and relative to advanced economies. Investment per worker in EMDEs is a small fraction of the level in advanced economies.

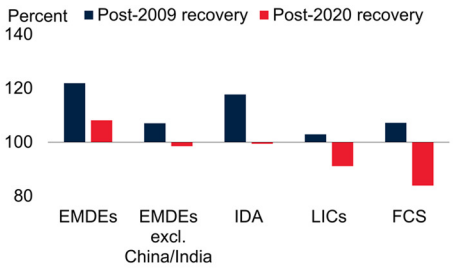
A. Geopolitical uncertainty index



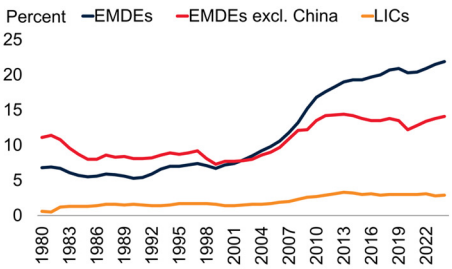
B. Economies with lower per-capita GDP five years after global recessions



C. Per capita GDP relative to advanced economies five years after global recessions



D. Investment per worker



Sources: Adarov (2025); Caldara and Iacoviello (2022); World Bank (2026a); World Bank.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies; excl. = excluding; FCS = fragile and conflict-affected situations; IDA = International Development Association; LICs = low-income countries.
A. Geopolitical risk index as calculated in Caldara and Iacoviello (2022). Last observation is April 2026.
B. Each bar represents the share of economies whose per capita GDP remains below its prerecession level five years after the recession. For the post-2009 recovery, the comparison is between 2008 and 2014; for the post-2020 recovery, it is between 2019 and 2025.
C. Each bar shows per capita GDP five years after the global recession, relative to the level in advanced economies, presented as an index with the relative share one year prior to the respective global recessions equal to 100.
D. Sample includes 68 EMDEs, of which 7 are LICs.

from 1978 (figure 3.3.A). South Asia's own peak youth decade was also large, and only ended in 2021. Like Sub-Saharan Africa, the Middle East and North Africa will see more people reach working age over the next decade than ever before. For Europe and Central Asia (1994–2004) and Latin America and the Caribbean (2006–16), peak youth surge periods have already passed.

The concentration of job creation needs in three EMDE regions, and in Sub-Saharan Africa in particular, becomes even more pronounced looking beyond the next decade. Large numbers of young people reaching working age and needing jobs are an important element of the jobs challenge. However, the working-age population provides a

complementary view of demographic dynamics. The projected increase in Sub-Saharan Africa's working-age population over the next quarter-century is unprecedented: no other region has ever, over any 25-year period, seen as large an increase in the working-age population as Sub-Saharan Africa is expected to experience between 2025 and 2050 (box 3.1). Projections also suggest that the Middle East and North Africa is also near the start of its own record quarter-century of working-age population growth (2019–44). South Asia's peak has already passed, but it is still expected to add over 165 million people by 2050.

Alongside weakening global drivers of growth, many of these economies with large job creation needs must also contend with difficult initial conditions. At the regional level, Sub-Saharan Africa in particular is confronting the jobs challenge from a weaker starting point than other regions today. More strikingly, its initial conditions are also weak relative to where many other regions stood at the start of their own historic peak decades of young people reaching working age.

The jobs challenge will be shaped by prospects for job creation, not just by population dynamics. Approaches to the jobs challenge should avoid the so-called "lump of labor fallacy"—the mistaken notion that the number of jobs in an economy is fixed and finite.[2] The economy is dynamic; more people (and more people with higher incomes) can translate into greater demand for goods and services, and therefore boost demand for labor and other inputs. There will be a moment in any country when the share of the population that is of working age reaches a peak (Lam and Leibbrandt 2023). For many countries facing a large jobs challenge, this moment is likely to arrive in the coming decades.

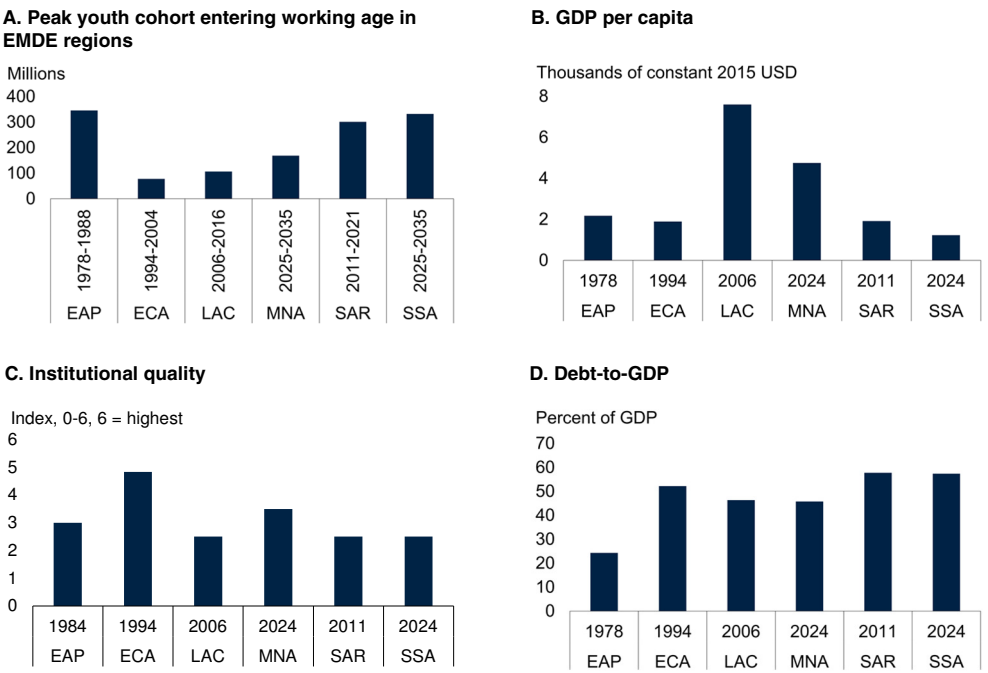
This demographic bulge can represent an important opportunity to advance development if sufficient job opportunities can be found for the additional people. Yet initial conditions complicate this task across EMDE regions, and particularly in Sub-Saharan Africa. Many countries in the region will see their working-age populations nearly double again over the next quarter-century. Coming on the heels of many decades of strong population growth, continued increases in the working-age population may compound pressures on inadequate infrastructure (Calderón, Cantú, and Chuhan-Pole 2018). Pervasive informality, high rates of low-productivity employment (notably in agriculture in many LICs, and in the public sector in some countries), and large numbers of working-age individuals not in employment, education, or training (NEET)—including significant youth unemployment—all already pose major problems in many EMDEs (IMF 2024; World Bank 2024a).

Many of the countries facing a large jobs challenge have low per-capita income. GDP per capita in the median Sub-Saharan African economy is low not just relative to other

[2] The term "lump of labor fallacy" was coined by David Schloss in the 19th century, originally to counter the suggestion that reduced working hours would reduce unemployment. It has many more recent applications, including in relation to older people working longer and the implications for youth employment prospects. Refer to, for example, Apella (2024) and Rahman (2024).

FIGURE 3.3 Regional historic comparisons of initial conditions ahead of peak youth surge decades

Sub-Saharan Africa currently scores more poorly on key economic and social indicators than other EMDE regions did on the eve of their own peak decades of young people reaching working age. All other regions had higher GDP per capita. Several had higher institutional quality; all but one region had lower debt-to-GDP ratios.



Sources: Kose et al. (2022); PRS Group, International Country Risk Guide (ICRG database); UN World Population Prospects (2024); WDI (database); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Bars show the maximum numerical increase in the youth population over any 10-year period on record (or projected for MNA and SSA through 2035), by EMDE region.

B.-D. Bars show median values per EMDE region at the start of the decade period (or as close as data allows) during which the largest inflow of youth aged 15–24 was recorded.

C. Institutional quality is proxied by the ICRG Law and Order index, which ranges from 0 (lowest) to 6 (highest). The earliest available observation is for 1984 and is shown for EAP and ECA.

regions today, but also relative to other regions on the eve of their own peak youth surge decades (figure 3.3.B). Low per capita income contributes to scarcity in physical and human capital.

Institutional quality in Sub-Saharan Africa is also relatively weak: in the median economy, it ranks below the equivalent levels seen in both East Asia and Pacific, and Europe and Central Asia, when they stood on the cusp of their own respective peak youth surge decades, and also below the median level in the Middle East and North Africa now (figure 3.3.C). Institutional quality, including the design and implementa-

tion of regulations as well as the predictability and evenhandedness of the rule of law, has generally been a foundation of macroeconomic stability and other characteristics of successful economic performance (Stamm and Yu 2024). In addition, high levels of fragility and conflict can have adverse effects across a range of labor market dimensions, limiting labor mobility, restricting labor supply, weakening labor demand, and harming the health of workers (World Bank 2025a).

Macroeconomic and fiscal weaknesses threaten to hamper many countries facing large youth surges. These weaknesses have been worsened by the overlapping shocks that have hit the global economy since 2020. Debt levels were rising prior to the COVID-19 pandemic in many countries, particularly in LICs (Kose et al. 2021). Economic disruptions associated with the pandemic, major conflicts, and global inflation made matters worse, limiting the scope for policy action. Almost half of LICs are either in or at high risk of debt distress—double the share in 2015. Meanwhile, no LIC is at low risk of debt distress (Mawejje 2025). Debt-related pressures inhibit countries' ability to repair the damage done by these shocks, including to human capital. This will weigh on their future growth prospects. The median EMDE in Sub-Saharan Africa has a higher debt burden than the median of all other EMDE regions on the eve of their peak youth surge decades, with the exception of South Asia (figure 3.3.D).

The jobs challenge is particularly urgent in economies classified as fragile and conflict-affected situations.[3] In these economies, 270 million young people will enter working age between 2025–35. Over the next 25 years, the working-age population will grow by 470 million people between 2025 and 2050. Moreover, more than 80 percent of these economies are expected to experience higher annual working-age population increases, on average, in the next ten years than they did over the past two decades. Fragility and conflict can severely affect labor markets via channels including volatile growth and investment, a higher incidence of debt distress than in other EMDEs, weak labor demand, and reduced welfare and health of potential workers.[4]

In the countries most affected by the jobs challenge, the relationship between output growth and job creation tends to be weaker than it is in wealthier economies. The relationship between output growth and employment growth is captured by estimates of the elasticity of employment with respect to output (chapter 2 and appendix C). Estimates of this employment-output elasticity usually range between 0 and 1—a relationship that shows that output per employee (or labor productivity) tends to rise over time. These employment-output elasticity estimates differ significantly across country groups and regions. However, a consistent finding is that the employment-output relationship tends to be weaker in EMDEs than in advanced economies.

[3] Countries with high levels of institutional and social fragility are identified based on indicators that measure the quality of policy and institutions, and manifestations of fragility. Violent conflict situations are identified based on a threshold number of conflict-related deaths relative to the population. For fiscal year 2026, there are 38 economies classified as FCS by the World Bank Group.

[4] For a discussion of the macroeconomic consequences of fragility and conflict, refer to, for example, Adelaja and George (2019); Di Maio and Sciabolazza (2023); Utar (2025); and World Bank (2025a).

Across EMDEs as a whole, the employment growth associated with a given increase in economic growth has only been half as strong as in advanced economies. In the short term, a 1 percentage point increase in EMDE output growth corresponds to a 0.2 percentage point rise in employment growth (appendix C; Loungani, Luttini, and Pallan 2025). When examining the cumulative effects of sustained output growth over the medium term, the employment-output elasticity increases in advanced economies but remains stable in EMDEs. In advanced economies, the short-term elasticity is 0.4, rising to 0.6 in the medium term. Some EMDE country-level employment-output elasticities show an even wider range.[5]

The relatively weaker link between growth and job creation in lower-income countries could partly reflect differences in macroeconomic and labor market characteristics. Employment tends to respond less to output in countries with high rates of poverty, informality, and skill mismatches, as well as in those with weak institutions and a high concentration of small firms.[6] The informal sector accounts for a much larger share of employment in many EMDEs, particularly LICs, reflecting an inverse relationship between informality and the level of economic development. In these economies, workers are more likely to move between the formal and informal sectors in response to shifts in output and labor demand, rather than between employment and unemployment, dampening the link between output and total employment.

Despite these constraints, employment growth is positively correlated with output growth in most EMDEs. A healthy economy—growing strongly and sustainably and underpinned by sound institutions and policy frameworks—will promote employment growth. Even so, the lower output-employment elasticity in EMDEs, and particularly in LICs, complicates efforts to address the jobs challenge in affected countries: simply increasing output growth may not be sufficient.

[5] One study finds that the relationship is close to zero in many LICs and in Sub-Saharan Africa, but close to one in South Asia (Crivelli, Furceri, and Toujas-Bernate 2012). This latter result contrasts with some other estimates for South Asia: for example, Beyer (2018) suggests a range of 0.2–0.3. This underscores the uncertainty around elasticity estimates and explains why elasticities are not incorporated in the main method for quantifying the jobs challenge, despite their conceptual importance.

[6] In many LICs, a large share of the working-age population is self-employed, either in basic agriculture or informal nonfarm activity. While these are generally captured as jobs in ILO employment data, such jobs are less likely to increase (decrease) during periods of economic growth (decline); instead, adjustment over business cycles is likely to occur earnings, working hours, or shifts within the informal sector (Farole, Ferro, and Gutierrez 2017). There is an extensive wider literature on these issues (refer to, for example, An et al. 2017; Almeida and Carneiro 2006; Ball, Leigh, and Loungani 2017; Ball et al. 2019; Lee et al. 2020; and Loungani, Luttini, and Pallan 2025).

BOX 3.1 Peak periods of working-age population growth

Demographic dynamics are at the heart of the global jobs challenge. Large numbers of young people are reaching working age globally, and even as world population growth slows, several regions continue to experience rapid growth in working-age populations. Looking beyond the next decade, Sub-Saharan Africa increasingly stands out. This box addresses two main questions:

- During which quarter-century period has each emerging market and developing economy (EMDE) region experience its peak increase in working-age population?
- What were the initial macroeconomic and development conditions in these regions on the eve of their respective greatest periods of working-age population growth?

Peak periods of working-age population growth

Demographic paths differ by region, with Sub-Saharan Africa increasingly standing out over time. Over the decade to 2035, large numbers of young people will enter working age across all EMDE regions. However, increases in the working-age population (accounting for those exiting working age, as well as those entering it) show marked divergence across regions. Looking further ahead over the next quarter-century to 2050, in terms of millions of additional people, increases in working-age populations are projected to be concentrated in three regions: Sub-Saharan African in particular (which will account for over three-quarters of the global increase in the working-age population), and, to a lesser extent, the Middle East and North Africa and South Asia (figure B.3.1.A).

In Sub-Saharan Africa and the Middle East and North Africa, projected increases in the working-age population over the next quarter-century are also large in terms of growth rates. Between 2025 and 2050, the working-age population is expected to rise by 84 percent in Sub-Saharan Africa (figure B.3.1.B). In the Middle East and North Africa, the equivalent increase over the same period is 44 percent.

The projected 625 million increase in Sub-Saharan Africa's working-age population between 2025 and 2050 is unprecedented globally: no region in history has added as many people to its working-age population during any 25-year period (figure B.3.1.C). The increase in terms of growth rates is historically large too, even as annual population growth eases over the period. The surge in the working-age population in the region is underpinned by relatively high fertility rates compared with the rest of the world, as well as by increasing life expectancy, albeit from a lower base than the global average (Lam and Leibbrandt 2023). The

BOX 3.1 Peak periods of working-age population growth *(continued)*

working-age population is projected to increase in all but two countries in Sub-Saharan Africa over the quarter-century to 2050.

Historically, in terms of millions of people added, the closest counterpart to Sub-Saharan Africa's projected increase occurred in East Asia and Pacific between 1977 and 2002. Over that period, driven primarily but not exclusively by China, the working-age population in East Asia and Pacific grew by 535 million—a 75 percent increase. Europe and Central Asia saw its peak period earlier, between 1962 and 1987. In Latin America and the Caribbean, the 153 million increase between 1986 and 2011 amounted to a 68 percent rise. South Asia's peak quarter-century in terms of working-age population growth ran from 1993 to 2018: an expansion of 432 million, or 69 percent. The Middle East and North Africa's peak period is projected to have begun in 2019: by 2044, the working-age population is projected to grow by 240 million people, a 53 percent increase.

In Sub-Saharan Africa, the historic demographic boom over the next quarter-century also follows decades of rapid population expansion and is projected to continue into the second half of the century. For four economies—Angola, the Democratic Republic of Congo, Mauritania, and Niger—the period to 2050 will mark the third consecutive quarter-century in which working-age populations have doubled. For Tanzania, it will be the fourth consecutive quarter-century in which its working-age population more than doubles, driving a 20-fold increase from 4 million in 1950 to 80 million in 2050.

Initial conditions at the start of regions' peak working-age population growth quarter-century periods

Many of the countries facing a large increase in the working-age population have low per capita incomes; many also have weak institutions and governance frameworks. These disadvantages are not just relative to their peers in other parts of the world today. For example, Sub-Saharan Africa's initial conditions not only look weak relative to other regions today, but also relative to where other regions stood at the start of their own peak periods of working-age population growth in the past. In some cases, these constraints could limit countries' ability to pursue effective policies to address the jobs challenge. With the exception of South Asia, all EMDE regions had higher real GDP per capita at the start of their peak working-age population growth periods than Sub-Saharan Africa did in 2024—even as the region embarks on the largest working-age population increase ever seen (figure B.3.1.D).

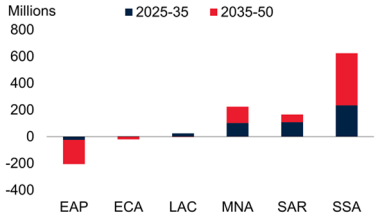
Robust institutions and policy frameworks can help create the enabling conditions for output growth and job creation. However, median institutional quality in Sub-Saharan Africa today is low relative to the levels seen in the median

BOX 3.1 Peak periods of working-age population growth *(continued)*

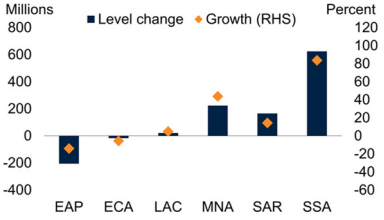
FIGURE B3.1.1 Working-age population out to 2050 and historic peak periods

The global working-age population is expected to continue growing over 2025–50, but at a slower pace. Most of the increase is expected to be in Sub-Saharan Africa, where the change in numerical terms is projected to be unprecedented. Yet key initial conditions in Sub-Saharan Africa are relatively weak.

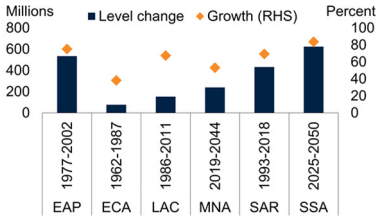
A. Projected change in working-age population by EMDE region, 2025–50



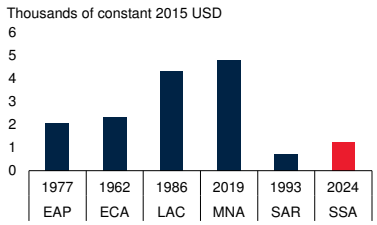
B. Change in working-age population, 2025–50



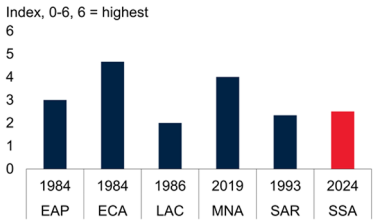
C. Sub-Saharan Africa's projected demographic surge in historical regional perspective



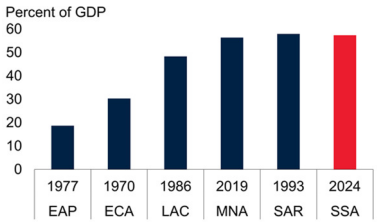
D. GDP per capita on the eve of peak working-age population growth



E. Institutional quality on the eve of peak working-age population rise



F. Debt-to-GDP ratio on the eve of peak working-age population rise



Sources: Kose et al. (2022); PRS Group, International Country Risk Guide (ICRG, database); UN World Population Prospects (2024); WDI (database); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa. Working-age population is defined as the population aged 15–64 years.

A. Bars show projected change in working-age population over the indicated periods.

B. Bars show change in working-age population over 2025–50 in absolute terms. Diamonds show percentage change (right-hand side).

C. Bars show maximum numerical increase in the working-age population over any 25-year period on record through 2050 (or projected, for SSA). Diamonds show corresponding percentage change in working-age population levels.

D.-F. Bars show medians for each region on eve of largest 25-year working-age population increase period.

E. Institutional quality is proxied by ICRG's Law and Order index. Earliest available data is 1984.

BOX 3.1 Peak periods of working-age population growth *(continued)*

economy in East Asia and Pacific, Europe and Central Asia, or the Middle East and North Africa at the dawn of those regions' own peak periods of working-age population growth (figure B.3.1.E). It is higher than the median score in Latin America and the Caribbean in the late 1980s.

Fiscal capacity can help policy makers as they seek to boost job creation, but the regions facing large increases in working-age populations over the next quarter-century also face high debt levels as a share of GDP relative to other regions. For example, government debt as a share of GDP stood at 56 percent in the median Sub-Saharan African economy in 2024. The equivalent ratio in Europe and Central Asia in 1970 was just 30 percent, and in East Asia and Pacific in 1977, it was 19 percent (figure B.3.1.F). The comparison is not like-for-like, as international debt markets have changed significantly over time. Yet higher debt levels and a succession of overlapping international shocks contribute to a difficult backdrop for countries facing large increases in the working-age population today.

Extended periods of strong working-age population growth can put particular strain on existing infrastructure. Sub-Saharan Africa—the region projected to see the largest increase in the working-age population—already exhibits weak performance across various dimensions of infrastructure (Calderón, Cantú, and Chuhan-Pole 2018). When combined with low per capita income, limited institutional capacity, and constrained fiscal space, the scope to expand infrastructure to meet the needs of continuously growing populations may be particularly limited. This is a concern given infrastructure's foundational role in facilitating output growth and job creation (Development Committee 2025a).

Conclusion

The global jobs challenge has numerous layers. While demographics contribute to the jobs challenge across all regions, with large numbers of young people reaching working age over the next decade, working-age population growth in Sub-Saharan Africa over the next quarter-century is set to be the largest ever seen anywhere. This underscores the scale of the challenge facing the region, but also its huge potential if this large wave of people can find sufficient job opportunities. Some initial conditions facing Sub-Saharan Africa today complicate delivery of policies to promote job creation at scale. Policy makers must work to ensure that foundational infrastructure is in place, to foster macroeconomic stability and a business-friendly environment, and to mobilize private capital (Development Committee 2025b).

3.3 Technology and energy transition

Emerging global structural and technological shifts could disrupt growth and alter employment prospects. These shifts will create new opportunities as well as risks, including for EMDEs. Several developments already underway could have significant implications for job creation opportunities, although the net effect on aggregate employment from these shifts remains unclear. A key challenge for any government is how to adjust policy to take account of emerging and evolving structural changes.

Technological changes

Evidence on the effects of productivity-enhancing technological changes on aggregate employment in EMDEs is mixed. Policies that promote the adoption of new technologies can boost labor productivity and TFP, lead to sectoral resource shifts, and enhance potential output (Cirera and Maloney 2017). New technologies can be labor-saving in some cases. Yet they can also increase the profitability of production and thus can support labor demand in both the innovating sectors and beyond (Dieppe 2021).

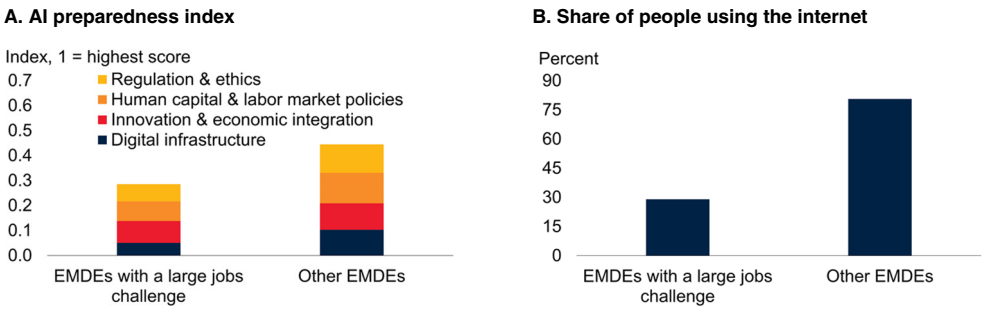
The impact on aggregate employment will depend on several factors, including the flexibility of labor markets, the skills of workers, the availability of training for displaced workers, and broader macroeconomic policies. Estimates for the United States between 1940 and 2018 show that labor-augmenting technologies such as computing had a positive effect on labor demand but also suggest that automation reduced it (Autor et al. 2024). More broadly, the direct net impact of new technologies on employment has tended to be negative in the short run, and this negative impact may be more persistent in EMDEs. At the same time, countries with younger populations are better placed to adapt to new technologies (Dieppe 2021).

Artificial intelligence (AI) is an emerging technology that may have a profound but uneven effect on employment. New technologies may threaten some jobs and change the profile of sectors, but they can also create new job opportunities (World Bank 2019a). AI will affect productivity and employment prospects, with adverse impacts for some roles and complementary effects for others (Arias et al. 2025; Gmyrek, Berg, and Bescond 2023). Automation has a displacing effect on labor. However, substituting technology for labor can boost productivity and capital accumulation, with both expanding demand for non-automated labor (Acemoglu and Restrepo 2019a).

The balance of these effects in the case of AI remains uncertain, though recent technological developments have emphasized automation, rather than generating new productive tasks that can create jobs (Acemoglu and Restrepo 2019b). By one estimate, 40 percent of jobs worldwide—and about 60 percent in advanced economies—are exposed to AI. Advanced economies therefore face greater immediate risk, as higher-skilled roles may be more easily automated, although they are also better placed to harness AI's benefits (Cazzaniga et al. 2024; Georgieff and Hyee 2021). LICs—the country group facing the largest jobs challenge—are, on average, much less prepared for the impacts of AI than other economies, making it harder for them to tackle the jobs challenge successfully (figure 3.4.A).

FIGURE 3.4 Artificial intelligence preparedness in EMDEs

EMDEs are generally less prepared for AI than advanced economies, but gaps are typically more pronounced among EMDEs with a large jobs challenge. Large shares of the EMDE population do not have internet access; this is particularly acute in many countries with large numbers of young people set to reach working age.



Sources: Cazzaniga et al. (2024); WDI (database); World Bank.
Note: AI = artificial intelligence; EMDEs = emerging market and developing economies. EMDEs with a large jobs challenge = EMDEs with a share of young people in the population 15+ equal or larger than 30 percent in 2035.
A. Panel shows average scores on the AI Preparedness Index as of 2023 from Cazzaniga et al. (2024), covering 174 economies.
B. Bars show the median share of individuals using the internet across EMDEs, using the latest observation for each economy.

Effective AI adoption depends in part on the enabling environment underpinning it. In many countries facing a large jobs challenge, this enabling environment is lacking, and technology take-up to date reflects this. For example, as of mid-2025, LICs accounted for under 0.1 percent of global data capacity and less than 1 percent of global ChatGPT use (World Bank 2025b). In part, this reflects limited internet access: 2.7 billion people remained unconnected to the internet, and only one-quarter of the population in LICs was online as of 2022. Although internet penetration has grown in LICs, the gap between rural and urban areas has widened (World Bank 2024b). Internet access is more limited in many of the countries facing a large influx of young people to the working-age population (figure 3.4.B).

The benefits of AI may also materialize in distinct ways in EMDEs relative to advanced economies, requiring different policy approaches. Beyond establishing enabling digital infrastructure, EMDEs also need to facilitate the creation of localized training data that reflect local languages and country contexts and promote a vibrant start-up sector that can adjust AI solutions developed in advanced economies for country-specific applications. Models that are accessible on mobile devices with limited internet connectivity (so-called "small AI") can provide solutions in EMDE-specific contexts, such as helping smallholder farmers time fertilizer applications or identify crop diseases. These models do not require the same up-front investment as the development of frontier models (Kim and Qiang 2025; World Bank 2026b, forthcoming).

AI could potentially exacerbate the digital divide and inequality, with a more pronounced effect in poorer countries, including those facing the largest jobs challenge (Gmyrek, Winkler, and Garganta 2024). Early evidence combining the share of tasks

that could see productivity improvements from AI with observed AI utilization for such tasks suggests that AI exposure could slow hiring for some entry-level positions—thus impacting young working-age individuals—while productivity gains could materialize further up the income distribution (Massenkoff and McCrory 2026). The impacts of AI will likely be felt unevenly both across and within countries. There will be opportunities for EMDEs, not just challenges. Technology absorption varies across countries and technologies, and even among firms in the same country (World Bank 2019b).

AI's effects on productivity could be substantial but are subject to wide uncertainty, even among advanced economies. Estimates of the productivity gains from AI based on studies of early-adopter firms vary widely, implying economy-wide productivity growth effects ranging from less than 0.1 to more than 1 percentage point per year. The more optimistic estimates of the productivity impact of AI suggest that global growth over the next decade could reverse the recent global slowdown to rates last seen in the 2000s (World Bank 2026b). Research on AI's productivity impacts in EMDEs is less common, but studies that do address this generally estimate a much lower impact (Briggs and Kodnani 2023; Cerutti et al. 2025).

Energy transition

Structural shifts in the global economy—requiring the reallocation of resources across sectors—will also have important implications for employment. These shifts will affect individual firms and workers, as well as economy-wide aggregates. The energy transition, which involves adopting less emissions-intensive energy generation and economic activity as well as developing greater resilience to intensifying weather-related shocks, is an example of such a structural change. A successful transition will require significant and rapid shifts in investment, with differentiated impacts over time and space on productivity, output, and employment (ILO 2019; IMF 2022).

Delaying the energy transition could also have significant negative consequences for productivity, economic growth, and employment (World Bank 2023). One important channel is the loss of working hours due to a higher incidence of extreme heat (ILO 2019). As weather-related output shocks intensify, they will negatively affect derived labor demand—and thus employment—in the agricultural and industrial sectors across a wide range of EMDEs (Feriga, Lozano Gracia, and Serneels 2024). Extreme weather and other climate-related shocks also affect more people in FCS than in other EMDEs, in part because many work in agriculture (Jaramillo et al. 2023). While many countries have developed national energy and climate plans, there are significant differences in their depth; integration into wider national economic agendas is often partial, and the workforce component of these plans is frequently underdeveloped or missing.

At the same time, the energy transition can also offer avenues for future growth—and for job creation. How individuals, firms, investors, and governments address challenges such as changes in weather patterns and the associated energy transition will shape both growth outcomes and employment prospects. Globally, the energy transition will require a significant reallocation of resources and labor away from high-emissions sectors over

time, although there are precedents for similar shifts at the required scale (IEA and IFC 2023; ILO 2019).

The transition could involve more than twice the equivalent shift in the average EMDE from higher-emissions to lower-emissions activities over a 10-year period than in the average advanced economy. This higher reallocation is due to the larger initial concentration of employment in emissions-intensive sectors in EMDEs. However, this sectoral transition is smaller than the shift of 4 percent per decade that advanced economies have experienced from manufacturing to services since the 1980s (IMF 2022). A wide range of sectors will require investment for the energy transition and climate change adaptation. However, the associated employment shifts would be concentrated in a relatively small segment of the economy (Montt et al. 2018).

The energy transition not only involves a shift of employment across sectors but also necessitates efficiency and technology gains that reduce emissions within individual sectors (IMF 2022). For example, in Viet Nam, estimates show that fewer than 4 percent of workers occupy green jobs; however, around 40 percent of total employment in the country could become green jobs if technologies are improved and applied in sectors such as farming and agriculture (Doan et al. 2023). In EMDEs, the share of green jobs has been rising, reaching around 10 percent of employment, on average, but polluting jobs still account for a larger share of employment, with considerable variation across countries (Alexander et al. 2024; World Bank 2022). Compared with those in polluting jobs, workers in green jobs often have higher education and more specialized skill sets; high-skilled workers have transitioned more easily from non-green jobs to green jobs. The energy transition may require workers in polluting jobs to move to neutral jobs with similar skill sets rather than directly to green jobs (ESMAP 2023).

Related to the energy transition, changes in weather patterns will increasingly affect output and employment across a wide range of sectors. Mitigation of temperature rises and adaptation to increasing weather-related output shocks will both be important across economies (World Bank 2024a, 2024c). The development of climate-resilient infrastructure, and the adaptation of sectors within the economy to the impacts of an evolving climate, including agriculture, will also have profound implications for employment prospects, including in countries facing a large jobs challenge. Sub-Saharan Africa and South Asia have large shares of their populations exposed and vulnerable to weather-related shocks.

These technological and structural shifts offer opportunities for promoting development and prosperity, not just damaging effects and downside risks. However, capitalizing on the positives and minimizing the negatives will hinge in part on capacity and adaptability: at the firm level, among individuals in the working-age population, and in government administrations and institutions. AI and other new technologies could help accelerate development progress, but their net implications for jobs are unclear, while a lack of preparedness in countries facing a jobs challenge exposes them to employment-related risks.

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Private markets can work miracles and well-designed government policies can work miracles. There's no recipe for perfection.

William Nordhaus (2021)
2018 Sveriges Riksbank Prize in Economic Sciences
in Memory of Alfred Nobel

CHAPTER 4

What Policies Can Help Tackle the Jobs Challenge?

Reinvigorating output growth, supported by strong investment, is critical for sustained job creation. Three pillars provide an organizing framework for policy makers to accelerate job creation: foundational infrastructure, including human capital; a business-enabling environment; and private capital mobilization. The public sector's central role is to facilitate sustainable private sector output and employment growth. Measures to support the integration of underrepresented groups and promote inclusive job creation are also important. A supportive international environment, with reliable technical and financial assistance, will be key for many emerging market and developing economies (EMDEs) facing a jobs challenge.

Policy choices can make a significant difference in addressing the jobs challenge.[1] They can support employment growth, raise employment rates, and expand opportunities for young people. Past experience offers some grounds for optimism: several regions have generated strong employment growth even as their working-age populations expanded rapidly (Lam and Leibbrandt 2023). Across countries, strong investment and productivity growth have often been catalysts for job creation. Nevertheless, achieving sustained, large-scale gains in job opportunities in the most-affected regions—particularly Sub-Saharan Africa, the Middle East and North Africa, and South Asia—will be challenging if recent conditions persist.

This chapter draws on insights from the literature and lessons from countries that have managed to speed up job creation and increase the share of the working-age population that is employed.[2] While these reviews do not identify a universally applicable approach, they are generally consistent with three key policy pillars that provide a foundation for policy makers seeking to sustainably boost employment growth (Development Committee 2025a). These three pillars are:

- Ensuring appropriate **foundational infrastructure**, spanning physical, human, digital, and natural capital. This is essential for connecting people and firms to each other and matching them to productive opportunities.

Note: This chapter was prepared by Tommy Chrimes, Kersten Stamm, and Collette Wheeler.

[1] Generating sufficient jobs is critical for policy makers, particularly where working-age populations continue to grow rapidly (Spence 2011). At the same time, improving the quality of employment—including labor productivity—is an essential complementary objective, with important implications for raising living standards and promoting development (chapter 5; World Bank 2013a).

[2] Country case studies analyze five episodes in detail in appendix A: Australia (1994-2008), Chile (1979-92), Colombia (2002-08), the Republic of Korea (1986-97), and Singapore (2004-14). For details on the methodology used to identify sustained periods of strong employment growth, as well as the criteria for selecting these episodes, refer to box 4.1.

- Fostering a **business-enabling environment**, underpinned by macroeconomic stability and institutional strength. The private sector will be the primary engine of job creation. Firms benefit from clear, well-designed, and consistently implemented rules, and a conducive broader operating environment, to facilitate expansion and job creation.

- **Mobilizing private capital** to generate sustained investment and advance development objectives. This is especially important against a backdrop of large investment needs and limited fiscal capacity in many EMDEs.

In many cases, a combination of policies will be required. Complementarities between policies can be pivotal to driving output, investment, and job creation outcomes (Adarov 2025; World Bank 2025a). Policies should be calibrated to reflect national circumstances, constraints, and endowments. These national policies should be complemented by strong global support and cooperation to help address the jobs challenge.

Country experiences help illustrate these themes and provide useful policy insights (box 4.1). Korea substantially increased job creation in the 1980s and 1990s through a sustained push to enhance education, training, and investment, advancing structural reforms and moving up value chains as part of a long-term strategy (appendix A.4). In the 2000s, Singapore removed constraints to growth, supporting the development of a knowledge-based economy while improving the skills of its domestic labor force. The share of residents with a tertiary degree increased by 10 percentage points in a decade and employment grew at almost 5 percent per year (appendix A.5). Chile and Colombia bolstered macroeconomic stability and improved the business environment before achieving sustained employment growth (appendixes A.2 and A.3). Australia implemented labor market reforms that facilitated firm growth and a shift to a higher employment ratio (appendix A.1). Although circumstances in these cases were somewhat different to those facing economies with a large jobs challenge today, the examples are still informative for policy makers.

The public sector has an important role to play in addressing the jobs challenge—but not as an additional source of jobs per se. Rather than turning to the public sector as a direct vehicle for absorbing additional workers, governments should aim to ensure efficient and effective public sector service provision to facilitate the creation of productive private sector jobs. These services include overseeing the establishment of appropriate foundational infrastructure, delivering well-functioning institutions, and attracting private capital. While many public sector jobs are productive and valuable, excessive public employment can crowd out private employment. Public wage and pension pressures consume fiscal resources. In some settings, expectations of guaranteed public lifetime employment at significantly higher wages than in the private sector can distort incentives, leading to a misallocation of human capital and limiting skills development, with negative impacts on private sector growth.

In addition, policies that engage underrepresented segments of the population—especially women—can support jobs. Boosting productive participation among such

groups is key to increasing overall employment among the working-age population. Policy options include reducing barriers to participation, addressing mismatches in education and skills, and tackling restrictive policies, laws, and socio-cultural norms. Furthermore, addressing the jobs challenge hinges on creating employment pathways aligned with domestic market needs for young people: one in five young people in EMDEs is neither employed nor in school or training.

Against a complex global backdrop, the World Bank Group has identified five sectors which offer strong potential for resilient job creation at scale in EMDEs: infrastructure (including energy), agribusiness and farming, health, tourism, and value-added manufacturing (box 4.2; Development Committee 2026). Industrial policy and targeting specific industries has a long and controversial history (Fernandes and Reed 2026). Country-specific factors will dictate the extent to which a sectoral approach to growth, investment, and job creation is appropriate. Nevertheless, these five broad sectors offer particular promise. Evidence suggests that some of them have already helped drive output growth in some countries most affected by the jobs challenge (Bhorat et al. 2025).

Although export-led development may not necessarily offer the same powerful growth model in the future that it once did for some EMDEs, trade can still support investment, growth, and job creation. Targeted engagement with regional partners, such as the African Continental Free Trade Area, continues to hold promise and could help individual EMDEs offset the broader softness in global trade momentum. There is also still significant scope for many EMDEs to reduce trade costs and frictions (Gill, Revenga, and Zeballos 2016; Ohnsorge and Quaglietti 2024).

Amid scarce resources and competing objectives, policy makers facing a jobs challenge must design and implement well-calibrated and effective policies. The impacts of specific policies on employment may be indirect, opaque, or otherwise difficult to measure. They may also take years to materialize. Macroeconomic fundamentals, labor market-specific policies, and the prioritization of interventions all have a role (World Bank 2013a). Demographic, social, political, and other circumstances can shape the effectiveness of particular interventions. For example, economies in fragile and conflict-affected situations (FCS) may require targeted efforts and extensive support from the international community that address the root causes of fragility and conflict to buttress other reform efforts (World Bank 2025b). Policies should be developed with a country's comparative advantages in mind, as well as a clear analysis of the nature and scale of the challenge facing the country (World Bank 2024a). Mapping exercises could also extend to granular assessments of specific sectors, regions, or groups within society as part of proactive job creation strategies.

Balancing short- and long-term interventions is likely to become increasingly important. Developments such as the energy transition and the emergence of artificial intelligence (AI) will create both opportunities and challenges for job creation. In the absence of effective policy interventions, these structural shifts could increase labor market frictions.

Policies cannot rely on a static understanding of the current economy or on growth models that worked in the past.

A dynamic approach to labor market policies that removes barriers and promotes effective reallocation to more productive jobs and sectors should be an important policy consideration, for both competitiveness and employment-related objectives. Key emerging themes could have large structural implications for workers and governments in both EMDEs and advanced economies. These themes include the need to accelerate the energy transition, adapt to AI, and adjust to shifting global value chains.

Comprehensive reforms may require time and commitment to take effect, but targeted measures can boost job creation in the short run under the right circumstances. These short-term interventions often focus on removing demand-side constraints. Policies that facilitate access to finance for SMEs, promote infrastructure projects, remove regulatory barriers, or provide training to existing workers can all support job creation in the short run (Development Committee 2025a).[3] These targeted interventions may not necessarily work in isolation but can be effective in an environment that supports long-run growth and development (World Bank 2014).

Cooperation between countries and support from the international community are both key to addressing the jobs challenge and advancing development. Cooperation in addressing the jobs challenge can harness mutually beneficial opportunities and help underpin global stability. Targeted concessional investments and capacity support can help boost resilience, catalyze growth, enhance human capital, and underpin employment growth in countries that lack access to the necessary capital. This support can also help advance global public goods such as the green transition. Resolving unsustainable debt situations through concerted international efforts—coupled with domestic fiscal responsibility—can free up fiscal space for vulnerable countries to address the jobs challenge. Notwithstanding a complex global environment, cooperation can shape emerging technologies and national policies—including on trade and migration—for mutual benefit.

Advisory and financial support from multilateral organizations can help client countries develop tailored, implementable policy packages and assess their progress. These organizations should aspire to provide bold support for the necessary investments, minimizing lead times and promoting efficiency, while ensuring transparency and accountability in project execution and supporting effective monitoring of what works. To leverage their impact and ensure consistency, international organizations should cooperate closely with bilateral and regional entities active in these areas. These organizations should consider not only output growth but also both the quantity and

[3] For example, when small and medium-sized enterprises (SMEs) have limited access to finance, targeted financing support such as matching grants can boost investment and employment (World Bank 2014). Foundational infrastructure projects, such as roads, bridges, or airports, employ workers directly during the construction phase, while delivering longer-term growth opportunities for the economy as a whole if well conceived and executed (Bagga et al. 2024). Simplifying regulatory procedures and tax compliance can incentivize firms to investment and create employment (Fajnzylber, Maloney, and Montes-Rojas 2011). Job training that provides new skills and experiences can help fill unmet labor demand by firms (Carranza and McKenzie 2024).

quality dimensions of employment, recognizing that the interlinkages may be complex (Development Committee 2025a). International institutions can also continue efforts to enhance common standards for employment-related data collection: more robust and comparable data will help policy makers take informed decisions (Himelein, Dabalen, and Rodriguez-Castelan 2020). They can deploy analytical tools, in-depth knowledge, and cross-country experience to help policy makers diagnose their jobs challenge, consider interactions with other employment-related issues, and develop effective solutions.

4.1 Investment and output growth

In both theory and practice, output growth, driven by private sector firms, has been seen as crucial for job creation. Demand for labor ultimately depends largely on demand for goods and services. Without output growth—even assuming no change in productivity or available capital—sustainable job creation will not be possible (World Bank 2025a). Delivering sustained, rapid growth in EMDEs will be crucial to job creation and broader development prospects (World Bank 2025c). Over the medium term, the correlation between output growth and employment growth is consistently positive (Loungani, Luttini, and Pallan 2025). Analyses using business cycle frequencies also find that growth is critical for job creation, with output expansions associated with firms hiring workers (Ball, Leigh, and Loungani 2017; Okun 1962).

Case studies show that sustained increases in employment and the employment ratio have tended to occur during, or soon after, periods of rapid economic growth. Assessing historical examples suggests that above-average output growth relative to trend has tended to be a feature of the period immediately before or during episodes of strong and sustained employment growth. For example, during Korea's 12-year employment growth episode from 1986–97, the employment-to-total population (15+) ratio rose by almost 6 percentage points. Employment growth exceeded 3 percent a year (compared with an average of 1.3 percent in the seven years before and after the episode). This was accompanied by annual GDP growth of over 9 percent: significantly higher than average growth during other years.

A wide-ranging literature documents that higher investment growth can boost job creation directly at the firm level and indirectly through spillover effects. For example, at the firm level, higher investment growth, and particularly investments into productivity-enhancing activities, are associated with higher job creation (Akcigit and Kerr 2018; Farole, Ferro, and Gutierrez 2017). Policies that link investment to job creation include facilitating firms' access to financial markets, removing growth constraints, or public and private investment to re-train workers.[4]

[4] Firms that gain access to financial markets, especially young firms, invest more and create more jobs (refer to, for example, Didier and Cusolito 2024). Public and private investments also generate indirect employment effects when they remove growth constraints, such as through investments into ICT, transportation infrastructure, or electricity generation and distribution (Christiaensen and Martin 2018; Mensah 2024; Vagliasindi and Gorgulu 2025). Furthermore, public investments in worker retraining and human capital accumulation have positive long-term effects on employment (Card, Kluve, and Weber 2018).

Several common themes from the literature on bolstering potential growth are echoed in case studies of episodes that saw sustained growth in employment and in the employment ratio. Macroeconomic stability emerges as a key feature of all the case studies analyzed in this study (box 4.1). Measures that enhance economic growth and productivity, lift physical capital investment, and enhance skills can all play important roles. Responsible fiscal policy can foster stability; keeping debt servicing costs under control is important both for attracting investment and for preserving fiscal space to support the creation of productive employment opportunities.

Reforms that strengthen macroeconomic policy and institutional frameworks can encourage a more flexible and responsive labor market and improve access to finance. They can also reduce structural bottlenecks (including barriers to competition, trade, and investment), support a facilitative business regulatory environment, and ultimately contribute to higher investment, productivity growth, stronger potential output, and a higher number of jobs created (figures 4.1.A and 4.1.B).[5]

Promoting investment and productivity growth

Job creation depends on policy measures that drive sustained increases in investment and enhance productivity. Employment growth has typically been stronger over the last quarter-century in economies and years that have recorded higher investment growth (figure 4.1.C). To reverse the projected weakening of potential growth and bolster job creation, countries will need to undertake ambitious policy reforms. The scale of the jobs challenge is daunting in many EMDEs, especially given weak and slowing potential growth globally. Overcoming the challenge demands comprehensive policy reform packages that go well beyond the reform efforts undertaken to date. The optimal type, mix, and implementation strategy for reforms will depend on a country's specific circumstances.

Policy measures that induce sustainably higher investment and enhance productivity are key to boosting potential output growth and can support job creation. In advanced economies and EMDEs alike, sustained periods of investment acceleration are associated with higher output (figure 4.1.D). Periods of sustained investment growth are also associated with higher productivity growth, including via the means of intersectoral resource shifts (Stamm and Yu 2024).[6] These combined effects and associated output rises can help drive job creation and lift real wages. During investment accelerations,

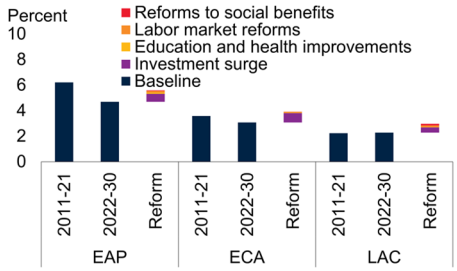
[5] Kose and Ohnsorge (2024) estimate the impact of reforms on potential output growth for 53 EMDEs. These reforms include scenarios that assume a repeat of the best 10-year investment growth rate in each country, the best 10-year gains in schooling and labor force participation rates, as well as social benefit reforms that increase the share of 50-64-year-olds in employment. Together, these reforms could reverse the decline in potential growth in EMDEs from the 2010s to the 2020s (figures 4.1.A and 4.1.B). World Bank (2025b) provides an example of how pro-investment reforms and public investment into foundational infrastructure boosted growth and job creation in the Philippines.

[6] Dieppe (2021) and Stamm and Vorisek (2023) document that EMDEs with low investment growth tend to have lower potential output growth and lower productivity growth. Hoyos, Libman, and Razmi (2021) find that during episodes of capital accumulation, the share of high-tech exports increases.

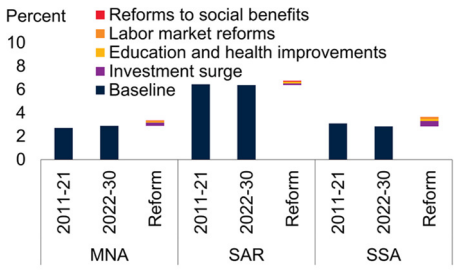
FIGURE 4.1 Potential output and investment

Potential growth has been on a declining path across different regions. Comprehensive reform packages across a range of policy areas would help reverse this slowdown. Investment accelerations—periods of sustained higher investment growth—are associated with stronger macroeconomic outcomes and a sectoral shift in employment from agriculture to manufacturing. Employment growth has been significantly higher when investment growth was high.

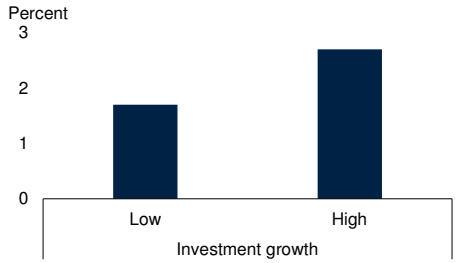
A. EMDE potential growth in reform scenarios



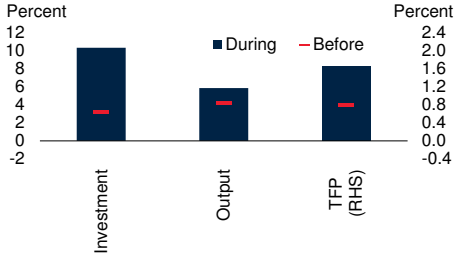
B. EMDE potential growth in reform scenarios (*cont.*)



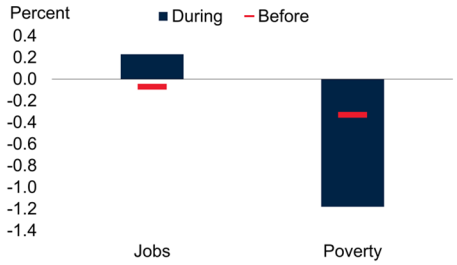
C. Employment growth in economies with high and low investment growth



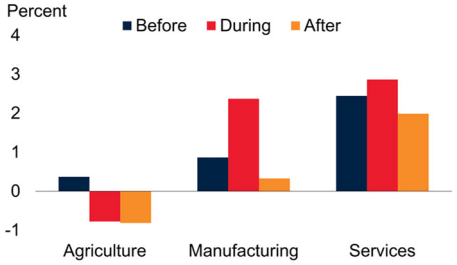
D. Investment, output, and TFP around EMDE investment accelerations



E. Jobs and poverty reduction around EMDE investment accelerations



F. Employment growth in EMDE investment accelerations by sector



Sources: Haver Analytics; ILOSTAT (database); Kose and Ohnsorge (2024); Stamm and Yu (2024); WDI (database); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economy; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa; TFP = total factor productivity.
A.B. Scenarios assume a repeat of each country's best 10-year improvement in the policy areas shown. Data for 2022–30 are forecasts.
C. Bars show group medians. "Low" and "High" indicate annual investment growth in the bottom and top third of the distribution. Differences in median employment growth are statistically significant at the 1 percent level. Sample includes 69 EMDEs from 2000–23.
D.E. "Before" corresponds to the six years before an investment acceleration. "During" corresponds to the full duration of an investment acceleration. Sample includes the EMDEs that experienced an acceleration between 1950 and 2022.
D. Bars and dashes show median growth in the indicated periods.
E. Bars and dashes show the median annual change in the employment ratio (jobs) and national poverty headcount (poverty).
F. Bars show median annual employment growth in the six years before, the entire duration of, and the six years after an investment acceleration. Growth rate differences in the agriculture sector during and after accelerations are not statistically significant, nor are growth rate differences in services employment before and during accelerations.

employment typically rises, and there has tended to be greater progress on poverty reduction (figure 4.1.E).

During a typical period of sustained and relatively high investment growth, the composition of employment shifts away from agriculture to the more productive manufacturing and services. Output growth in manufacturing and services increases by about 2 percentage points, boosting employment growth. In the manufacturing sector specifically, employment growth increases by 1.5 percentage points during a typical investment acceleration compared with the six years before (figure 4.1.F). Productivity growth is a key driver of economic well-being and, although not clear-cut, there is some evidence of a positive relationship between productivity growth and aggregate employment (Calligaris et al. 2023). There is often significant overlap between policies that can promote investment and those that can enhance productivity growth.

Countries that achieved sustained periods of strong employment growth have often done so by raising productivity growth. For instance, beginning in the early 1970s, Chile established and strengthened institutions to ensure sustainable public finances and price stability, liberalized international trade and financial markets, and increased labor market flexibility (appendix A.3). Other examples include Korea and Singapore (box 4.1). All of these countries successfully transitioned toward modern manufacturing or services; in parallel, within sectors, they moved to more productive, higher value-added activities. Amid relatively stable macroeconomic conditions, these reforms and transformations led to better resource allocation and increased productivity, which in turn boosted economic growth and job creation.

Policy makers can capitalize on opportunities to boost productivity growth, despite uncertain prospects. Raising productivity growth might seem difficult in the face of weaker investment and trade growth, the erosion of human capital, slowing reallocation of labor toward more productive sectors, and the burden of high debt levels. At the same time, technological and organizational changes, digital education, financial development, and the prospect of more diverse and resilient supply chains all offer a reason for optimism (Dieppe 2021). Several of the sectors at the core of the World Bank Group's jobs strategy have the potential to create jobs along the value chain, including in health, agribusiness and farming, and value-added manufacturing (box 4.2).

Policy choices can help both manage risks and capitalize on potential opportunities. In many EMDEs, diffusion of knowledge across firms and workers can support productivity growth. Infrastructure improvements and removing obstacles to private investment can unlock capital deepening. Meanwhile, education and training to reduce skills gaps, and policies that enable smoother matching between workers and jobs, can correct resource misallocation and improve labor productivity (André and Gal 2024).

4.2 Three policy pillars for job creation

Over the past eight decades, many countries have been able to boost growth, investment, and employment by enacting broad and comprehensive reform agendas amid shifting

global economic trends. New possibilities are emerging, even though aspects of growth models that powered development in the past may have lost some impetus. Ensuring the conditions are in place to support investment and output growth is therefore critical. Three policy pillars underpin the World Bank Group's strategy for job creation: foundational infrastructure, an enabling business environment, and private capital mobilization.

Foundational infrastructure

Well-functioning basic infrastructure and public services are a foundation for sustained private sector job creation, helping to unlock investment, productivity growth and long-run prosperity. Well-managed investments for the public good, including by the private sector, that are aligned with the energy transition and a low emissions future can boost long-term growth (World Bank 2024b). Key areas include transport and energy, climate -smart agriculture and manufacturing, and land and water systems. Health and education systems are also critical for nurturing human capital. Investments in transport and digital connectivity can support job growth through additional channels, including by increasing access to markets through lower transit and transaction costs, and by improving the ability of workers to find jobs and access them (World Bank 2024c). The impacts can be particularly significant for women (Gill, Revenga, and Zeballos 2016; Vagliasindi and Gorgulu 2025). Among case studies, Chile and Colombia's development of natural resources required robust infrastructure networks, while Singapore's status as a logistical and financial center was built on sustained investments in physical, digital, and human capital (box 4.1; appendix A).

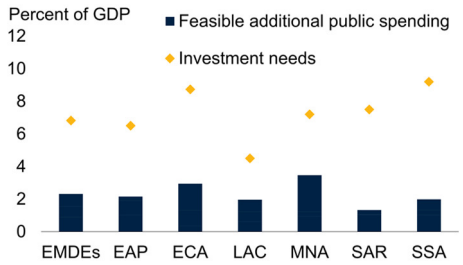
EMDEs have large development-related infrastructure needs. As a share of GDP, estimated infrastructure gaps vary by region, but are large everywhere, and are nearly 10 percent of GDP in Sub-Saharan Africa (Rozenberg and Fay 2019). At the same time, feasible additional public investment is insufficient to fill these gaps in every EMDE region (figure 4.2.A). The share of the population with access to basic infrastructure—such as electricity, clean water and sanitation, and hospital facilities—is lower in EMDEs than in advanced economies but is far lower among low-income countries (LICs) (figure 4.2.B). LICs are often among the economies facing the largest job creation needs. Infrastructure and energy is one of the five sectors identified by the World Bank Group as primed for local job creation at scale (box 4.2).

Although its scale is constrained, effective, targeted public investment into public goods can underpin job creation and growth, including by crowding in private investment. A review of the literature offers strong evidence that infrastructure has a positive impact on employment (Vagliasindi and Gorgulu 2025). Investments in reliable and efficient transportation systems, affordable energy, and digital connectivity are important ingredients for a vibrant private sector and can support job creation. In EMDEs with sufficient fiscal space and effective government spending, increasing public investment encourages private investment and enhances productivity, thereby promoting long-term economic growth (World Bank 2024d).

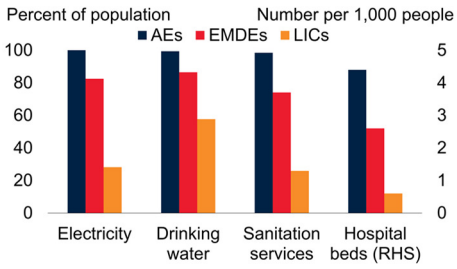
FIGURE 4.2 Physical and digital infrastructure

EMDEs have large development-related infrastructure investment needs, and public investment can only feasibly fund a fraction of them. Access to basic infrastructure is limited, especially in LICs. Many firms report concerns with transport and electricity access, though the shares vary by region. Access to the internet is also limited in some regions, while AI preparedness is lower across EMDEs than in advanced economies.

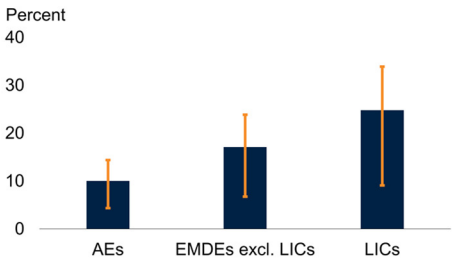
A. EMDE development-related investment needs and feasible public investment space



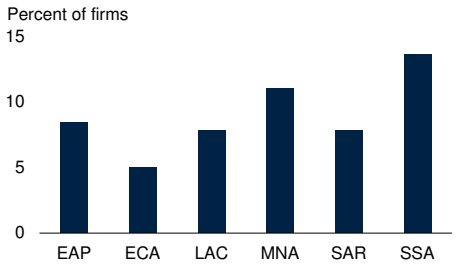
B. Individuals' access to basic infrastructure



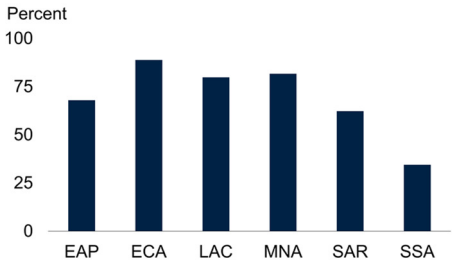
C. Firms reporting access to transport as a constraint, by country group



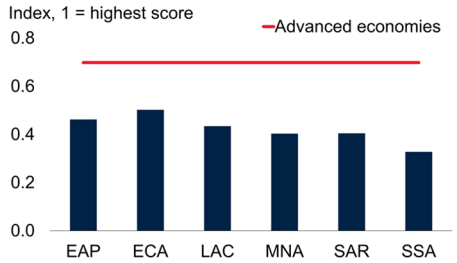
D. Firms reporting access to electricity as a constraint



E. Individuals' access to the internet, by EMDE region



F. AI preparedness by EMDE region



Sources: Adarov (2025); Cazzaniga et al. (2024); Enterprise Surveys (database); WDI (database); World Bank.

Note: AEs = advanced economies; AI = artificial intelligence; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; excl. = excluding; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Bars show 10-year averages of GDP-weighted EMDE and regional averages, combining revenues, borrowing, and reallocation, from Adarov (2025). Markers show investment gaps based on Rozenberg and Fay (2019).

B. Bars show 2013–23 averages of the percent of the population with access to electricity, access to minimally adequate drinking water, access to basic sanitation facilities, and the number of available hospital beds. Sample includes 34 AEs and up to 104 EMDEs, including 19 LICs.

C. Blue bars show the median share of firms identifying specific obstacles for doing business. Orange whiskers show the interquartile range. Sample includes up to 23 AEs and 128 EMDEs, of which 23 are LICs.

D. Bars show the unweighted average of share of firms in each region, across countries, that identified electricity is a constraint.

E. Bars show the median share of the population with access to the internet.

F. Panel shows the average AI Preparedness Index as of 2023 by Cazzaniga et al. (2024) by region, covering 174 economies.

A coordinated approach to investment can further amplify positive impacts (Adarov 2025; Lebrand 2022). This might involve direct public investment, which in turn can play a crucial role in infrastructure development. Colombia entered a period of sustained employment growth following public-private partnerships to upgrade the country's transport network with toll roads and private sector involvement in sea ports through concessions (box 4.1; appendix A.3). In LICs, direct job creation effects from public investment appear to be larger than in other EMDEs (Moszoro 2021). However, with or without public investment, governments can play a coordinating and incentivizing role.

Strong infrastructure and services can help workers and firms benefit from urban agglomeration and industry clusters. Transport is one channel for this: investment in roads, rail, and waterways, for example, including through private sector participation. Yet around one-quarter of firms in LICs report access to transport as a major constraint to their activities, higher than in EMDEs in general, and more than double the share in advanced economies (figure 4.2.C). A competitive and effective transport supply chain encompasses inputs such as fuel and labor, as well as related industries such as repair services. Policies should also focus on effective regulation and coordination between regulatory agencies, streamlining port and border procedures, and reducing congestion (Herrera Dappe, Lebrand, and Stokenberga 2024).

A consistent, reliable energy supply helps businesses operate with certainty, enabling them to grow and create jobs. In much of the world, renewable energy can now deliver affordable, accessible, and reliable power. Moreover, targeted investments in green sectors or areas with a higher research and development component can have a larger employment effect than other investments. While the role of renewable energy will continue to grow, natural gas may be appropriate in certain contexts. Nuclear power could also be part of the long-term energy mix. Steps to enhance the reliability of electricity supply can support job creation in Sub-Saharan Africa (Mensah 2024).

Country-level evidence suggests that electrification can boost employment (Akpandjar and Kitchens 2017; Dasso and Fernandez 2015). The share of firms citing access to electricity as a constraint is larger in the regions facing the largest influx of young people to their working-age populations over the coming decade (figure 4.2.D). Policies to strengthen energy supply networks include expanding access, promoting energy efficiency, removing regulatory constraints, and integrating into regional power grids. The latter can be achieved through investment in transmission infrastructure and by developing regulatory, institutional, and market infrastructure. Off-grid renewable energy solutions can boost access and improve the resilience of energy connections (ESMAP 2024).

Digital infrastructure can also deliver significant growth and employment benefits, yet EMDEs, and LICs in particular, lag behind advanced economies in this area. Effective digital infrastructure often hinges on other infrastructure, particularly reliable electricity access. A range of studies in both advanced and developing countries suggest that developing digital infrastructure yields positive employment impacts, particularly for skilled members of the working-age population (World Bank 2024e). Evidence from the

rollout of 3G internet in Ethiopia in 2008, for example, showed a large increase in jobs among firms in areas with internet access (Abreha et al. 2021). However, access to the internet varies significantly across EMDE regions. One-third of people in East Asia and Pacific, almost two-fifths in South Asia, and two-thirds of individuals in Sub-Saharan Africa do not have access to the internet (figure 4.2.E). Across regions, EMDEs are also poorly equipped to benefit from AI, relative to advanced economies (figure 4.2.F).

Investment in natural capital can also complement physical infrastructure (Development Committee 2025b). Natural assets can be a source of resilience and job creation but must be maintained and nurtured. Air, land, forests, and water all constitute important building blocks for thriving human activity, including in relation to jobs. Yet without responsible stewardship, these natural assets can be polluted or eroded, in the process constraining economic activity and job creation. The development of other forms of infrastructure must account for impacts on natural capital.

Physical, digital, and natural capital must be complemented by effective human capital. Addressing the jobs challenge effectively depends on connecting skilled, healthy, and productive workers to appropriate job opportunities. This requires the development of attributes and efficient matching of potential workers to optimal job openings. There can be generalized and targeted components, and short- as well as long-term interventions. Korea and Singapore both moved up the value chain by boosting innovation and developing human capital aligned with industry-needs during periods of sustained employment growth (box 4.1; appendixes A.4 and A.5).

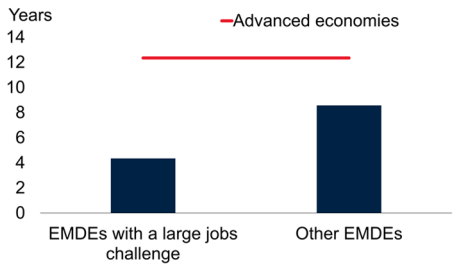
Improving general education levels can provide an important boost to growth and jobs over the long term by creating a better-skilled and more adaptable labor force. A country's education system can help establish a broad base of cognitive and socio-emotional skills across cohorts before they join the labor force (World Bank 2018). A higher educational baseline can serve twin purposes. First, in general terms, workers with a higher skills base will be more attractive to the average employer. Second, workers with a higher skills base are also more likely to be able to adapt to different roles, which can be crucial as the sectoral structure of an economy evolves (World Bank 2024f). This flexibility can be especially important in enhancing job prospects and opportunities for those from more disadvantaged backgrounds.

Education also plays a pivotal role in reducing poverty and promoting employment opportunities. Each additional year of schooling is estimated to boost hourly earnings by 9 percent (Psacharopoulos and Patrinos 2018). The higher a country's income, in general, the higher the average years of education completed. Individuals in EMDEs facing a surge in the number of young people reaching working age have typically completed less than 4.3 years of schooling, compared with 8.6 years in other EMDEs and 12.4 years in advanced economies (figure 4.3.A). All regions have seen mean years of education completed rise over time, but significant regional disparities remain, with notably low levels in Sub-Saharan Africa and South Asia (figure 4.3.B). Matching the best 10-year improvements in education and health outcomes in each country could boost productivity and raise EMDE potential growth by an additional 0.1 percentage

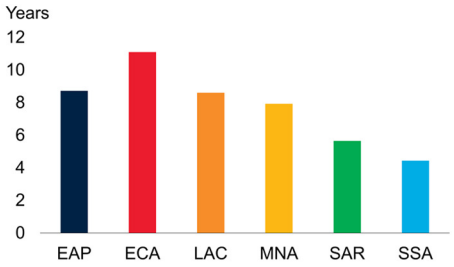
FIGURE 4.3 Education levels

Despite improvements, significant gaps in educational attainment persist between EMDEs and advanced economies. Mean years of schooling are notably lower for EMDEs facing a large jobs challenge, and substantial differences also exist across EMDE regions.

A. Mean years of schooling completed



B. Mean years of schooling completed by EMDE region



Sources: UIS (database); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa. EMDEs with a large jobs challenge are those where young people account for at least 30 percent of the population aged 15 and older in 2035.

A. Bars show the unweighted average years of schooling in the latest year of observation.

B. Bars show the unweighted average years of schooling by EMDE group in the latest year of observation.

point per year on average for the rest of this decade, with even larger gains over the longer term (Kose and Ohnsorge 2024). That said, there is a limited body of evidence directly tying education levels to aggregate employment, and the optimal level of education could vary depending on country circumstances (Breza and Kaur 2025).

Education and skills development are complex issues. Years of schooling completed provides an incomplete approximation of education levels. There have been improvements in years of schooling completed across all regions. Yet the quality of education also matters for outcomes. Learning-adjusted years of schooling actually declined in one-third of LICs and lower-middle income countries between 2010 and 2025 (Pirlea et al. 2026). At the same time, labor force surveys highlight that learning continues into the workplace, but that individuals with higher education levels also tend to see better job outcomes. Human capital is accumulated not just through formal education, but also through individuals' experiences at home, in workplaces, and in broader society (Holla, Schady, and Silva 2026).

Cognitive, socio-emotional, and digital skills are likely to become increasingly important as workers adapt to the changing nature of employment. Foundational skills can help individuals transition between jobs and sectors, equipping them to pick up new technical or vocational skills to match shifting patterns in labor demand (World Bank 2018). Enhancing these skills across a country's labor force could increase workforce resilience and improve its ability to adapt to change, including technological developments and the energy transition. In turn, a more dynamic and adaptable workforce could contribute to higher aggregate employment.

Improving early-life health and education can have long-term impacts on job and income prospects. Childhood stunting, for example, continues to affect around one in five children under the age of five globally. Stunting can significantly harm educational attainment, cognitive skills, employment opportunities, productivity, and broader economic outcomes (Akseer et al. 2022). Investment in early-life nutrition, health, and education can have high long-run returns, laying the foundations for improved outcomes that can bolster skills and employment prospects (Fox and Gandhi 2021; Shekar et al. 2024). In addition, many of the skills that employers consistently value most are best developed well before entry into the labor market (Cunningham and Villaseñor 2016). Optimal policies for an effective labor market should therefore adopt a long-run perspective that recognizes complementarities between interventions.

Specialist, technical, or vocational programs can also play a valuable part in supporting skills development, although their design matters. It is therefore important that educational institutions have the right incentives to align their training with likely labor demand (Kose and Ohnsorge 2024). Better coordination and partnership between employers and educational institutions can help ensure that skills development aligns with employers' requirements. Vocational education tracks should not impede the development of foundational skills and therefore limit lifelong career opportunities. Although there are some cautionary tales, well-calibrated and well-timed vocational skills provision can have strong positive returns (World Bank 2018).[7]

Management and business training can also support firms' productivity, profits, and survival prospects, increasing the likelihood of sustained job creation. Analysis suggests that such training has positive effects on firm performance, especially if focused on people management, soft skills, marketing, and financial management, and, when targeted by sector and organized by local firms (Busso, Park, and Irazoque 2023). The job creation angle here is indirect, but could nevertheless be important, with growing firms playing an enhancing role for job creation objectives.

Healthy working-age adults are more likely to be productive workers. Individuals in countries facing a large jobs challenge are exposed to a range of debilitating health risks that could impact their ability to work, and their capacity to work effectively. While evidence linking overall health to short-run labor market outcomes in EMDEs is limited, the literature supports the intuitive premise that health is a relevant contributor to labor market outcomes (Breza and Kaur 2025). Although additional research would help clarify the relationship, existing evidence underscores the importance of investing in high-quality healthcare. The World Bank Group has identified health as one of five sectors with high potential for resilient, local job creation at scale (box 4.2).

[7] Fox and Gandhi (2021) argue that technical and vocational skills programs should ensure additionality rather than merely providing employment for participants by displacing other well-qualified non-participants. Cunningham and Villaseñor (2016) survey the literature on common skills demanded by employers. Brazil is one example in which apprenticeship schemes have boosted youth employment (World Bank 2025a). Moreover, some economists argue that pre-employment vocational training played a significant role in supporting industrialization in East Asia (Almeida, Behrman, and Robalino 2012).

Investments in skills and education can take time to deliver results but are essential for output growth and job creation. An increasingly well-educated workforce, developed over several decades from the 1960s, was an important contributor to Korea's transformation into a high-income country (refer to appendix A.4). Korea shifted its growth model to focus more on productivity and innovation. This transformation was supported by a burgeoning number of well-educated workers, as the government had prioritized human capital development since the baby boom generation.[8] This improved human capital supported sustained output growth and job creation in high-technology industries and more productive services sectors. Enrollment rates in tertiary education rose dramatically, from 31.3 percent in 1985 to 70.2 percent in 1997.[9] In Singapore, education efforts helped expand the pool of educated workers, supporting a period of employment growth, with the share of employed residents with tertiary degrees increasing from 22 percent in 2004 to 33 percent in 2014 (box 4.1 and appendix A.5; Singapore Ministry of Manpower 2014).

The investments required to improve human capital outcomes depend on a country's circumstances. For example, LICs already significantly lag advanced economies on educational outcomes. This gap widened during the pandemic, with learning losses that were broad-based across regions. The negative impacts of the pandemic will take time to fully translate into employment and output. Measures to improve education outcomes may require additional staffing, better infrastructure, institutional strengthening, and broader social support and incentives.

Educational outcomes depend on a range of factors. Given strong population growth, to meet the agreed international goal of universal primary and secondary education, a 2021 report estimated that 44 million additional teachers would be needed globally by 2030, with 15 million of these in Sub-Saharan Africa alone, more than in any other region (International Task Force on Teachers for Education 2030 2021). However, quality matters as well as quantity, and it is important to ensure that teachers receive strong initial training and have access to ongoing training opportunities (World Bank 2019a). Yet outcomes also depend on attendance, which in many cases requires complementary social interventions to enable children to participate. They also hinge on the quality of instruction, and on the ability of institutions and infrastructure to provide sound curricula and adequate learning environments.

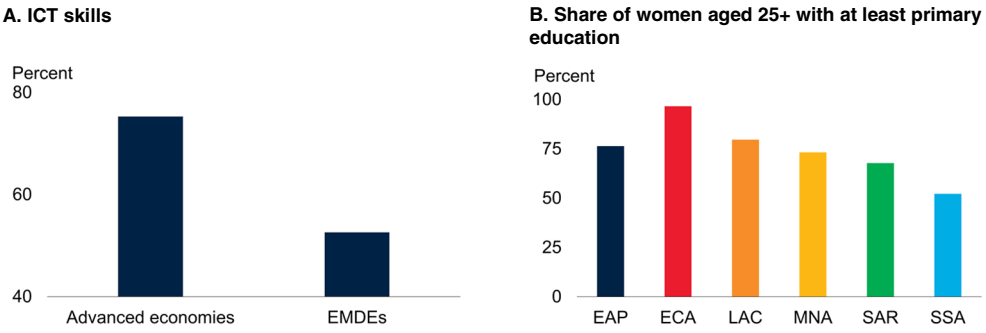
Measures to match specific skills development to areas of future labor demand could also yield growth dividends but require careful calibration. Maintaining growth momentum as an economy moves through different stages of development is likely to require different skills within the available labor force, as the sectoral composition of labor demand shifts and the country's position in global value chains evolves (Donovan and

[8] Han and Lee (2020) identify the highly productive baby boom generation, born in the late 1950s and early 1960s, as a key driver of human capital growth in Korea since 1986. They attribute the higher productivity of this generation primarily to significant increases in educational attainment.

[9] In 1960, Korea already had nearly universal primary school enrollment, and the secondary school enrollment rate reached the mid-80 percent range by the time the period of sustained higher employment growth began.

FIGURE 4.4 Digital skills and women's education levels

ICT skills vary significantly by EMDE region and are low relative to those in advanced economies. Large shares of women lack basic education in several EMDE regions.



Sources: ITU (database); WDI (database); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; ICT = information and communication technology; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Bars show the median share of individuals with above basic ICT skills in advanced economies and EMDEs. Sample includes 21 advanced economies and 16 EMDEs using the latest available data for each economy. Above basic ICT skill level is defined as an individual having done more than one of a list of ICT-related activities in the past three months.
B. Bars show the percentage of the female population ages 25 and over that attained or completed primary education, averaged over 2022–23.

Schoellman 2023; World Bank 2024f). Promoting flexibility and the development of new or transferable skills among the working-age population (or targeted sub-sections) shifts can help smooth necessary structural transitions. These skills enable workers to respond to—or even anticipate—technological or regulatory shifts, supporting employment and limiting the emergence of localized unemployment. For example, digital skills development can help shape competitiveness, both for individuals in the labor market and for countries as a whole (OECD and IDB 2016). There is considerable scope for improvement among EMDEs here, as well as considerable variation between EMDE regions (figure 4.4.A).

Matching skills to jobs is a shifting target (Almeida, Behrman, and Robalino 2012; Spence 2011). Anticipating the timing and evolution of sectoral demand and the skills workers will need to match them involves inherent uncertainty. Moreover, skills mismatches are already high in some of the regions facing the largest jobs challenge, notably in Sub-Saharan Africa, and are even higher among individuals with higher levels of educational attainment (ADB 2020). More education does not automatically translate to more employment opportunities: unemployment is higher among well-educated young people in Sub-Saharan Africa than their less-educated counterparts (Fox and Gandhi 2021). This reinforces the importance of coordination and partnership between employers and educational institutions (Cunningham and Villaseñor 2016).

Nevertheless, countries can promote the development of specific skills in their workforce to attract new firms, sparking a virtuous cycle of investment, output growth, and job creation. Countries such as Germany, Korea, and Singapore—with the highest density

of robots per worker—have managed to maintain high levels of employment, in part because of their high-skilled workforces (World Bank 2019b). Close interactions between government-supported programs and employers often played an important role in ensuring that such programs were sufficiently nimble to support evolving labor market needs. The Korean government, for example, designed economic development policies targeting specific industries, which were supported by manpower policies and vocational training programs (box 4.1; appendix A.4). A national technical qualification system, along with support for education and training aligned with industry development, prompted the training and upgrading of skilled workers. Industrial companies were mandated to train and develop the skills of their employees (Lee, Jeong, and Hong 2018).

Labor market policies can also involve specific training—or retraining—to help certain segments of the labor force find positions in the economy. These targeted interventions can boost employment by focusing on individuals who are disproportionately likely to find themselves out of work or parts of the population that have lower participation, including female, elderly, and young workers. For example, the share of women with basic education varies significantly by region. Almost one-quarter of women in the Middle East and North Africa lack basic education; the equivalent figure for women in South Asia is almost one-third, and in Sub-Saharan Africa, it is almost one-half (figure 4.4.B). Notably, skills-related support for job seekers appears to be more impactful when it goes beyond support related to a specific job opening and instead imparts more transferable skills (Carranza and McKenzie 2024).

Evidence around the impact of jobs training policies remains mixed, especially in EMDEs (Ernst, Merola, and Reljic 2022). Some results from program evaluations suggest only a modest positive impact from jobs training policies in EMDEs. Other analysis suggests limited short-run impact but significant medium-term gains, particularly for women and for individuals who have been unemployed for a long time. The same study also finds that active labor market programs are more likely to have positive effects during a recession (Card, Kluve, and Weber 2018).

Structural shifts, such as the energy transition now underway, will involve challenges and opportunities from a human capital perspective. Ensuring workers have the right skills and capabilities will be crucial to take advantage of these shifts. Targeted training can help ease the transition to other jobs for those in roles impacted by structural shifts (Arias et al. 2025). Evidence suggests it may be difficult for workers to move directly from high-emissions work into low-emissions roles (Bluedorn et al. 2023; Causa et al. 2024). The medium-term effects of the energy transition on global employment are likely to be modest, though they may be mildly negative overall for EMDEs. There will be more concentrated employment impacts in particular regions and sectors (World Bank 2023a). Well-designed policies—including green-focused investment to promote sectoral reallocation toward high-productivity, job-creating industries, as well as efforts to develop the right skills in both the current and prospective labor force—can help soften these effects and smooth this transition (IMF 2022).

Policy makers will face trade-offs in considering skills policies, while effective strategies are often multi-layered (Almeida, Behrman, and Robalino 2012; Arias, Evans, and Santos 2019). Trade-offs will be particularly acute in those countries facing tough fiscal and capacity-related constraints, as is the case in many LICs. For example, amid scarce resources, there may be a trade-off between investing in skills with the greatest potential productivity and growth gains, versus skills that can enhance economic inclusion via earnings opportunities. Similarly, policy makers must balance investments in skills for out-of-school members of the working-age population that meet current labor market needs with investments that develop the capabilities that future cohorts will require in a changing economy.

Targeted concessional investments can help boost resilience, catalyze growth, enhance human capital, and spur employment growth. In recent years, total official development assistance grants to LICs and other vulnerable countries have been on a declining trend, even as these countries have been buffeted by unprecedented global shocks (Mawejje 2025). The global donor community should direct its greatest support to countries that might otherwise struggle to raise and deploy the necessary capital on their own. Development finance can help foster stability and unlock potential in these economies.

A business-enabling environment

In addition to foundational infrastructure, the operating environment influences firms' capacity to deliver sustained output growth and job creation (Development Committee 2026). Governments have a critical role to play: in fostering macroeconomic stability, in adopting well-calibrated and consistently implemented policy and regulatory frameworks, and in setting the broader conditions in which firms and workers can thrive. Sustained growth and job creation hinge on macroeconomic stability and economic efficiency. Reforms that advance these objectives have significantly improved economic performance in EMDEs (Chari, Henry, and Reyes 2021). Policies that stabilized the macroeconomic environment and created a more business-enabling environment were common across the case studies of periods of sustained job creation (box 4.1).

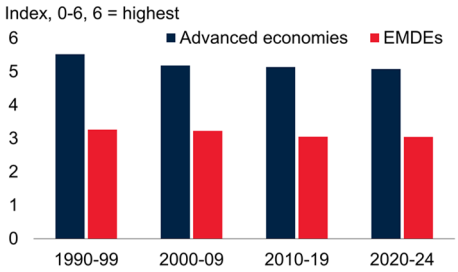
A stable macroeconomic environment is a cornerstone for private sector firms to invest, grow, and create jobs. Domestic institutions and policies play an important part in establishing macroeconomic stability. Establishing a track record of fiscal and monetary credibility, overseen by reliable institutions, can help set the stage for additional growth-enhancing reforms and also increase the likelihood of investment accelerations (Adarov 2025; Development Committee 2026). Consistent and credible policies relating to exchange rates, trade and cross-border flows, and the financial sector are also important. Such economic policies sit alongside broader security and social stability, which are also shaped by the strength of institutions and which feed into firms' and individuals' decision-making around opportunities and risks to growth.

Institutional and governance reforms offer considerable scope for higher growth in countries which face a large jobs challenge. Institutional quality is weak across EMDEs on average relative to advanced economies and has shown no obvious aggregate

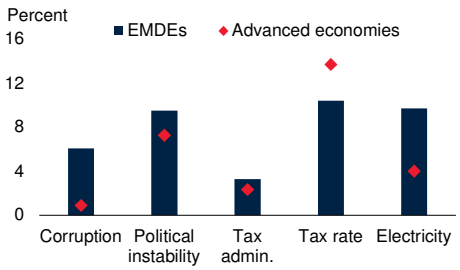
FIGURE 4.5 Institutional quality and constraints facing firms

Although many countries have made progress in improving institutional quality, EMDEs as a group have made no discernible progress in recent decades. A significant gap remains relative to advanced economies. Firm responses indicate greater concern about political instability, corruption, and tax administration in EMDEs, with considerable variation between EMDE countries.

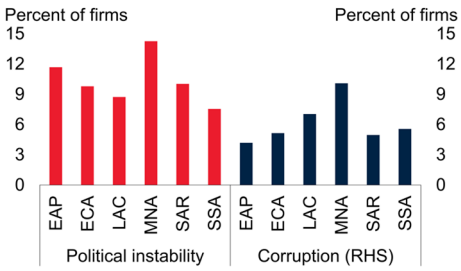
A. Institutional quality



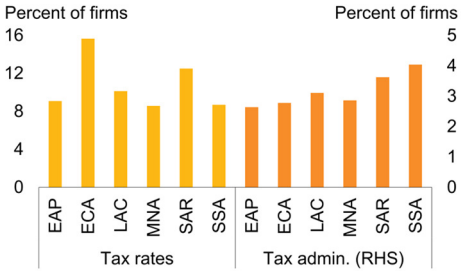
B. Constraints faced by firms



C. Political stability and corruption constraints, by EMDE region



D. Tax rate and tax administration constraints, by EMDE region



Sources: Enterprise Surveys (database); PRS Group, International Country Risk Guide (ICRG database); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RHS = right hand scale; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Bars show the unweighted average of the International Country Risk Guide Law and Order index. Sample consists of up to 36 advanced economies and 102 EMDEs.
B. Bars (diamonds) show the unweighted average of the share of firms across EMDEs (AEs), that responded "yes" to the question of whether each category is a constraint.
C.D. Bars show the unweighted average of the share of firms in each region, across countries, that responded "yes" to the question of whether each category is a constraint. Sample consists of 18 economies in EAP, 23 in ECA, 31 in LAC, 13 in MNA, 5 in SAR, and 45 in SSA.

improvement over recent decades (figure 4.5.A). Such reforms can encourage private sector investment, innovation, and productivity growth. For example, they can establish enforceable property rights, minimize expropriation risk, and promote competition. In addition, they can limit market concentration, create a stable policy environment, lower the costs of doing business and trade, and encourage participation in the formal sector, where productivity tends to be higher (World Bank 2019c). Reforms have been more effective in boosting investment in countries building from a relatively high institutional quality base (Stamm and Yu 2024). Institutional strength and credibility often takes time to establish, but is an important underpinning of growth, investment, and job creation.

A better business environment is associated with higher job creation and wages, and can also bolster productivity (Farole, Ferro, and Gutierrez 2017; Kose and Ohnsorge 2024). Investment growth can be strengthened by reducing uncertainty via credible institutions and a track record of policy consistency. An overlapping set of priorities—including reforms to improve the business environment, financial regulation and supervision, governance and institutional quality, as well as the elimination of harmful, distorting subsidies and barriers to trade—can reinvigorate productivity growth (Ruch 2020).

Policy makers must strive for efficient, effective, and consistently-implemented regulatory frameworks. Well-designed regulation should strike a balance: offering effective safeguards and protections for individuals and firms, but avoiding unnecessary burdens and restrictions on growth and dynamism. Clear regulatory and policy settings that provide certainty, facilitate access to finance for productive firms, and enable hiring are all important for growth and job creation (Development Committee 2026).

The constraints which firms highlight show some variation across EMDEs. Notably, in EMDEs with particularly large numbers of young people set to reach working-age, firms highlight electricity access issues and political instability among their concerns (figure 4.5.B). The share of firms reporting political instability and corruption as operating constraints varies across EMDE regions (figure 4.5.C).

Business-enabling policies with a specific focus on supporting and promoting entrepreneurship, including by removing obstacles for new, productive, growing firms, may be particularly helpful. These include lowering the burden of tax compliance (figure 4.5.D; Ohnsorge and Yu 2022). Measures reducing regulatory barriers have been shown to increase productivity—and also increase wage employment—in Peru and Mexico, while tax reforms supported productivity growth and employment in Colombia (World Bank 2025a).

Government actions can also be pivotal in how individuals and firms adjust to necessary structural shifts. The signals and incentives governments set through fiscal policy, regulation, and legislative frameworks can have a significant impact on behavior and on employment (ESMAP 2023). The transitions away from industrial sectors toward services that many advanced economies have experienced since the 1980s offer some policy lessons. Effective management of the employment and social aspects of the transition, including mitigating negative impacts on individuals and supporting new private sector investment, growth, and employment, is crucial (Cunningham and Schmillen 2021). In both Korea and Singapore, governments worked closely with the private sector in pursuing sectoral shifts to higher-technology sectors (box 4.1; appendixes A.4 and A.5).

Policies can therefore play an important role in how economies adapt to the emergence of new technologies. The potentially uneven impacts of artificial intelligence are a reminder that policy choices and planning—including around innovation, regulation, and infrastructure—can influence the employment-related impacts of structural shifts (World Bank 2024g). Recent technological developments have tended to emphasize

automation, rather than focusing on new tasks which could create productive new job opportunities, but this is a choice (Acemoglu and Restrepo 2019). Building effective adaptive capacity for new technologies may also require the development of managerial and technical skills, which can require well-coordinated and well-sequenced training or education (Acemoglu and Restrepo 2017; World Bank 2024f). Policies and frameworks can help shape the employment-related dynamics of such trends, although predicting the impact of technological shifts on jobs is an inherently uncertain task (World Bank 2019a). The five sectors identified by the World Bank Group for resilient, local job creation at scale are well-positioned to benefit from new technologies (box 4.2).

Effective digital technology adoption can fuel output growth and job creation. Here too, government can play a role, through stewardship of foundational infrastructure and via the enabling environment. High-growth, job-creating firms are often effective adopters of digital technologies (Cirera and Martins-Neto 2024; Grover 2025). Expanding the use of digital technologies will be vital to creating jobs for growing working-age populations, including in Sub-Saharan Africa, but successful outcomes hinge on the effectiveness and affordability of technology, as well as on the willingness of firms and individuals to use them (Begazo, Dutz, and Blimpo 2023). Effective digital technology adoption could support job creation through firm channels (via productivity increases) and may also increase labor supply by easing mobility and reducing matching constraints. EMDEs may be able to leverage foreign direct investment (FDI) inflows by strengthening their capacity to adopt new technologies and diffuse them across the economy, generating productivity gains (World Bank 2022a).

Private capital mobilization

Attracting private capital will be crucial for addressing the jobs challenge in EMDEs. The private sector will have to play a key role in boosting investment growth and filling investment gaps, including around infrastructure. It will be the engine for growth and job creation. Creating the conditions for strong private sector investment—from domestic or foreign sources—will depend in part on foundational infrastructure and a business-enabling environment. Several important underpinnings include robust economic fundamentals (such as sound fiscal and monetary policies), carefully designed environmental policies, and strong institutions that support the rule of law, public sector credibility, and public security. Together, these can help improve risk-adjusted returns and unlock much-needed investment (Adarov 2025).

Mobilizing private capital was critical in the five case studies of sustained employment growth accelerations. Policies boosted confidence in financial markets by shoring up the banking sector and limiting excessive risk taking (for example in Chile), deepened financial markets through the establishment of national pension and saving schemes as in Chile and Korea, and relied on public-private partnerships as in Singapore and Colombia. By increasing access to finance for firms, and by mobilizing savings and deepening capital markets, these reforms enabled sustained private investment and job creation (box 4.1).

Yet despite the importance of mobilizing private capital, investment climates have shown no improvement, on average, in either EMDEs or advanced economies since the 2000s. The investment climate in EMDEs still lags that in advanced economies. Within EMDEs, it is also notably lower among those economies which will experience large numbers of young people reaching working age over the next decade (figure 4.6.A).

An important reason for unlocking private capital is to facilitate productive firms' access to finance. Access to finance is a frequently-reported constraint among EMDE firms. Firms in countries set to experience large numbers of young people reaching working-age are twice as likely to highlight access to finance as a concern as those in other EMDEs (figure 4.6.B). Policy measures to address such concerns can include improving access to external finance, rationalizing regulatory and other hurdles to sustainable capital flows, promoting capital-market development, and developing digital infrastructure to enable small firms and financial institutions to participate in financial markets (United Nations 2022; World Bank 2022b). Facilitating capital flows from wealthy, aging economies toward young economies with a jobs challenge could have mutual benefits (Liu and McKibbin 2022).

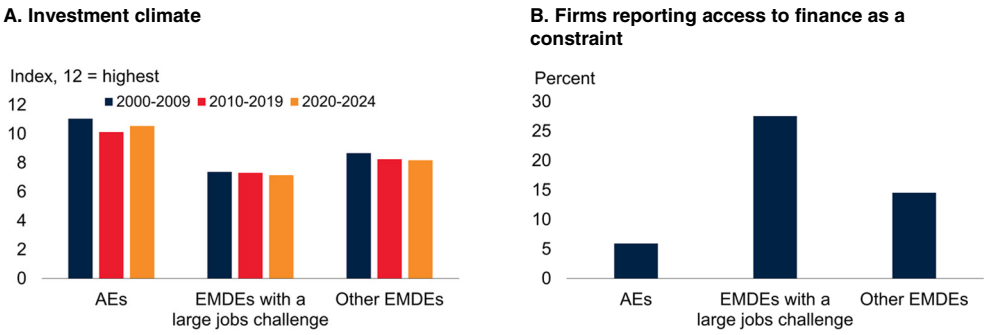
Deeper and more efficient capital markets enhance access to credit and local currency financing, particularly for long-term investments. Key policy measures to foster capital market growth include strengthening contract enforcement to lower collateral demands, addressing country-specific risks or market failures by providing partial credit guarantees for financial intermediaries, and expanding digital infrastructure to enable small businesses and financial institutions to engage in financial markets at reduced costs. In EMDEs, banks provide a smaller share of credit to the private sector relative to GDP compared to advanced economies. This credit access gap is most pronounced for long-term loans (United Nations 2022). Establishing local currency equity and debt markets can attract institutional investors to economies with underdeveloped financial intermediation systems. Pension funds and private equity firms, known for their higher risk tolerance, can offer financing in cases where conventional banks may be reluctant to do so.

In EMDEs where capital markets have expanded over the past three decades, productive firms were able to access financing and boost growth, sales, and jobs. Between 1990 and 2021, the number of firms that issue bonds or equity annually increased by over 300 percent in middle-income countries and LICs. More than half of that issuance was in domestic markets. Firms that gained access to capital markets for the first time accounted for almost two-thirds of the estimated employment impact of capital markets (Meh and Schmukler 2025).

Many productive SMEs face a significant financing gap that limits their ability to grow, create jobs, and cope with shocks (Carvajal and Didier 2024). An estimated 43 percent of SMEs in developing countries have unmet financing needs (Khan et al. 2022). While size-based targeting policies should not be unconditional, improved access to financing tailored to SME-specific needs should remain a priority in many EMDEs (Didier and Cusolito 2024). In industries where rigid structures and dominant incumbents slow the

FIGURE 4.6 Investment climate and firms' access to finance

Investment climates have shown no improvement since the 2000s in either advanced economies or EMDEs. Within EMDEs, the investment climate is somewhat weaker among those economies with large numbers of young people set to reach working age. Meanwhile, firms within this group of EMDEs are also much more likely to report access to finance as a constraint.



Sources: Enterprise Surveys (database); International Country Risk Guide (ICRG, database); World Bank.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies; EMDEs with a large jobs challenge are those where young people account for at least 30 percent of the population aged 15 and older in 2035.
A. ICRG's investment profile index. Sample includes 36 advanced economies and 102 EMDEs.
B. Blue bars show the median share of firms identifying specific obstacles for doing business. Sample includes up to 23 AEs and 128 EMDEs, of which 23 are LICs.

reforms necessary for sectoral growth, policies to help productive and viable SMEs grow in emerging areas could offer a route to improved job creation. Moreover, formal credit to SMEs has been shown to significantly increase employment, with broadly similar effects across different countries and guarantee structures (Bruhn, Ortega Hernandez, and Ortega 2025).

4.3 Additional policy considerations for job creation

Even as growth models are adjusting, past experiences offer lessons about additional cross-cutting policy themes. These include the possible contribution of improved trade liberalization and integration for boosting investment and productivity growth, the ability of well-functioning labor markets to connect the right worker to the right job, including for underrepresented groups, the role of the public sector in promoting private sector job creation, and international support for countries facing a large jobs challenge.

Reducing trade barriers

Despite a shift in global growth models, in many EMDEs, reducing barriers to trade could also help support investment and productivity growth, as well as technology development, competition, innovation, and ultimately employment generation (Gill, Revenga, and Zeballos 2016; Ohnsorge, Rogerson, and Xie 2026). The early 2020s have seen a significant decline in the pace of new trade and investment agreements relative to the two previous decades. While trade might not play the same strong role in driving global growth as it did at the start of the century, there is still significant scope for many

EMDEs to reduce trade costs and frictions to support growth. Governments can reduce policy costs such as tariffs, shorten and simplify customs procedures, harmonize inspection and labeling requirements, and improve trade-related infrastructure—including digital technology—although the precise overall impact on employment growth from such steps remains difficult to assess (Ubaldo and Winters 2020).

Trade liberalization may have contributed to increased investment and productivity growth in India in the early 1990s, making a positive contribution to labor demand (World Bank 2025a). When India lifted tariff and non-tariff barriers, lowered capital account restrictions, and ended most state monopolies in industries such as iron and steel, electricity, and telecommunications, it also moved to a market-determined exchange rate. These reforms led to an investment acceleration from 1994–99, driven by a stronger private sector and associated trade growth (Stamm and Yu 2024).

Some EMDEs could open up fresh growth-enhancing trade opportunities by forging new, mutually-beneficial trading relationships with regional peers and partners. Multilateral trading arrangements and agreements with advanced economy and emerging market partners to support LICs' development remain important for development prospects, as does a predictable, rules-based global trading system. Beyond global approaches, intra-EMDE trade has risen significantly over the past 25 years, but there remains scope for more collaboration (World Bank 2025d). Targeted engagement with selected partners, whether bilateral or multilateral, continues to hold promise and could help individual EMDEs offset the broader softness in global trade momentum. The African Continental Free Trade Area initiative is one region-wise example (Echandi, Maliszewska, and Steenbergen 2022). Trade liberalization measures should be pursued carefully, with attention to individuals or sectors that may face challenges as a result of trade policy decisions (World Bank 2025d).

Countries with a jobs challenge can help support output and jobs growth by focusing on labor-intensive, export-oriented sectors. The scale of benefits might be more modest than past success stories given the muted global trade conjuncture, but this does not mean that opportunities have disappeared altogether. The development economics literature has argued that EMDEs with abundant labor can benefit from a focus on labor-intensive sectors, and empirical studies support this view. Although the focus has traditionally been on labor-intensive goods production for export, there is increasing evidence of, and attention on, services as a potential engine of growth.[10]

Improving the functioning of labor markets

Overcoming the jobs challenge will be difficult without well-functioning labor markets that efficiently connect the right worker to the right job. Today, some regions with a

[10] For a summary of the literature on development and abundant labor, refer to Vandenberg (2017). In Brazil, export growth has helped to create environmentally sustainable employment in the long run (Goes et al. 2025). Nayyar, Hallward-Driemeier, and Davies (2021) describe how technological change is enabling service sectors to grow at scale and innovate, allowing them to become drivers of growth and job creation beyond traditionally low-skilled employment. Rajan and Lamba (2024) argue that pursuing high-skilled services can be a successful development model for India.

large jobs challenge have a lower employment-to-working-age population ratio than other EMDE regions (figure 4.7.A). This suggests significant frictions in matching potential labor supply with labor demand.

Labor market policy interventions can occur at different levels but often relate to the three pillars. Effective physical and digital infrastructure can reduce geography-related barriers that separate both individuals from employment opportunities, and firms from growth-related opportunities. Human capital development can help better tailor individuals' capabilities to contribute to output growth. Well-designed regulations minimize distortions and facilitate hiring while maintaining standards, promoting certainty, and protecting individuals and firms.

At a micro level, interventions may include job-seeking support, information sharing, and incentives for those searching for work. Addressing information asymmetries, to ensure workers understand the skills needed for a particular role, and that prospective workers can effectively and credibly demonstrate their skills to employers, can help mitigate labor market frictions and can therefore enable better use of human capital (Breza and Kaur 2025). At a more general level across an economy, policy makers can strive to improve movement between jobs, sectors or regions, or even across borders, facilitating the movement of labor to where it is most needed.[11]

Several countries have improved the functioning of their labor markets with deliberate policy interventions. Germany underwent labor market reforms between 2003 and 2005. These reforms aimed to address chronic unemployment issues. Their main goals were to improve the services of employment agencies—thereby increasing the efficiency of job matching—and to provide better incentives for the unemployed to search for jobs. The enhanced effectiveness of the public employment agency can explain about 20 percent of the observed decline in post-reform unemployment (Launov and Wälde 2016). The reduction in unemployment benefits led to an estimated 2.8 percentage point decrease in the unemployment rate, as well as a reduction in the average duration of unemployment (Krause and Uhlig 2012). Australia and Chile, two of the case studies in this study, also implemented reforms to improve the flexibility of labor markets (box 4.1; appendixes A and B).

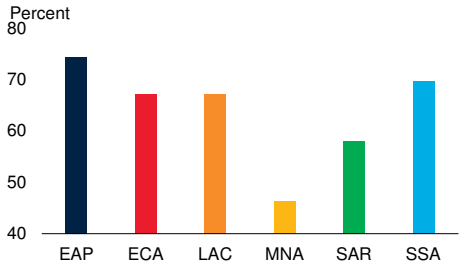
Workers and employers often need to be in physical proximity for successful job matching. In Sub-Saharan Africa, the working-age population is expected to nearly double between now and 2050. As that expansion plays out, many people searching for jobs might not be in locations where the best job opportunities exist. A lack of knowledge about where opportunities are, inability to relocate, and even constraints on

[11] The literature on labor market institutions and economic performance highlights the importance of safety-net policies that do not discourage labor force participation (Nickell and Layard 1999). Microeconomic studies examining the effect of job search assistance programs (or sanctions for failing to search) on the job-finding rate find that such policies can be effective in increasing the job-finding rates of the programs' participants (refer to Card, Kluve, and Weber 2010). Although the literature is unclear about the effects on aggregate employment, better job matching should increase labor market efficiency and may reduce structural unemployment.

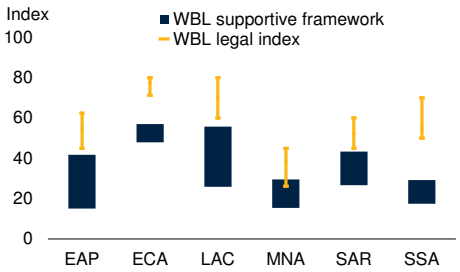
FIGURE 4.7 Labor markets, female employment, and the public sector

EMDEs with a large jobs challenge also have lower employment-to-working-age population ratios than other EMDEs. The legal gender equality index is lower in Sub-Saharan Africa and the Middle East and North Africa. In regions where the share of public sector employment is lower, public-sector workers earn a significant premium over private sector workers.

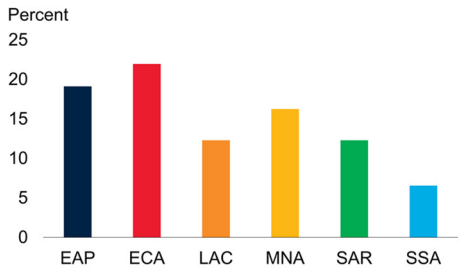
A. Employment-to-working-age population ratio, by EMDE region



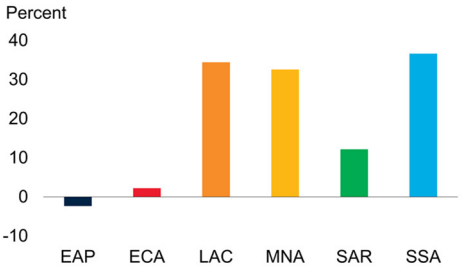
B. Legal gender equality index, 2024



C. Share of public-sector employment



D. Wage premium of public sector jobs over private sector jobs



Sources: ILOSTAT (database); UN World Population Prospects (2024); World Bank (2024k); World Bank; WWBI (database).
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Bars show the level of the employment-to-working-age population ratio for each country group in 2023.
B. Bars show interquartile ranges of the Women, Business, and the Law (WBL) gender equality supporting index ("de jure rights") in 2024. Whiskers represent interquartile ranges for the WBL legal framework index ("de facto rights") in 2024.
C.D. Bars show the median of the latest observation for each country in each EMDE region.

the legal rights to work in the optimal place can all hold back employment, at individual and aggregate levels (World Bank 2013a, 2023a). Measures to improve public transportation, electricity provision, and digital services access can reduce these location-based barriers to employment within countries, especially when backed by supportive institutional environments and complementary policies (Herrera Dappe and Lebrand 2024). Reshaping economic geography hinges on improved integration, and may involve territorial-, regional- or urban-focused policies to help share opportunities, even if headline growth remains unbalanced (World Bank 2009).

In rural areas, improving the productivity of agricultural businesses can boost employment. Better access to credit and land, technologies such as irrigation to overcome the seasonal pattern of agricultural employment, and access to markets through improved

transportation infrastructure have been successful in the past (World Bank 2023a). In Sub-Saharan Africa, more than half of employment is in the agriculture sector. Yet many countries in Sub-Saharan Africa score poorly on indicators measuring the agribusiness environment (World Bank 2019d).

Urbanization can be crucial to speeding up sectoral transformations that can enhance growth and accelerate poverty reduction. Urbanization, particularly in low-income and lower-middle-income countries is associated with strong productivity gains and per-capita income gains. Sectoral transformation is related to shifts in employment as people move from rural to urban areas, into different sectors, and from informal employment to formal employment (Merotto, Weber, and Aterido 2018). Rural-to-urban migrants often earn higher wages and integrate well into urban labor markets (Christiaensen and Lozano-Gracia 2024). For example, in China, urbanization has been particularly relevant to the arc of development: the share of the population classified as urban more than doubled, to 63 percent, between 1990 and 2021, and China had some 286 million (internal) migrant workers by 2020 (IMF 2021).

Sectoral transformation was important for countries that have successfully graduated from low-income to middle-income status since 2000. On average, the agricultural share of employment has fallen faster in these countries, and from a lower starting point, relative to countries that remain low income. Moreover, in countries that have successfully graduated to middle-income status, productivity growth has tended to remain positive across all sectors (World Bank 2025d).

Policy measures can help workers move to where their capacities are most needed. Facilitating reallocation of labor often fits within a wider development strategy of sectoral transformation (World Bank 2024f). This policy challenge is most acute in countries where reliable information-sharing and transport networks are more limited, inhibiting mobility: small states in remote locations, fragile and conflict-affected situations, and LICs with high rural populations tend to have particularly difficult starting positions.

Policy efforts could also adopt a focus on sectors where the potential for productive employment is greatest, either at the aggregate level or for specific sub-groups and sectors. Although the employment elasticity of growth in the manufacturing and services sectors is positive for most countries, the agriculture sector in many countries suffers from low productivity and under-employment. Growth in the traditional agriculture sector is associated with fewer additional employment opportunities (Burgi, Hovhannisyan, and Mondragon-Velez 2024; Morgan Stanley 2025). Yet traditional agricultural and mining will continue to have an important function in many economies. In EMDEs, the World Bank Groups has identified five sectors that have the potential to create local and resilient jobs at scale (box 4.2; Development Committee 2025a). These five sectors are: infrastructure (including energy), agribusiness and farming, tourism, health, and value-added manufacturing. These sectors tend to be relatively labor-intensive, tradable, and technologically upgradeable, and they may be less susceptible to automation. They can create jobs directly, and in many cases, can also support wider opportunities throughout the economy.

A textbook focus on moving from agriculture to manufacturing and services is likely to be too simplistic. A sector-specific focus should not ignore established sectors with productivity challenges. Shifting workers within sectors toward more productive roles—for example, capitalizing on the employment potential of agribusiness within agriculture—can help generate employment and unlock growth. Within services, there is significant heterogeneity across different sectors in terms of productivity and employment potential (Bhorat et al. 2025; Nayyar, Hallward-Dreimeirer, and Davies 2021). Targeted sectoral interventions should adopt a broad perspective that considers spillover impacts on other sectors and the wider economy.

Well-managed, legal cross-border migration can yield mutual economic benefits for the origin and receiving country. Shrinking working-age populations in some parts of the world—notably China and many advanced economies—contrast with surging labor forces elsewhere, especially in South Asia and Sub-Saharan Africa. Migrant workers already make up a significant share of the global labor force, totaling 272 million in 2019 (Berger 2022). That is equivalent to over 7 percent of the total global labor force (ILO 2024a). Legal migration—when it closes gaps in the work force and supports productivity and innovation—tends to have a positive impact on output in the recipient country over both the short and medium term (IMF 2020).

A strategic and collaborative approach to migration policy can help foster job creation and manage potential tensions related to immigration. In wealthier economies, legal, well-managed migration, combined with effective integration policies, can help ease labor shortages as working-age populations stagnate or retreat (OECD 2024). There may be a role for both cyclical and longer-term legal migration, depending on country circumstances. It is important that migrant integration is complemented by targeted support for local workers who may be negatively affected by labor inflows (World Bank 2023b). Approaches such as global skills partnerships can facilitate contract-based job matching and support skills training, certification, managed mobility, and reintegration for workers throughout the migration cycle (Acosta et al. 2025).

Boosting employment for women and other underrepresented groups

Policy makers should address obstacles inhibiting underrepresented segments of the population—especially women—from participating fully in the work force. Globally, men account for the vast majority of workers in sectors such as construction and manufacturing, while women are more concentrated in education and health-related sectors. Based on these patterns, service sector growth, including in tourism, could benefit female employment. In South Asia, that has been especially the case in education and health. Women can also benefit from increasing production and exports in sectors that often employ women, such as the export of ready-made garments, though safety and worker protection should be ensured in parallel.

An economy's inability to provide employment opportunities for some sub-section of the population (for economic, cultural, or other reasons) can exacerbate the jobs challenge. Increasing the employment-to-working-age population ratio by including a larger subset of the population in the labor force hinges on employment opportunities

and labor supply rising together.[12] There appears to be scope to raise the employment-to-working-age population ratio in several regions facing a jobs challenge, particularly in South Asia and the Middle East and North Africa, where youth and female labor force participation rates are lower than in most other EMDEs (ILO 2024b).

Increasing participation could drive output growth. Evidence suggests that drawing on the skills and capabilities of underrepresented segments of the working-age population can boost productivity and output, while also supporting equality objectives (Ostry et al. 2018). For countries grappling with aging populations, rather than those facing a jobs challenge, the case for increasing both labor force participation and the employment-to-working-age population ratio is clear.

Participation measures can include targeted policies aimed at underrepresented or disadvantaged groups, enhancing their economic inclusion and advancing aggregate employment outcomes. For example, globally, average female labor force participation over 2011–22 was 50 percent, compared with 70 percent for men. In South Asia, the female employment ratio is about a third of that for men in the region, and about half of the female employment ratio in other EMDEs (World Bank 2024h). At the aggregate level, there have been some significant improvements in closing the wedge between female and male participation, yet large gaps remain across different EMDE regions. Women continue to face legal barriers across all EMDE regions (figure 4.7.B). Moreover, interventions such as improving human capital often have larger employment impacts for men than women. This implies that, for the same level of education, women's human capital is underutilized in the labor market (Choi et al. 2024; Fox and Gandhi 2021).

Successfully boosting employment rates for underrepresented groups can improve productivity and generate a range of macroeconomic benefits, in addition to bolstering inclusion (refer to, for example, Ostry et al. 2018). One study estimates that, beyond improving the employment-to-working-age population ratio, raising women's employment to the level of men's could increase GDP per capita in the typical economy by 20–50 percent (Pennings 2022; World Bank 2024i). Similarly, the share of young people who are neither employed nor in school or training is around one in five across EMDEs, around double the rate in advanced economies. Creating viable employment pathways for young people, aligned with domestic market needs, is therefore important for many countries. All else equal, bringing down the share of such young people in EMDEs to the level of the average advanced economy would increase EMDE employment ratios by 3 percentage points and could lead to a 5 percent increase in output (Ahn et al. 2019). Tourism, one of the five sectors complementing the World Bank Group's jobs strategy, has an above-average employment share of youth and women compared with other sectors (box 4.2).

[12] Increasing participation will not reduce the jobs challenge if new job opportunities are not created in parallel with labor force expansion. If, through increased participation, labor supply rises but demand remains unchanged, a larger labor force could simply result in higher unemployment. However, if the jobs challenge is defined based on the entire working-age population and the objective is to increase the share of the working-age population in employment, then higher participation must be a central part of the solution.

Policies to boost participation among underrepresented segments of the working-age population may be constrained by social and cultural norms in some countries. For example, barriers to female labor force participation can include lack of access to viable care options for children and the elderly; mismatches in education and skills; discrimination in hiring and retention; and restrictive policies, laws, and socio-cultural norms (Halim, O'Sullivan, and Sahay 2023; World Bank 2024i). The impacts of these constraints can be amplified through different channels. For example, female entrepreneurs are more likely to hire women, but these entrepreneurs also face barriers themselves (Chiplunkar and Goldberg 2024). These norms can be deeply ingrained—but they are malleable, and can be addressed through demonstration, soft policies, and regulation.

Policies to support women and girls through education and skills development have borne fruit globally, though there is still significant scope for further progress. Successes include improvements in addressing education and health gaps between boys and girls, along with a significant reduction in maternal mortality (World Bank 2024j). Closing education gaps for underrepresented groups is also important. For example, in Sub-Saharan Africa and South Asia, women are less educated, on average, than in the other EMDE regions. Countries can also consider a range of measures to enhance childcare and elderly care provision options, including policies that prioritize expanding coverage for the most vulnerable households (Devercelli and Beaton-Day 2020). This can relieve constraints to female labor force participation, while the care sector can also be a source of job creation. Women and other disadvantaged groups can also benefit from social protection and safety net interventions, broader employment incentives, and public-works initiatives. These have yielded significant positive impacts in EMDEs (Peterman et al. 2024).

Several countries have increased female labor force participation during periods when both employment growth and the overall employment ratio were rising. Singapore experienced a notable rise in the female labor force participation rate during a period of sustained higher employment growth: between 2004 and 2014, it increased by an average of 0.8 percentage point, contributing to a large boost in overall participation (appendix A.5). The expansion of employment opportunities in the services sector and the growing prevalence of flexible work arrangements were key factors attracting more women to the labor market (Singapore Ministry of Manpower 2014). More generally, education levels have risen faster among women than among men in most regions (Lam and Leibbrandt 2023).

Using the public sector effectively

Relying on public sector jobs is unlikely to help EMDEs overcome the jobs challenge. The share of employees who work in the public sector varies significantly by region, but most regions have a wage premium for public sector jobs (figures 4.7.C-D). Evidence suggests that additional public employment can crowd out private employment, reduce output per worker, and lower total factor productivity (TFP). In a sample of OECD

countries from 1960 to 2000, 100 public sector jobs may have crowded out 150 private sector jobs, on average (Algan, Cahuc, and Zylberberg 2002). This crowding out effect may be due to rigid public sector wages that lead to above-equilibrium private sector wages and hence lower private sector employment (Gomes 2015; Stepanyan and Leigh 2015).[13]

Embedded expectations of employment in the public sector can have negative consequences for the development of human capital. Students may focus less on an education that would support a vibrant private sector but instead pursue skills and qualifications that will help secure public sector employment (Assaad and Barsoum 2019; World Bank 2013b). Particularly in countries that have large public sectors with essentially guaranteed lifetime employment, incentives to continue professional development may also be muted. Meanwhile, although many EMDEs in the Middle East and North Africa region have made good progress on educational attainment (in terms of years of schooling), their students still perform poorly in internationally comparable tests (Assaad 2014). Taken together, the incentives created by large public sector employment are not optimal for future private employment trends and needs (World Bank 2013b).

Public sector employment expansions can negatively impact fiscal sustainability. The public sector plays an important economic role in most economies and is a significant employer. Many public sector jobs are productive and valuable. However, the public sector wage bill in some EMDEs takes up almost half of all government expenditures, driven by the large number of employees, a significant wage premium over the private sector, or both (World Bank 2021). These expenditures are often compounded by additional pension obligations (World Bank 2016). Spending on public sector employment tends to be relatively rigid and pro-cyclical. Increases in the wage bill in EMDEs are often partially financed by additional deficits and usually do not revert, even in the medium term. Moreover, wage bill growth does not tend to move in line with changes in revenues or non-wage expenditures (Dybczak and Garcia-Escribano 2019).

The public sector does have an important role to play in addressing the jobs challenge, but not as an additional source of employment itself. Rather than turning to the public sector as a direct vehicle for absorbing additional workers, governments should aim to ensure that efficient and effective public service provision helps facilitate the creation of productive private sector job opportunities. Public sector jobs can be useful, but in the context of the jobs challenge, their effectiveness depends on whether those roles support sustainable private sector growth, enhance the education, health, or broader contributions of the working-age population, reduce frictions impeding the efficient matching of workers with jobs, or promote international cooperation in ways which can promote growth or otherwise ease labor market pressures. Effective and efficient administration,

[13] In several countries in Sub-Saharan Africa, public sector wages are four times higher than private sector wages (IMF 2024). In the Middle East and North Africa region, almost 22 percent of workers are employed by the public sector, a higher share than in any other EMDE region (Gatti et al. 2024). In the Middle East and North Africa, generous public sector benefits often attract the most talented workers away from the private sector, reducing overall productivity and lowers both output per worker and total factor productivity (Parro and Torres 2024).

regulation, and investment all play key roles in ensuring that the foundations and enabling environment are in place for productive firms to grow sustainably.

International support

To create space for sustainable, growth-enhancing policies, the international community should work together to support countries with large debt burdens. EMDEs facing a large jobs challenge typically pay more for debt servicing costs as a share of GDP than other EMDEs. Reestablishing debt sustainability and fiscal credibility is a crucial pillar for helping vulnerable economies to foster macroeconomic stability and, over time, develop space for advancing domestic policies that address the jobs challenge. Debt levels had already risen markedly prior to the COVID-19 pandemic, and the sources and terms of credit for EMDEs, including LICs, have become increasingly complex (Kose et al. 2021). Alongside domestic policy efforts, debt restructuring can reduce the cost of debt crises for countries in, or on the verge of, debt distress. International cooperation may be necessary to help resolve unsustainable debt positions: if done in an effective and timely fashion, this can free up fiscal resources for addressing jobs-related priorities and can also limit potentially damaging cross-border spillovers.

Cooperation between countries—and support from the international community—will be pivotal in reinvigorating growth, narrowing development gaps and addressing the jobs challenge. Support could help countries better capitalize on their potential and manage spillovers across borders for mutual benefit. Consistent concessional financing and well-evidenced, carefully tailored policy advice are equally important in this regard. International support for foundational infrastructure can be particularly important in countries with limited domestic capacity, particularly in LICs and FCS. Capacity development and other interventions to enhance institutions, improve the business environment, mobilize private capital can be relevant in many different environments, but must be calibrated to local contexts. This can also include work to improve the breadth, depth, and accuracy of employment-related data. Robust, comparable data can help policy makers take better-informed decisions as they seek to address the jobs challenge.

The international economic environment is also important: for countries facing a large jobs challenge, there are advantages to a stable, open, transparent, and rules-based international system. In theory, demographic divergence should have implications for real interest rates, and capital should flow from aging, wealthy economies toward those countries with expanding young workforces; these capital flows could bring significant benefits for both parties (Liu and McKibbin 2022). Facilitating such capital flows depends on both domestic policy settings and cross-border cooperation.

Ultimately, outcomes are shaped by developments both at home and abroad. The frameworks set by the global community on cross-border issues—including trade, investment, and migration—have important implications for EMDEs, and particularly for LICs. Many EMDEs can improve their growth prospects by easing trade and investment restrictions and improving policy predictability.

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases

Introduction

Past episodes of sustained employment growth offer useful lessons on policies that can help spark them. To understand those lessons, this box first presents a simple methodology to identify episodes of sustained higher employment growth relative to population growth. The analysis then summarizes key economic and policy developments that coincided with the emergence of such episodes in five case studies. Specifically, the box addresses three main questions:

- How did key labor market indicators (such as employment, wages, and labor force participation) evolve during these episodes?
- What were the main macroeconomic developments during periods of sustained and high employment growth?
- What were the policy interventions associated with these episodes?

Methodology

The methodology used to identify episodes of sustained higher employment growth closely follows the approach used to identify investment acceleration episodes (Stamm and Yu 2024). The employment growth episodes are characterized by sustained and rapid increases in the employment ratio—the number of people employed relative to total population.[a] Episodes identified in this box must satisfy the following conditions:

- *Sustained*. Each episode must be sustained for at least seven years.
- *Rapid*. The average annual change in the employment ratio during the period (of at least seven years) must be at least 0.2 percentage point. This rate corresponds to the median annual change in the employment ratio over 1950–2019 for the top 20 percent of countries.
- *Higher change in employment ratio*. To qualify, the average annual change in the employment ratio must exceed the average of the previous seven years by at least 0.4 percentage point—a threshold corresponding to the top 20 percent of such differences across countries. In addition, to distinguish sustained employment growth episodes from cyclical recoveries, employment at the end of the episode must exceed its pre-episode peak.

a. The growth rate of the employment level is also considered. However, relying on this alone could overemphasize countries with rapidly growing populations because these countries typically exhibit strong employment growth relative to countries with slow-growing populations. The analysis uses employment and population data from the Penn World Tables for the period 1950–2019.

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases (*continued*)

To understand the macroeconomic conditions and policies associated with employment episodes, specific selection criteria are used to identify episodes and perform event studies. The analysis focuses on episodes where per capita GDP growth exceeds the median of all episode periods, and where employment data from the Penn World Tables are minimally imputed.[b] Episodes in advanced economies that coincided with labor market reforms are also included. Among the episodes that satisfy these features, the following country cases are selected for their strong link between policy choices and the employment growth episodes under consideration: Australia (1994–2008), Chile (1979–92), Colombia (2002–08), the Republic of Korea (1986–97), and Singapore (2004–14).

Labor markets during employment growth episodes

During the analyzed episodes, average employment growth in the five case-study countries reached 3.4 percent—1.7 percentage points higher than in other years (figures B4.1.1.A and B4.1.1.B). The employment-to-population ratio increased by an average of 0.7 percentage point, compared to 0.1 percentage point when pooling data from seven years either side of these episodes. Episodes tended to coincide with rising labor force participation, with rates increasing by an average 0.3 percentage point during growth periods (versus 0.1 percentage point in other years). Consequently, the unemployment rate decreased by an average of 0.3 percentage point during the episodes, in contrast to a 0.3-percentage-point increase outside these episodes. Real wage growth was, on average, slightly higher during the identified sustained employment growth periods compared with other years.

Female labor force participation registered stronger gains during episodes compared to other years, although women's share in total employment followed a broadly similar pattern within and outside episodes (figure B4.1.1.C). The falling share of youth participation, while slower during accelerations, reflects a sustained increase in educational enrollment over time. The share of self-employment decreased by 0.2 percentage point during episodes, surpassing the decline of 0.1 percentage point in other years. Part-time employment grew at a slower pace during employment growth episodes compared to other years. The industry and services sectors were the primary drivers of employment in the case study periods, with the industrial sector showing the largest difference in employment growth between growth episodes and other years (figure B4.1.1.D).

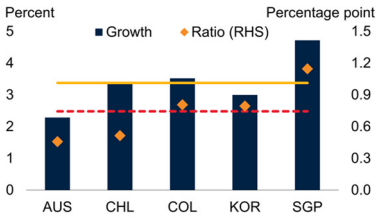
b. Beyond the country cases detailed in this box, other EMDE cases often rely heavily on imputed employment data. This imputed data often assumes constant changes during the imputed periods, making it impossible to identify actual employment growth periods with confidence. Therefore, these cases were excluded from the analysis.

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases (*continued*)

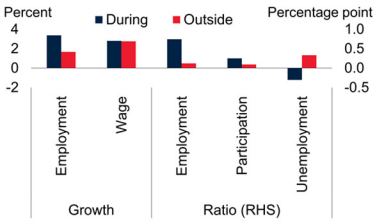
FIGURE B4.1.1 Employment growth episodes

Episodes of high employment growth coincided with broad macroeconomic improvements. Compared with non-episode years, these periods featured higher employment-to-population ratios, increased labor force participation, and lower unemployment. Furthermore, manufacturing and services drove job creation, contributing to a faster decline in self-employment rates.

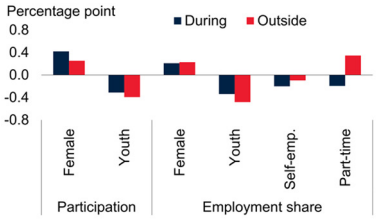
A. Employment during episodes



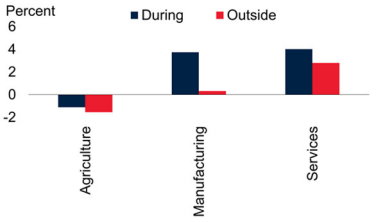
B. Labor market metrics



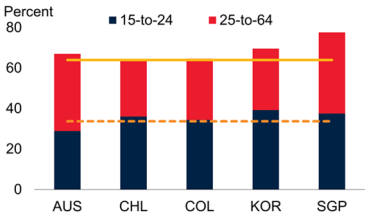
C. Components as share of labor force



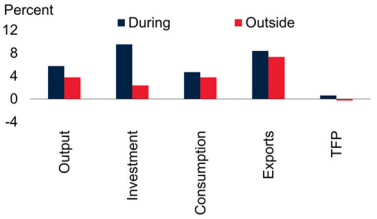
D. Employment growth, by sector



E. Age cohorts, as share of the population



F. Output and productivity growth



Sources: Central Bank of Chile; Feenstra, Inklaar and Timmer (2015); Haver Analytics; ILOSTAT (database); Organisation for Economic Co-operation and Development; UN World Population Prospects (2024); WDI (database); WEO (database); World Bank.

Note: AUS = Australia; CHL = Chile; COL = Colombia; KOR = Korea, Rep.; RHS = right-hand scale; SPG = Singapore; TFP = total factor productivity. Employment is defined for individuals aged 15 and above, and the employment ratio is calculated as employment-to-total population for individuals aged 15 and above. "During" refers to the full duration of the episode. "Outside" refers to the seven years before and after the episode.

A. Bars show average employment growth and change in the employment ratio during each employment growth episode. Solid and dashed lines show averages of the employment growth rate and change in employment ratio across the five economies.

B-D.F. Bars are the unweighted averages of the annual averages of changes/growth rates.

C. Youth is defined as individuals aged 15 to 24.

E. Bars are the annual averages of shares of the total population during each employment growth episode. Solid line indicates the top quartile average of the working-age population share among 198 countries from 1950 to 2019, while the dashed line represents the top quartile of the young population share.

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases (*continued*)

Three of the five analyzed cases were classified as middle-income countries at the beginning of their employment growth episodes, underscoring the analysis's relevance for current emerging market and developing economies (EMDEs). During these sustained employment growth episodes, Australia, Colombia, Korea, and Singapore (though not Chile) ranked in the top quartile globally for the working-age population as a share of their total population; two countries (Chile and Korea) had an above-average share of younger working-age people (those under the age of 25) within the working-age population (figure B4.1.1.E). With a substantial reservoir of young people and/or a large working-age population, these countries achieved strong and sustained employment growth, with job growth consistently outpacing population growth. EMDEs facing a jobs challenge can draw lessons from these past experiences. Appendix A provides detail on each country case.

Activity during sustained employment growth episodes

The case study episodes were closely associated with robust economic growth, averaging 5.8 percent per year compared with 3.8 percent in other years (figure B4.1.1.F). Annual investment growth also surged during these episodes, averaging 9.5 percent—nearly four times the 2.4 percent observed in other years in these countries. While consumption and exports were also stronger during these episodes, their improvements compared to other years were less pronounced than for investment. Total factor productivity grew by 0.6 percent on average each year during the episodes, versus a 0.3 percent decline in other years. A shift in economic activity toward more productive sectors, particularly services, also took place during these episodes.

Policies contributing to sustained employment growth episodes

A variety of policies were associated with the onset of employment growth episodes. However, despite diverse growth experiences across these five case studies, important commonalities exist. First, investment into foundational infrastructure, including physical and digital capital, and particularly development of human capital, was key to delivering output growth and job creation. Second, structural reforms that stabilized the macroeconomic environment, facilitated labor market flexibility, and created a business-friendly environment contributed to fostering employment growth. Third, mobilizing private capital was critical to sustaining investment growth during the job-creation episode. A summary of common policy themes is provided below, with successful interventions typically employing a combination or all of the following (table B4.1).

Foundational infrastructure. In all five countries, foundational infrastructure served as a springboard for job creation and economic growth. Singapore

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases (*continued*)

promoted investment to become a logistical and financial center with a particular focus on human capital development. Chile and Colombia required robust infrastructure and transport networks to develop their natural resources.

Korea and Singapore both invested into human capital development in close coordination with the private sector to move up the value chain and boost innovation. In Korea, initial government support for private sector innovation saw research and development expenditure surge, with nearly three-quarters of the investment by the private sector. Secondary and tertiary education attainment rose significantly, in coordination with the economy's evolving needs. Singapore also pursued a policy that aimed at innovation, research and development, and upgrading service sectors. The labor force in Singapore benefitted significantly from these policy focus: the share of employed residents with tertiary degrees increased from 22 percent in 2004 to 33 percent in 2014.

A business-enabling environment. A stable macroeconomic environment was critical across all cases. This included effective inflation management and fiscal discipline. For instance, in Chile, Colombia, and Korea, macroeconomic stabilization policies preceded or coincided with periods of strong employment growth. These countries also adopted policies that strengthened central bank independence and stabilized fiscal policy. The private sector became more dynamic when regulatory institutions became stronger and competition among firms increased, as in Chile and Korea.

Increasing labor market flexibility, alongside incentives for the working-age population to actively search for jobs, were key drivers underpinning periods of sustained higher employment growth. Chile's ambitious labor market reforms, aimed at enhancing flexibility, were associated with substantial employment growth. Australia's broad-based labor market reforms, including decentralization of wage-setting, successfully reduced the unemployment rate. In some advanced economies, wage moderation through social partnership or consensus, as seen in Australia and Singapore, helped in countering wage-price pressures, addressing high unemployment, and enhancing labor competitiveness.

Private capital mobilization. Policies to improve investment growth, mobilize private capital, and deepen financial markets were also common themes emerging from country cases. In Chile, trade and the banking sector liberalization were pivotal in enhancing resource allocation and driving investment growth. Australia, Colombia, and Korea introduced or increased policy support for national pension schemes that created a pool of savings for domestic investment, including through equity and debt markets. Singapore's monetary authority shored up the banking sector with a focus on liquidity following the Asian financial crisis.

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases (*continued*)

Conclusion

The jobs challenge requires determination and ingenuity from policy makers to foster sustained employment growth. Lessons from country case studies indicate that there is no uniform solution to spark employment growth. Instead, sustained job creation tends to result from a confluence of policies, including those that help to underpin a stable macroeconomic environment, boost long-term economic growth, advance reforms to enhance labor market flexibility and stimulate the participation of the working-age population in the labor force, and invest in human capital. By integrating these diverse strategies, countries can create a robust framework for sustained employment growth and economic development.

BOX 4.1 Overcoming the jobs challenge: Lessons from country cases (*continued*)

TABLE B4.1.1 Policy changes and reforms around employment growth episodes

Country	Employment growth episode	Foundational infrastructure	A business-enabling environment	Private capital mobilization
Australia	1994–2008	Total infrastructure investment was 50 percent higher in 2006 than the 1987–2000 average. Large improvement in secondary completion rates.	Central bank adoption of inflation targeting. Fiscal consolidation. Social security and tax reforms.	Increase in retirement contributions as a share of wages deepened the pool of savings for domestic investment.
Chile	1979–92	Private sector participation in infrastructure. Focus on developing human capital.	Central bank independence and adoption of inflation targeting. Fiscal consolidation. Trade liberalization. Financial sector deepening.	Liberalization of the banking sector; removal of interest rate controls; limits on risk-taking by banking sector.
Colombia	2002–08	Investment with private participation in physical infrastructure. Private concessions for large ports.	Adoption of inflation targeting. Fiscal consolidation. Structural tax reforms. SOE and public investment management reforms.	Privatization of public banks. Support for fintech development and loans to micro, small, and medium-sized firms. Improvements to governance of securities markets.
Korea, Rep.	1986–97	Policy focus on physical infrastructure and human capital development. Investment in human capital aligned with private sector needs.	End of central bank financing of government. Fiscal consolidation and fiscal rules. Trade liberalization. Reduction in price controls.	Promotion of competition in financial sector and reduction in price controls. Stronger governance in capital markets. Introduction of a national pension scheme that deepened domestic savings.
Singapore	2004–14	Focus on human capital development, closely aligned with private sector needs.	Restructuring toward a knowledge-based economy.	Shored up banking sector following Asian financial crisis with focus on liquidity. Strong and independent financial market oversight. Regulatory environment closely aligned with international standards.

Source: World Bank.

BOX 4.2 Sectors with the potential to create jobs at scale

The incoming cohort of 1.2 billion young people set to reach working age over the coming decade (between 2025 and 2035) in emerging market and developing economies (EMDEs), the largest ever, demands a strategic focus on job-creation. The World Bank Group has identified five sectors with strong potential for local, resilient job creation at scale, complementing the three policy pillars that can underpin robust job creation efforts. These five sectors are: infrastructure (including energy), agribusiness and farming, tourism, health, and value-added manufacturing.

The five sectors identified by the World Bank Group as having high potential for job creation are broad. The nature and extent of interventions should be carefully calibrated to reflect individual economies' capacities, comparative advantages, distortions, and potential spillovers. An important aim of any sector-focused policies should ensure that these sectors eventually operate without public support, and that discounted future benefits outweigh the costs and distortions associated with protecting or promoting a specific sector. EMDEs should carefully assess the costs and benefits if implementing industrial policies to promote job creation, including their alignment with World Trade Organization commitments (Fernandes and Reed 2026).

This box addresses two main questions.

- What are the common characteristics of the five sectors that are particularly promising for job creation in EMDEs?
- How do each of these five sectors contribute to local, resilient job creation at scale?

Commonalities across the five sectors with job creation potential

Amid a shift in the global environment, export-led industrialization—an approach which served numerous EMDEs well over past decades—has become a more difficult course to chart. Job creation tends to vary along country income group lines. Compared to advanced economies, jobs in EMDEs and low-income countries (LICs) have mainly been created in the agriculture and lower-skilled services sectors, with limited contribution from high-skilled services (figure B4.2.1.A, McMillian, Rodrik, and Sepúlveda 2017; Nayyar, Hallward-Driemeier, and Davies 2021). In EMDEs, these two categories accounted for about half of job creation over the past three decades. In LICs, job creation in agriculture accounted for almost half of all job creation.

Looking ahead, to the extent that job creation strategies take a sectoral focus, there is merit in a focus on sectors with high employment elasticities; that are able to provide inclusive employment, including for women and youth; that are labor-intensive, tradable, and higher-productivity than traditional agriculture; and that are also candidates for technology-induced productivity growth. (Development

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

Committee 2025a; Bhorat et al. 2025). Africa's recent growth has been shaped by sectors such as agribusiness, business services, ICT, and tourism: labor-intensive industries where technology and scaling-up have scope to boost productivity and create jobs. These sectors already employ about one-quarter of workers and account for nearly half of value-added, with high employment elasticities—meaning that output growth translates strongly into job growth. They also employ a higher share of women and young people than traditional manufacturing, highlighting their inclusivity.

The manufacturing sector, infrastructure including transport and energy, and the health sector also offer significant growth opportunities. Manufacturing, a sector with an employment elasticity that is higher than the average elasticity for the whole economy, employs 10 percent of workers in Sub-Saharan Africa. However, it has stagnated in the past two decades. Nevertheless, there are opportunities for further growth and job creation, including due to growing global demand for minerals needed for the energy transition: many EMDEs have important deposits of such commodities (Nguimkeu 2026; World Bank 2025e, 2025f).

Infrastructure, including energy, construction and transport, offers not only direct job creation opportunities, but also creates indirect jobs by linking urban and rural areas. Many economies with high population growth face a housing availability gap. Limitations in healthcare provision in developing economies need addressing, and could offer employment opportunities to millions of workers. Healthcare not only creates direct jobs—including for women and young people—but also generates indirect jobs through health value chains, and has positive economy-wide impacts through a healthier and more productive work force. Across OECD countries, jobs in health and social services grew twice as fast as the rate of overall job growth between 2013 and 2023 (Buchan, Dhillon, and Campbell 2017; OECD 2025).

Profiles of the five priority sectors in the World Bank Group's job creation strategy

The World Bank Group's jobs strategy focuses on five particular sectors which hold strong potential to generate local jobs at scale: infrastructure (including energy), agribusiness and farming, health, tourism, and value-added manufacturing. These sectors can make outsized contributions to employment and value-added growth not only by creating jobs directly but also by supporting broader opportunities in ancillary segments of the economy. Together, these five sectors represent practical avenues for large-scale job creation, structural transformation, and economic resilience.

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

Infrastructure including energy

Infrastructure investment—especially in transport, energy, and digital connectivity—can be both a direct source of employment and a catalyst for private-sector expansion. In EMDEs, infrastructure needs are large: estimated at up to 8 percent of GDP in additional investment per year, and even more in low-income countries (figure B4.2.1.B; World Bank 2022c). Construction, operation, and maintenance of physical and digital infrastructure can generate jobs at multiple skill levels. Infrastructure is already a large employer in several economies in Sub-Saharan Africa. The construction sector alone accounts for over 3 percent of employment in a sample of seven low- and lower-middle-income countries, though most of that labor is low-skilled and informal. Transport accounts for another 2 percent (Bhorat et al. 2025; World Bank 2025e). An additional percent of GDP of public investment in key infrastructure could create seven million jobs directly worldwide, and more through indirect effects (Moszoro 2021).

Better transport and digital networks reduce transaction costs, expand access to markets, and improve labor mobility from basic agriculture to manufacturing and services, and job matching (Herrera Dappe and Lebrand 2024, Straub et al. 2026). Unreliable, expensive energy is often cited as a constraint by firms. Unreliable electricity access severely inhibits employment in higher-skilled private sector roles (IEA et al. 2025; Mensah 2024). Yet nearly 600 million people in Sub -Saharan Africa lack electricity. Effective energy networks are central to growth, job creation, and industrialization.

Infrastructure and clean-energy investments are durable sources of job creation. They are relatively shielded from automation, can support the green transition, and can advance economic diversification. The energy transition has the potential to give EMDEs access to new technologies and economic development (World Bank 2024f, 2025g). Policy and targeted investment should focus on removing constraints to infrastructure and clean-energy investments and should advance high-multiplier projects, support local supply chains, and build out digital infrastructure. Policies can support infrastructure investment by raising capital at scale through high-trust public-private partnerships, supporting the local development of the necessary human capital, such as engineers, and facilitating a strong institutional and regulatory environment (World Bank 2025f).

Agribusiness and farming

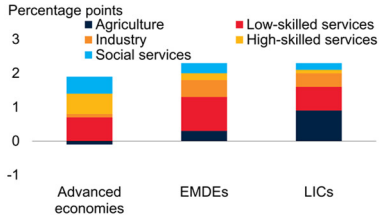
Farming and agribusiness—defined as the full value chain from upstream input supply, to on-farm agriculture (including around 500 million smallholder farmers), and downstream processing, logistics, wholesale, and retail—is a key source of employment in EMDEs (Berdegué, Trivelli, and Corvalán 2023; Berdegué, Trivelli, and Vos 2025; FAO 2023). Agriculture accounts for a large

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

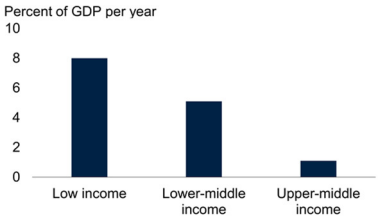
FIGURE B4.2.1 Sectoral considerations and employment

In the past, much job creation in EMDEs and LICs took place in agriculture and low-skilled services. Agriculture accounts for a large share of current employment in most EMDE regions. Going forward, investment needs that accommodate the changing global growth patterns and the energy transition are large, with up to 8 percent of GDP in additional investment per year needed in LICs. Tourism has strong growth potential in LICs and FCS economies, but as a share of GDP, tourism receipts in these economies are lower than in other EMDEs.

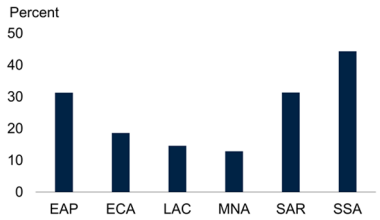
A. Sectoral contributions to employment growth



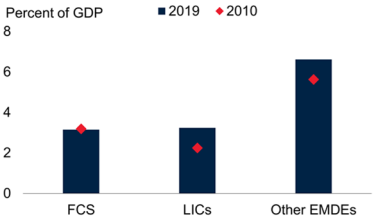
B. Investment needs for a resilient and low-carbon pathway



C. Share of employment in agriculture



D. Tourism receipts



Source: Kose and Ohnsorge (2024); WDI (database); World Bank (2022c); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; FCS = fragile and conflict-affected situations; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Bars represent the average contribution of individual sectors to employment growth between 1990 and 2018. Sample from the GGDC/United Nations University-World Institute for Development Economics Research (UNU-WIDER) Economic Transformation Database includes 6 advanced economies, 39 EMDEs, and 6 LICs.
B. Estimates of the annual investment needs during 2022–30 to build resilience to climate change and put countries on track to reduce emissions by 70 percent by 2050. Depending on data availability, estimates include investment needs on transportation, energy, water, urban adaptations, industry, and landscape.
C. Bars show the average share of employment in each region, using the latest year available as of May 2026.
D. Bars show average of tourism receipts as percent of GDP for 2019. Diamonds show tourism receipts as percent of GDP for the year 2010. Sample includes 15 FCS, 11 LICs, and 78 EMDEs.

share of total employment in almost all EMDE regions (figure B4.2.1.C; Development Committee 2025a, 2025b; World Bank 2026). Higher projected food demand and greater dietary diversity underscore the potential for farming and agribusiness to create more and better jobs along the value chain (OECD and FAO 2025).

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

Agro-processing can upgrade agricultural output into higher-value products, deepening domestic value addition and enhancing export competitiveness through integration into global agriculture value chains. Strong backward and forward linkages with transport, storage, packaging, and retail create positive spillovers to other domestic sectors (Christiaensen 2020). Policy priorities include strengthening food value chains, investing in infrastructure (such as roads) and support services (such as storage facilities), increasing market access for smallholder farmers, and reforming the business climate (World Bank 2025g). Investing in support services and human capital for workers can facilitate the development of agriculture value chains. Easing financial constraints will require risk-sharing solutions and expanding access to financial instruments and services, for example through cooperatives and intermediary firms (World Bank 2026).

Emerging technologies offer new opportunities for the sector: for example, deploying "small AI" using mobile phones can help farmers identify plant diseases and treatments, correct the application of fertilizers, and determine optimal planting times for crops based on weather patterns (Kim and Qiang 2025). This hinges on a sufficient degree of digital connectivity.

Tourism

Tourism is a labor-intensive, tradable service sector with wide employment spillovers and linkages to other sectors, underscoring the sector's growth and job-creation potential. The sector accounts for around 10 percent of GDP in EMDEs; the share is lower in LICs and fragile and conflict-affected situations (figure B4.2.1.D). Tourism employs a large share of young people and women, offering accessible entry points into the labor market, compared to other sectors in the economy, such as manufacturing. Tourism supports both high- and low-skilled jobs in hospitality, transport, construction, and creative industries. Many skills can be learned on the job (Bhorat et al. 2025).

Development of the tourism sector can attract FDI, boost investments into basic infrastructure such as roads or airports, and benefit both urban and rural areas (World Bank 2017). Priorities center around three issues: protecting assets that drive tourism revenues (such as natural endowments like beaches); targeting high-impact growth; and improving the quality and stability of jobs (World Bank 2025i). Policies including reforms to the business climate, support for smaller firms in the value chain, and skills programs to train tourism workers can be important (Development Committee 2026).

Health

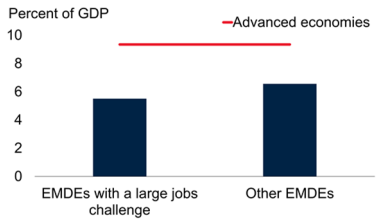
Healthcare and investments into human capital combine direct employment creation with economy-wide productivity benefits. Expanding primary health

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

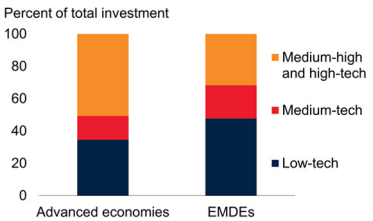
FIGURE B4.2.2 Health expenditure and manufacturing investment

The health sector represents a smaller share of GDP in EMDEs with a large jobs challenge than in other EMDEs, suggesting large growth potential. Manufacturing investment in EMDEs is more concentrated in low- and medium-tech investment, on average, than it is in advanced economies.

A. Health expenditure as percent of GDP



B. Manufacturing investment, by technology intensity, 2010–22



Sources: Adarov (2025); UNIDO INDSTAT (database); WDI (database); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa. EMDEs with a large jobs challenge are those where young people account for at least 30 percent of the population aged 15 and older in 2035.
A. Bars show average healthcare expenditure as percent of GDP for the respective groups using the latest year for each economy.
B. Sample includes up to 54 EMDEs and 34 advanced economies. Simple averages. Technological intensity classification of manufacturing sectors is based on research and development expenditure relative to value added, following UNIDO (2025).

systems, hospitals, laboratories, and pharmaceutical production generates jobs across income levels, with employment also growing in biotechnology, digital health, logistics, and support services (Buchan, Dhillon, and Campbell 2017). In OECD countries, about one in nine jobs is in healthcare and social services. However, in low- and middle income countries, only 2 percent of essential workers work in healthcare, the lowest share among all income groups. Healthcare is among the sectors with the fastest growth rate in vacancies (IMF 2026; ILO 2023; OECD 2025).

Health-related policy priorities include investing into the physical and digital infrastructure; supporting the training of new healthcare staff and the development of private institutions that can offer medical education; and removing barriers to private investment into healthcare and the pharmaceutical sector. In many low- and middle-income countries, education and training does not equip health workers with the basic skills and capabilities that they and the wider economy need (World Bank 2025h). There is large potential for productive sectoral growth. In EMDEs facing a large jobs challenge, the health sector

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

accounts for a smaller share of GDP than in other EMDEs (figure B4.2.2.A). Partnerships and technology adoption can expand access and spur entrepreneurship in medical services and related supply chains. Better health outcomes enhance overall productivity and labor force participation, creating a virtuous cycle of inclusion and growth (Breza and Kaur 2025).

Value-added manufacturing

Value-added manufacturing—particularly in resource-linked and light-industrial activities and mining—remains critical for Africa's long-term structural transformation (World Bank 2025e). Typically, manufacturing companies have a larger workforce than services sector companies, and this difference increases as firms mature. After 15 years in business, a manufacturing company employs over twice as many workers as its services counterpart, on average (World Bank 2025j). Manufacturing also has an above-economy-average employment elasticity. These elasticities can vary widely from country to country, however, and also by specific sub-sector. In a sample of EMDEs, the employment elasticity of the manufacturing sector as a whole is 0.8, compared to an economy-wide elasticity of 0.6 (Mbaye, Coulibaly, and Gandhi 2019).

The global transition toward low-carbon technologies is boosting demand for energy-transition minerals. Refining and processing these minerals domestically can help countries secure more value and create skilled industrial jobs at home. Making the most of natural resources requires efficient and effective institutions and regulations. Many value-added manufacturing activities overlap with the other sectors such as agribusiness, health supply chains, and construction, further amplifying job impacts while creating new job opportunities as workers transition away from extractive sectors. Compared to advanced economies, manufacturing investment in EMDEs are skewed towards low-tech investment (figure B4.2.2.B; Nguimkeu 2026; World Bank 2025f).

Developing value-added manufacturing can require foundational investment into energy, transportation, and digital infrastructure, as well as building human capital through education, skills, and training. An important consideration is fostering a business-enabling environment that allows for smooth firm entry and exit, facilitates the expansion of productive firms, and encourages private investment. Manufacturing firms in developing countries initially grow at a similar pace to firms in developed countries but then growth tends to stall (Development Committee 2026; World Bank 2025e, 2025j).

Conclusion

Although economy-wide policies are important, efforts to tackle the jobs challenge may also benefit from a focus on growth strategies and sectors that can

BOX 4.2 Sectors with the potential to create jobs at scale (*continued*)

create jobs at scale. The five sectors at the core of the World Bank Group's jobs strategy—infrastructure (including energy), agribusiness and farming, tourism, health, and value-added manufacturing—have several characteristics in common: they contribute disproportionally to employment and value-added growth. They tend to be relatively labor-intensive, tradable, technologically upgradeable, and less susceptible to automation. The optimal policy mix and sector focus will depend on country circumstances.

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Our real objective is not just jobs but productive jobs—jobs that will mean more goods and services to consume.

Milton Friedman (1980)
1976 Sveriges Riksbank Prize in Economic Sciences
in Memory of Alfred Nobel

CHAPTER 5

Other Important Employment-Related Policy Concerns

Job creation is a fundamental challenge, particularly for emerging market and developing economies (EMDEs) with large youth populations. Yet the quality of jobs—including the output and income they generate, the associated conditions for workers, and their integration with the wider economy—is also important. Jobs matter to the extent that they yield better outcomes for individuals or at the aggregate level. More and better jobs will result in better outcomes for more people. Efforts to improve the quality of jobs often intertwine and overlap with measures to support durable aggregate job creation. In some cases, there will be trade-offs. Policy makers must balance competing priorities amid limited resources.

Job creation is a vital objective, especially for EMDEs looking to capitalize on the potential of large numbers of young people reaching working age, but other employment-related development considerations also matter. All economies, including EMDEs, should strive for *better* jobs (employment that is better paying and more productive, with adequate protections and more security, for example), not just *more* jobs (Merotto, Weber, and Aterido 2018). Enhancing productivity and wage growth, addressing informality, promoting inclusive employment (including with respect to gender, age, and other categories), and ensuring adequate protections for employees and potential workers are all legitimate priorities in their own right. There is often (though not always) overlap between policies to support aggregate job creation and policies to increase the quality of jobs. Policy makers often need to pursue both in parallel.

A successful job creation strategy must ultimately aim to raise living standards for all. Inclusiveness and job quality are important pillars of these efforts (OECD 2018). Practical objectives include (but are not limited to) addressing informality, ensuring adequate social and labor protection, boosting participation, facilitating sectoral transitions, and undertaking other efforts to enhance productivity—all with a view to supporting durable output growth and improved living standards. These are relevant objectives across different country income levels, regardless of the headline job creation needs a country faces.

Employment-related policy priorities will shift along with a country's demographic position. The jobs challenge articulated in this study is centered on countries with large young populations. Yet many advanced economies and some large EMDEs are already grappling with the reverse challenge: aging populations and shrinking workforces, which together create burdens on social structures and the state. In some cases, aggregate job

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Note: This chapter was prepared by Tommy Chrimes, M. Ayhan Kose, and Kersten Stamm.

creation may be less of a priority than steps to boost participation or labor productivity. Foundational infrastructure, a business-enabling environment, and private capital mobilization are important in these contexts too. Beyond working-age participation measures, policy makers may also need to focus on older people, including those aged 65 or above, especially in countries where life expectancy has risen substantially. As people live longer and stay relatively healthy at older ages, larger elderly populations are a growing policy concern (figure 5.1.A). For example, raising retirement ages should be an active discussion in many advanced and emerging economies (OECD 2023).

5.1 Labor productivity growth and wages

Policy makers concerned with living standards must focus not only on the number of people in employment but also on workers' wages. Employment is beneficial in its own right. Yet a combination of more jobs and higher income is clearly preferable (World Bank 2024a). Particularly in lower-income countries, most people earn the majority of their income through work, making wages integral to individuals' welfare (World Bank 2025).

Boosting labor productivity

Increasing labor productivity is an important objective for all countries, as it underpins sustained output and income growth (Hall and Jones 1999; Caselli 2005). Among other things, higher labor productivity can help support sustainable increases in wages.[1] At the firm level, higher labor productivity can translate into greater efficiency, output, and profitability, with the resulting rents accruing to either shareholders or employees. Countries with a shrinking workforce have especially strong incentives to boost labor productivity growth as a means of sustaining output growth, alongside efforts to increase labor force participation. In the long term, labor productivity growth relies on innovation, investment in physical capital, and human capital development.

Labor productivity growth is crucial for advancing sustainable development objectives but has been slowing in all EMDE regions (figure 5.1.B). It can play a role in reducing poverty, primarily via higher wages. The top quartile of EMDE performers in terms of labor productivity growth between 1981 and 2015 reduced extreme poverty by an average of more than one percentage point per year. In contrast, EMDEs in the bottom quartile of labor productivity growth over the same period saw extreme poverty increase by half a percentage point a year. Overall, labor productivity growth has been slowing across EMDE regions over the last few decades, notably in Europe and Central Asia and in Sub-Saharan Africa. The slowdown reflects both weaker investment and a deceleration in total factor productivity growth (Dieppe 2021).

Shifting employment toward more productive activities can support labor productivity growth and wages. Structural change that facilitates the movement of workers from low-

[1] Some policy makers may prefer to raise average labor productivity; others may focus more on inclusion and reducing inequality, aiming to bolster productivity and wages at the bottom of the income distribution.

productivity, labor-intensive sectors to higher-productivity, skills-intensive fields can help these workers obtain jobs that create greater output and offer better wages (World Bank 2024b). This is especially relevant for Sub-Saharan Africa, which has a far greater share of its workers in the agricultural sector than other EMDE regions, often with low productivity levels. Movements in sectoral employment from agriculture to industrial and services sector jobs (including in agribusiness, along the agricultural value chain) can also help reduce poverty rates: poverty to growth elasticities are particularly high in the trade and transport services sectors, as well as in the agro-processing manufacturing subsector, for example (Gutierrez et al. 2007).[2] At the same time, increasing labor productivity *within* sectors also matters (World Bank 2013). Indeed, increasing labor productivity within agriculture is likely to be crucial for poverty reduction efforts (Gill, Revenga, and Zeballos 2016).

A key concern is avoiding or mitigating potential trade-offs between prioritizing productivity gains and expanding employment. Across EMDEs, higher productivity growth is often associated with negative changes in employment ratios, a phenomenon referred to as "jobless development" (Ohnsorge, Rogerson, and Xie 2024). In Africa, meanwhile, recent output growth episodes show a divergence between larger, more productive firms, which grow but do not generate equivalent increases in employment, and smaller firms, which absorb labor but see little productivity growth (Diao et al. 2025).

History suggests that once countries have achieved a certain level of development, and with sufficient investment, the infusion and dissemination of modern technologies and business models across borders have often driven productivity improvements that power economic development (World Bank 2024b). Robust foundational infrastructure (including human, physical, and digital capital), an enabling business environment, and the ability to unlock private capital are all important pillars for this. In South Asia and Sub-Saharan Africa in particular, increasing firm size and importing state-of-the-art technologies to support transitions from small-scale agriculture toward modern services and manufacturing could significantly boost labor productivity growth (IMF 2024a; World Bank 2024c).

Governments can play an important role in accelerating labor productivity growth. First, they can help foster adequate competition and facilitate creative destruction, including through effective insolvency regimes and institutional arrangements that promote contestability.[3] Second, they can enhance access to quality education and support the reallocation of workers through upskilling and reskilling. These efforts can also help to unlock the productive potential of women (Maliszewska and Winkler 2024; World

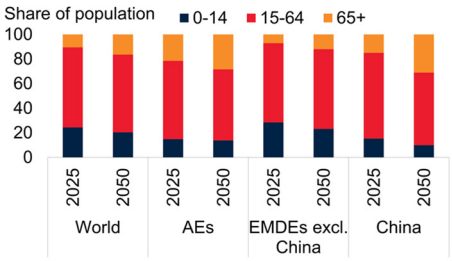
[2] However, in countries where surplus labor—often among the extreme poor—remains engaged in low-productivity activities such as home production, expanding employment in agriculture can still help reduce poverty (Christiaensen and Martin 2018).

[3] Contestability refers to an "environment in which incumbents feel pressure to compete and upgrade because their products and processes could be displaced by technologically sophisticated producers in their own country or from other countries" (World Bank 2024b, xxv). Creative destruction describes the process by which new innovations become embedded in the economy.

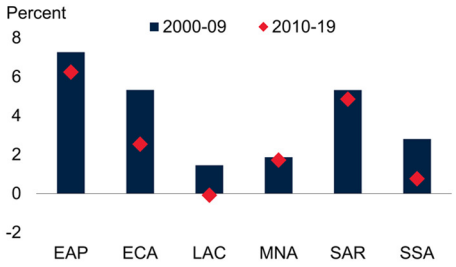
FIGURE 5.1 Complementary employment-related topics by EMDE region

Beyond employment growth itself, there are other important policy considerations that vary by EMDE region. Some have a young population that is growing into working age, while others have an increasingly large share of older people. Among the important issues facing policy makers are the large share of informal employment in EMDEs and the slowdown in labor productivity. EMDE regions facing a jobs challenge also lack a support system for workers who do not find employment.

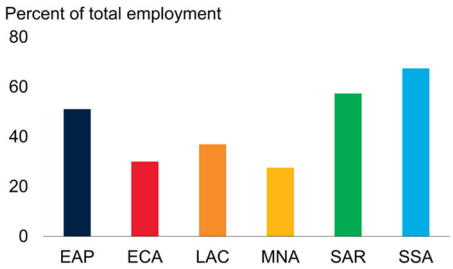
A. Age cohorts in 2025



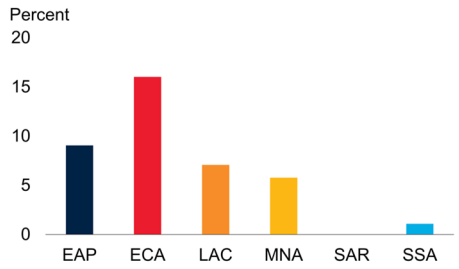
B. Labor productivity growth



C. Share of self-employment



D. Share of unemployed receiving benefits



Sources: International Labour Organization (2024); UN World Population Prospects (2024); WDI (database); WEO (database); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; excl. = excluding; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Stacked bars show the distribution of the population by age cohort for each country group.

B. Productivity is defined as real GDP per worker (at 2017 market prices and exchange rates). Country group aggregates for a given year are calculated using constant 2017 U.S. dollar GDP weights. Data for multiyear spans show the median annual value.

C. Bars show the unweighted average share of self-employed workers in total employment across economies, using the latest available data as of August 2025.

D. Bars show the unweighted average of the share of unemployed individuals receiving unemployment benefits across economies. Latest available data as of August 2025.

Bank 2024c). Third, they can facilitate openness to foreign trade, investment, and talent: this is associated with higher labor productivity growth. Finally, they can introduce measures to address informality. This would likely also benefit overall productivity: informal firms are, on average, less productive (Ohnsorge and Yu 2022).

Labor productivity growth does not automatically result in wage growth. The relationship tends to be strongly positive but is imperfect and uneven (Herman 2020; Stansbury and Summers 2018). If the gains from higher productivity are captured by firms or

shareholders, or result from automation that threatens employment, workers may not benefit. In some cases, governments may seek to intervene.

Supporting wage growth

Governments can also influence wage growth through labor market regulations. For instance, collective bargaining regimes can formalize wage-setting behavior. In some countries, national or local administrations play an active role in this process and engage with unions and employer groups to negotiate wage agreements that are binding within a sector. Separately, countries across different income groups are increasingly implementing minimum wage policies. In EMDEs, these floors on formal wages tend to be higher relative to median wages than in advanced economies (Duval and Loungani 2019).

Minimum wages can improve workers' quality of life, but their effectiveness depends on labor market characteristics. Although often designed to address income inequality or support basic living standards, minimum wages can also create distortions (Gerritsen and Jacobs 2020; MaCurdy 2015). By directly improving an individual's capacity to meet basic needs and attain a degree of financial security, minimum wages can enhance social protection (ILO 2020; Sotomayor 2021). However, the costs and benefits associated with minimum wages depend on several factors, including the degree of informality in an economy, the size and type of firms, the ratio of the minimum wage to the median wage, and adherence to wage laws.[4]

The design of labor market regulations must weigh competing objectives, such as managing inflation, fostering employment, and sustaining overall competitiveness. Policies focused on collective bargaining and minimum wages can be beneficial in reducing poverty in the right circumstances, but their impact on aggregate employment is mixed, with some studies finding negligible effects (Cengiz et al. 2019). Moreover, effective enforcement of labor market regulations, including in relation to wages, is likely to be much more difficult in economies with large informal or rural sectors (Breza and Kaur 2025).

Policy design should consider both implementation risks and the broader macroeconomic consequences of labor market regulations. For instance, rules around wages or other labor market metrics can mute labor market signals, generate wage compression, and inhibit optimal adjustment (Gill, Koettl, and Packard 2013). High minimum wages relative to labor productivity could harm firm profitability and ultimately reduce overall employment levels or push workers into involuntary informality, damaging wider macroeconomic outcomes. Such tensions can be managed. Advanced economies, including Australia, Ireland, and the Netherlands, have delivered moderate wage growth through negotiated wage agreements in combination with minimum wages. These policies were underpinned by consensus-building efforts aimed at maintaining competi-

[4] Some studies document that substantial increases in the minimum wage may lead to higher unemployment and informality and may worsen labor productivity and poverty (Broecke, Forti, and Vandeweyer 2017; Pabon and Del Carpio 2017).

tiveness and containing inflation. In all three cases, this occurred alongside sustained increases in employment and employment ratios.

5.2. Addressing informality

Tackling informality and mitigating its negative effects is important for creating a more productive and efficient labor market and for improving the quality of jobs. Although informality is a pervasive feature of EMDE labor markets, informality estimates are inherently uncertain, and there is substantial variation in definitions and approaches across the academic and policy literature (Ruppert Bulmer 2018). Informality generally refers to economic activity that is market-based and legal but operates beyond the view of public authorities for financial, regulatory, or institutional reasons (Ohnsorge and Yu 2022).

Informal employment is widespread in EMDEs, particularly in lower-income countries, where it represents a large share of total employment. Self-employment, often used as a proxy for informality (as it is easier to measure) accounts for over three-quarters of employment on average in low-income countries (LICs), with higher levels observed in EMDEs in South Asia and Sub-Saharan Africa (figure 5.1.C). Assessments vary, but previous studies estimate that nearly four-fifths of jobs in Sub-Saharan Africa are informal, while nearly 90 percent of workers in South Asia are in the informal sector (IMF 2024a; World Bank 2024c).[5]

Informality has both firm and worker dimensions. It varies considerably across sectors, demographic groups, and economic cycles. In EMDEs, informal workers are predominantly found in the agriculture and services sectors, with informal jobs characterized by their labor-intensive, low-value-added nature and low barriers to entry. Women are overrepresented in informal employment, with more than 90 percent of countries in Sub-Saharan Africa reflecting this trend (ILO 2018; Malta et al. 2019).

Consequences of informality

Pervasive informality has a wide range of negative economic associations. Economies with large informal sectors tend to exhibit low productivity, weak revenue-raising performance, poor governance, heavy-handed regulation, and elevated poverty and inequality. Job quality is substantially lower in countries with a high share of self-employed or informal workers (Hovhannisyan et al. 2025). Informal jobs are often less stable, lack social protections, and provide lower earnings. Average earnings for informal workers tend to be lower, and poverty rates higher, than for formal-sector employees (Quiros-Romero, Alexander, and Ribarsky 2021). High reported levels of self-employment could also mask significant involuntary unemployment or underemployment in many EMDEs. While data are patchy, working-age individuals in developing

[5] Some model estimates suggest that lower, but still large, shares of informality prevail in EMDEs relative to advanced economies. For more details, refer to Ohnsorge and Yu (2022). Other estimates suggest that informality accounts for as much as 90 percent of employment in LICs and 67 percent in lower-middle- and upper-middle-income countries, compared with just 18 percent in high-income countries (ILO 2018).

countries may be engaged in wage work for only 20 to 50 percent of days; furthermore, workers often revert to self-employment when rationed out of the wage market (Breza and Kaur 2025).

A large informal sector is often linked with weaker macroeconomic and social outcomes. Widespread informality correlates with lower per capita incomes, greater poverty, less financial development, limited trade openness, and slower output growth (Ohnsorge and Yu 2022). Relative to formal employment, informality constrains the tax base, limiting government capacity to provide key public services such as health care and education—critical components of human capital development. This underinvestment leads to poorer health outcomes, lower educational attainment, and greater gender inequality.[6] Countries with high informality often experience higher maternal and child mortality rates, reduced access to clean water and sanitation, and limited provision of electricity and energy (Sachs et al. 2020). Inadequate infrastructure—such as poor road networks and limited digital connectivity—further hampers economic activity and formal job creation.

A weak macroeconomic and social environment can also perpetuate the cycle of informality, undermining long-run economic growth and development. Informality is both a consequence and a cause of limited economic and institutional development (Loayza 2018). A large informal sector can undermine formal job creation. Increased competition from informal firms significantly reduces the employment growth rate of formal small- and medium-sized enterprises in developing countries (Amin 2021). Informality can also weaken the transmission of productivity gains to wage improvements for workers.

The instability informal workers face could be exacerbated by global structural trends. For example, informal workers are particularly vulnerable to the impacts of climate change, such as higher temperatures and more intense weather events, which exacerbate their precarious working conditions and contribute to ill health (Dodman et al. 2023). Women are disproportionately affected, as they are overrepresented in informal employment and face additional barriers in education, health, and access to financial services (ILO 2018).

A large informal sector is not without advantages. The informal sector can provide flexibility to both firms and workers (Loayza 2018; Ohnsorge and Yu 2022). Informal employment is more stable and countercyclical, rising as a share of total employment during economic downturns and decreasing during booms. The prevalence of informality in EMDEs means that total employment is less sensitive to recessions relative to advanced economies: rather than moving from wage employment to unemployment during a cyclical downturn, workers in EMDEs often move from formal employment to informal employment (Loungani, Luttini, and Pallan 2025).

[6] For example, refer to Docquier, Müller, and Naval (2017) for evidence on the implications of informality for human capital accumulation, and ILO (2018) for an assessment of the gender dimensions of informality.

Moreover, not all informal jobs are equal. Within the informal sector, the quality of jobs varies. Because the sector is so large, improving the quality of informal jobs may itself be an important policy objective. Some informal roles are also more likely than others to lead to formal-sector employment, acting as a stepping stone of sorts (Danquah, Schotte, and Sen 2021). Additionally, the sheer size of the informal sector in some regions, including Sub-Saharan Africa, makes it a vital source of current employment (IMF 2024a).

Drivers of informality

Understanding the drivers of informality is key to designing effective policies. High informality stems from a combination of structural, policy, and social factors that influence the decisions of firms and workers. These decisions on whether to operate informally may hinge on the trade-off between the costs and benefits of formalization (Ulyssea 2020). Formal jobs often offer labor protections, job security, and lower earnings volatility. Yet they may also come with costs, such as taxes and stricter hours. These costs might make informal employment simpler and more attractive, especially in economies with binding minimum wages or limited formal job opportunities (Gomes, Iachan, and Santos 2020). Workers may prefer informal work or self-employment over some low-skilled formal work for a variety of reasons, including labor supply considerations (such as cultural factors and informal insurance), working conditions (including health and safety concerns), and matching frictions (such as long, expensive, unreliable commutes) (Breza and Kaur 2025).

Firm characteristics shape the channels through which businesses decide whether to remain informal. Costs related to formalization may be relatively larger for small firms, which account for most businesses in Sub-Saharan Africa (IMF 2024a). Some firms, despite being capable of operating formally, choose informality to evade taxes and regulations, thereby increasing profits. For some firms, informality is a survival strategy, as low productivity prevents them from competing in the formal sector (Arias et al. 2010).

Broader economic and institutional structures can significantly influence informality. Welfare programs such as means-tested cash transfers and noncontributory pensions have effectively reduced poverty, improved educational outcomes, and expanded access to health services. However, they may inadvertently discourage formal work by lowering the marginal benefits of formal-sector employment, particularly for low-skilled individuals (Banerjee et al. 2017).[7] High entry costs, including complex registration processes and regulatory burdens, further constrain productive entrepreneurs from formalizing their businesses (refer to, for example, Djankov et al. 2010; Maloney et al. 2025). In addition, financial deepening has been linked to higher formalization rates, underscoring the importance of reducing financial frictions to foster broader participa-

[7] Similarly, unemployment insurance programs can have mixed effects on informality. While they may make formal jobs more attractive by offering income support, they can also encourage beneficiaries to engage in informal work to supplement benefits after qualifying (Gerard and Gonzaga 2021).

tion in the formal economy (Ulyssea 2020). Regulation and enforcement systems can also shape informality (Almeida and Carneiro 2006).

Gender disparities may partly be associated with the high share of women in the informal sector. These disparities are apparent in education, unmet family planning needs, and increased rates of early marriage (Malta et al. 2019). Limited education, traditional gender roles, discrimination, and gender-based legal constraints can restrict women's opportunities to work in the formal sector by diminishing their competitiveness in the formal labor market. In Latin America, empirical evidence suggests that the birth of a first child leads women to reduce their labor supply and gravitate toward more flexible informal-sector employment options (Berniell et al. 2023). These roles often involve lower wages, a lack of social security, greater job instability, and limited career advancement.

Policies to address informality effectively

Addressing informality effectively requires targeted, well-coordinated policies tailored to specific country contexts. Over the past three decades, EMDEs have implemented reforms that reduced tax burdens, improved governance, and expanded access to finance, education, and public services. While such measures have created more favorable conditions for formalization, their effectiveness has varied (Ohnsorge and Yu 2022). Operating formally involves trade-offs for firms: it imposes costs, such as taxes and regulatory compliance, but also grants access to better-functioning credit markets and cheaper capital (D'Erasmo and Moscoso Boedo 2012).[8] Informality is a reality in many EMDEs and should be addressed, but not at any cost (IMF 2024a; Loayza 2018). Heavy-handed policy interventions could lead to job losses, increased poverty, and the reversion of smaller formal firms to informal operations. In the short run, eliminating informality may be unattainable for many countries, especially LICs.

Efforts to address informality should strike a balance, aiming to increase the attractiveness of formal-sector participation, rather than just punishing informality (Loayza 2018). A better-functioning formal sector, with enhanced firm growth prospects and better labor market intermediation, would reduce the barriers to firm and worker participation. Enforcement strategies that raise the costs of informality, particularly for larger firms, have shown potential in reallocating resources toward productive formal enterprises. This can, in turn, promote capital accumulation and enhance investments in human capital (D'Erasmo and Moscoso Boedo 2012; Ulyssea 2018). However, such policing of the informal sector could lead to higher aggregate unemployment, especially in regions where informal jobs act as safety nets. In addition, informality remains a significant source of employment for many individuals, especially for women, who may face barriers to accessing formal employment (Quiros-Romero, Alexander, and Ribarsky 2021).

[8] As an example of how firms' formalization decisions can hinge on policy design, Rocha, Ulyssea, and Rachter (2018) document that reducing firm entry costs to the formal sector showed limited success as a standalone intervention in Brazil: formalization only increased when paired with tax reductions.

Comprehensive strategies are crucial for sustaining reductions in informality, fostering inclusive growth, and improving job quality. Physical and digital infrastructure are important enablers, as is a dynamic, skilled workforce. Effective measures often include streamlining regulations, strengthening tax systems, and enhancing public service delivery, particularly when combined with initiatives like public awareness campaigns, business development programs, and expanded access to financial services (Ohnsorge and Yu 2022). Financial deepening has played a pivotal role by reducing barriers to credit, enabling firms to invest in higher-productivity activities, and driving declines in informality over recent decades. In regions like Sub-Saharan Africa, where informality is high and the working-age population is growing fast, expanding formal-sector opportunities is critical to economic development. Facilitating transitions into the formal sector—through improved access to finance, targeted training programs, and simplified formalization processes—can deliver macroeconomic gains and address challenges like poverty, job quality, and inclusive growth (Hovhannisyan et al. 2025; IMF 2024a).

5.3 Ensuring adequate working conditions and calibrating social support

Governments often intervene in labor markets with a view to ensuring the rights and living standards of workers and other members of the population are protected. Within the workplace, laws and regulations can place obligations on firms to uphold minimum standards. Social protection policies can be broader, offering financial support, training, and incentives. They may target those on low incomes, the unemployed, or other specific groups within societies. Support can be temporary, cyclical, or more structural. Objectives may be multifaceted: helping individuals support themselves and their families, supporting transitions between jobs or sectors, or encouraging individuals into work. Working standards and social support can both influence firms' and workers' employment-related decisions.

The extent to which labor-related standards and protections apply to workers in the informal sector can vary. This is not just an issue for EMDEs: advanced economies are also grappling with how to integrate workers' rights and social protections for individuals involved in the gig economy, for example. Informal work can bring flexibility and other advantages for both workers and firms, but by nature, it is harder for governments to uphold standards for, or extend and calibrate protections to, workers in the informal economy.

The roles of labor and social protection policies

Governments should ensure that fundamental rights for all workers are upheld (World Bank 2012). Interventions can relate to employer responsibilities and minimum standards around working conditions, such as workplace safety, working hours, and dismissal policies. Such policies are often implemented via regulation. Yet overregulation can impose undue costs on firms and deter job creation. Policy makers should appropri-

ately protect workers' rights while not impeding employment opportunities (Kuddo, Robalino, and Weber 2015).

Social protection generally aims to protect workers from a wide range of socioeconomic risks and adverse shocks affecting households. In the labor market, social protection policies include laws and regulations promoting job security and workers' rights, as well as supporting the unemployed with social insurance and social assistance programs (Duval and Loungani 2019). These initiatives are often delivered alongside passive and active labor market programs aimed at increasing employment. Governments generally play a key role in providing social protection in the absence of robust private insurance markets and adequate incentives for self-insurance.

By providing a reliable safety net, social protection interventions can enable households to expand their employment options and improve job quality. Comprehensive social protection systems can enhance productivity, skills development, and labor market participation, all of which are critical drivers of inclusive economic growth and rising real wages (ILO 2017). Such programs can also support structural transformation by enabling workers to transition into more productive, higher-wage sectors (Kangasniemi, Knowles, and Karfakis 2020). The flexibility and support provided by social protection systems can also make it easier for disadvantaged household members, including women, to access work.

Social protection policies can be effective in reducing poverty and lowering inequality. Household survey evidence suggests that over one-third of the people globally who escape absolute poverty do so with the help of social safety nets (World Bank 2018). However, their effectiveness varies across developing countries, partly due to differing spending levels relative to the scale of poverty, along with inefficient targeting. Social assistance programs like conditional cash transfers and public works schemes have proven effective at reducing poverty and income insecurity in EMDEs. Social insurance, meanwhile, can protect workers against the income shocks that often push them into unstable, low-quality jobs during crises. These programs, however, have been less effective in boosting employment.[9]

During severe economic shocks, social protection policies can play a crucial role in supporting the most vulnerable. Many EMDEs are susceptible to global and domestic economic and financial crises, which can disrupt labor markets and impact income flows in both formal and informal sectors (Colombo, Menna, and Tirelli 2019; Khamis et al. 2021). Even short-term labor market disruptions can have lasting negative effects on long-run incomes—a particular concern for young people (Schwandt and von Wachter 2019).

Having well-designed systems in place can enable countries to respond swiftly and ensure timely support to individuals, employment, and the wider economy. EMDEs

[9] For evidence on the effectiveness of social assistance programs, refer to, for example, Bastagli et al. (2019), Brollo et al. (2024), and ILO (2021).

with robust social protection mechanisms fared better during the global financial crisis in the late-2000s (OECD 2010). After the 1997 Asian financial crisis, tailored public employment programs boosted employment in East Asia (Mitra and Ranjan 2011). More recently, the pandemic-induced recession of 2020 underscored the importance of preparedness, with estimates indicating that over 250 million jobs were lost globally—four times the losses seen during the global financial crisis (ILO 2020).

Designing effective social protection policies

Large social protection coverage gaps exist in developing economies and are often associated with significant underinvestment. Many working-age people in EMDEs either lack access to contributory or noncontributory social protection programs or receive limited support. This is often the case for people in part-time or temporary employment, or those who are self-employed. Globally, countries allocate an average 4.8 percent of their GDP to non-health social expenditure for working-age people, but in LICs and lower-middle-income countries, these figured are often around 1 percent of GDP (ILO 2024).[10] LICs, particularly in Africa, where current coverage gaps are highest and significant working-age population growth is projected, will likely see pressures continue to grow.

The use of labor market protection mechanisms varies across countries. Common approaches in EMDEs include mandatory severance pay and regulations that restrict firms' ability to fire workers in order to limit job displacement (Freeman 2009). However, these protections often fail to cover the significant portion of EMDE workers employed outside the formal sector. The existence of unemployment benefit programs is correlated with a country's development level (Kuddo 2012). Even in OECD countries, less than one in three unemployed people receive benefits (ILO 2021). In most EMDE regions, this figure is below 10 percent (figure 5.1.D).

Policy makers have a broad set of tools available to protect labor market participants. These include employment protection legislation, which often features mandatory severance pay under certain conditions, and may also incorporate nonwage benefits such as maternity leave, vacation, and insurance that covers life-cycle risks such as longevity, health, and disability (Freeman 2009). Unemployment insurance programs may be contributory, requiring workers to allocate part of their salary to mandatory insurance and savings in case of job loss. Noncontributory social assistance can provide support through cash or in-kind transfer programs. Statutory minimum wages also serve as a social protection tool, aiming to safeguard incomes to help alleviate poverty.

Targeted social protection, in conjunction with other labor policies, is likely to be necessary to support workforce adaptation to structural changes. Technological developments such as artificial intelligence, as well as climate change adaptation and the

[10] Non-health social expenditure includes maternity, unemployment, employment injury, disability, and survivor benefits, as well as general social assistance.

energy transition, will likely have disparate impacts on employment growth and living standards. These may even be positive on aggregate, especially in economies with flexible labor markets. However, such transformations often come with unevenly distributed costs and benefits. While structural changes can create substantial job opportunities, these opportunities may arise in different occupations, sectors, and locations from those in which workers vulnerable to the changes are employed. Facilitating these workers' transition into new roles may therefore require training, skills development, employment services, and, in some cases, temporary financial support.[11]

Amid scarce resources and capacity constraints, labor market policies in EMDEs will inevitably be shaped by needs, institutional development, and implementation capacity. The high proportion of EMDE workers in informal employment, as well as low administrative capacity at both firm and government levels, constrains the ability to fund unemployment insurance via payroll deductions (OECD 2011; Pagés, Rigolini, and Robalino 2013). Accordingly, noncontributory unemployment benefits and broader social welfare programs carry greater weight in EMDEs, although limited by the availability of fiscal resources. Delivering unemployment benefits alongside active labor market policies—such as upskilling, training, job-search assistance, and job matching—can help promote employment (Duval and Loungani 2019).

Because EMDEs face fiscal and institutional constraints, expanded social protection coverage may need to prioritize vulnerable or underserved groups. Specific priorities will vary based on a country's starting point and vulnerabilities. Priority groups might include women, young people, elderly workers, those with low skills, the poor, or members of the labor force with disabilities. Eligibility for social insurance benefits often depends on an individual's past work history, contributions, and earnings. This can potentially disadvantage certain groups, entrenching the challenges they face. One-size-fits-all approaches, which are often the default, will likely be inadequate in addressing access barriers faced by these groups (Ohnsorge and Yu 2022). Policy makers should aim to develop the necessary capacities to deliver well-targeted social protection.

Promoting competition, including competition for jobs, can help generate economic dynamism, and some forms of social protection may impede labor mobility and participation (Gill, Koettl, and Packard 2013). The costs and benefits of social and employment policies should be weighed carefully. In advanced economies, some evidence suggests that employment growth has been higher—and unemployment lower—in jurisdictions with lower social and labor protections (Garibaldi and Mauro 2000). Flexibility within labor markets remains crucial, particularly for EMDEs. This does not mean that labor protections should be ignored; rather, it highlights the

[11] For discussion on structural changes and productivity growth, refer to, for example McMillan, Rodrik, and Verduzco-Gallo (2014). On the distribution of costs and benefits associated with such structural changes, refer to Grey (1995) and IMF (2024b). Hallegatte et al. (2017) and Jain, Tewathia, and Barik (2023) note that weather-related and natural disasters disproportionately affect poor households. On the difference between vulnerable sectors and new sectoral opportunities relating to the energy transition, and the merits of public support, refer to Bluedorn et al. (2023) and Montt et al. (2018).

importance of considering interactions among different employment-related priorities, particularly the balance between social equity and labor market efficiency.

Employment- and unemployment-related protections can create distortions in labor markets. Employment protection reduces risks for incumbent workers, but such tools can impose additional costs on employers, potentially weighing on labor demand (Kuddo, Robalino, and Weber 2015). Firms may seek to use temporary or short-term workers to circumvent protection scheme obligations. Rigid legislation around severance pay and employee dismissal can also undermine labor market flexibility (Freeman 2009). Meanwhile, unemployment benefits can support individuals in undertaking job-search activities and could improve the employment-matching process, while also supporting individuals' welfare. However, such transfers could plausibly have unintended effects, creating disincentives to work or encouraging individuals to find informal-sector work while still maintaining access to benefits (OECD 2011).

Policy makers should therefore seek to avoid "two cliffs" in labor market interventions. On the one hand, they should avoid distortionary interventions that hinder job creation; on the other, they should also ensure adequate mechanisms for protection and worker representation, particularly the most vulnerable (World Bank 2013). There are also cyclical versus structural considerations around employment-related protections: policies that help workers retain jobs are more effective in smoothing cyclical economic changes, but such policies can obstruct structural reallocation that might have long-run benefits.

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Jobs are the most effective way to build self-sufficient economies, reduce humanitarian need, and create demand for goods.

Ajay Banga (2025)
President
World Bank Group

CHAPTER 6

Conclusion

Jobs lie at the heart of individual well-being, national development, and global stability. For individuals, they provide income to support their families, invest in education and health, and plan for a better future, while also offering a source of dignity, purpose, and social connection. Global surveys document that employment is among peoples' top concerns. For countries, productive employment is the indispensable link between economic growth and rising living standards: without enough jobs, growth is unlikely to deliver lasting shared prosperity.

A jobs challenge of historic proportions is facing the developing world. Over the next decade, through 2035, the largest youth cohort the world will ever likely see across emerging market and developing economies (EMDEs) will reach working age. These young people are approaching adulthood against a backdrop of weak growth, limited institutional capacity in many economies, elevated uncertainty, and shifting economic structures. Looking out beyond the next decade, the youth surge in Sub-Saharan Africa alone will be unprecedented—larger than any increase ever recorded in an EMDE region over a comparable 25-year period—and will make the region the single largest contributor to global working-age population growth.

While the jobs challenge may seem daunting, the opportunity is enormous. When countries with large numbers of young people reaching working age succeed in expanding employment, they can unlock a powerful demographic dividend, strengthen social cohesion, and lay the foundation for shared prosperity. The next generation in EMDEs has huge potential and could help drive economic growth and development.

Creating sufficient employment opportunities for the historic number of young people approaching working age is a defining global challenge that will shape development outcomes over the next decade and beyond. Historically, many countries with large youth cohorts relative to their working-age populations have struggled to create jobs at the same rate. Today, some of the regions facing the greatest jobs challenge must confront it in a particularly difficult economic environment, compounded by the overlapping global crises of recent years. This is why the World Bank Group has made job creation central to its strategy, recognizing that success is critical not only for poverty reduction and shared prosperity but also for global stability.

Note: This chapter was prepared by Tommy Chrimes, M. Ayhan Kose, and Kersten Stamm. The prefacing quote is from Banga, A. 2025. "Development is How we Compete, Grow, and Stay Secure." *Voices* (blog). April 3. https://blogs.worldbank.org/en/voices/development-is-how-we-compete-grow-and-stay-secure.

Addressing the jobs challenge is more difficult today because of the combination of domestic fragilities and global headwinds that countries face. Many of the most-affected economies are poorer, more indebted, and have weaker fiscal positions than earlier generations of EMDEs at similar stages of demographic transition. Persistent macroeconomic imbalances, limited institutional capacity, and the scarring effects of overlapping crises since the COVID-19 pandemic have further constrained policy space. At the same time, key drivers of global growth have weakened, and the external environment has become less supportive, making traditional growth strategies—such as export-led manufacturing—harder to execute. Structural and technological shifts, including the rise of artificial intelligence (AI), and the need to address climate change and the energy transition, create additional uncertainty. There is a risk that employment growth will lag even when output expands, particularly in low-income countries where the link between output and job creation is already relatively weak.

There is no magic bullet for addressing the jobs challenge. Success will depend on sustained policy efforts tailored to specific local circumstances. Policy makers must strive to reinvigorate sustained economic growth, underpinned by higher investment growth. Comprehensive strategies anchored around foundational infrastructure (including physical, digital, human, and natural capital), a business-enabling environment (underpinned by macroeconomic stability, institutional credibility, and well-calibrated, consistently implemented regulations), and private capital mobilization. The public sector must play an enabling role, through direct investment, co-financing, and by setting clear rules and incentives that foster private-sector-led growth. In parallel to job creation efforts, policy makers will also need to focus on enhancing the quality of jobs. Policies relating to labor markets should be embedded in coherent, sustainable development strategies. Finally, strong domestic ownership—by country authorities and societies alike—will be essential to convert these strategies into lasting results.

The global community has a vital role in helping EMDEs meet the jobs challenge. Maintaining an open, predictable, and rules-based international economic order can boost confidence among firms and investors. Regional trade agreements are playing an increasingly important role in supporting trade. Services trade has expanded, and new areas of trade dynamism, including in relation to artificial intelligence (AI), offer potential. Timely, coordinated resolution of unsustainable debt in EMDEs can help unlock fiscal space and catalyze the job-creating investments required to meet the global jobs challenge. In addition, countries with aging populations and those with growing workforces share an interest in closer cooperation, including to facilitate legal and well-managed cross-border labor mobility to address global labor imbalances.

International financial institutions and development partners can provide concessional finance, capacity building, and analytical support to help countries design effective policies, strengthen physical, digital, human, and natural capital, and advance priorities such as the energy transition. They can also improve employment data, deploy diagnostic tools, and share lessons across countries to help policy makers monitor progress and adapt strategies. Close coordination among multilateral, bilateral, and regional partners is essential to maximize impact and keep both the quantity and quality of jobs at the center of global development strategies.

The World Bank Group is making jobs the organizing focus of its work. Tailored country-level advice, including through new Country Growth and Jobs Reports, can help policy makers diagnose and address their own jobs challenge. The Mission 300 initiative aims to connect 300 million people in Sub-Saharan Africa to electricity by 2030, recognizing the role that reliable energy provision can play in underpinning job creation and poverty reduction. AgriConnect seeks to transform smallholder farming, including by leveraging small-AI, to bolster prosperity, enhance food security, and capitalize on the potential of agribusiness. The Private Sector Investment Lab is a collaborative venture to mobilize private capital for development by mitigating risks for private sector investors and fostering environments that support the development of bankable projects. The Joint Capital Markets Program pairs theory and practical demonstration to mobilize private sector financing. These are just some of the initiatives underway. A new scorecard helps measure progress across the World Bank Group's operations.

The evaluation of policies that foster both employment growth and job quality, including those that address informality, female labor force participation, and social protection gaps, is important. Approaches should adapt and respond to emerging developments and evidence about what works. Developing practical country-level solutions—supported by capacity development, detailed consideration of regional and national situations, and the sharing of global lessons—will be key to translating insights from analytical work into actionable strategies that deliver better employment outcomes at scale. The World Bank Group's LEADS initiative—Learn. Adapt. Scale.—helps equip development professionals and governments to adjust in real time and expand what works. Together, domestic and global interventions can create the conditions for large-scale job creation and transform today's demographic challenge into a powerful engine of development.

Much remains uncertain about how the jobs challenge will evolve over the next decade and beyond, underscoring the need for deeper analysis and stronger evidence. Future work should prioritize improving the availability of granular, timely, and comparable labor market data—disaggregated by sector, firm, gender, and age—to better diagnose country-specific challenges and monitor progress, particularly in the most vulnerable countries. Continued analytical work is also needed to understand how structural and technological shifts, including the rise of AI and the energy transition, will reshape labor demand and the skills required in diverse EMDE contexts.

The global jobs challenge is daunting, but it is not destiny. With purposeful policy action, countries can turn this demographic wave into a powerful driver of growth and opportunity. Jobs will remain central to people's paths to better living standards. Creating sufficient job opportunities for large numbers of young people reaching working age, and for the wider working-age population, is critical for advancing development and raising living standards. The 1.2 billion young people reaching working age over the next decade, better educated than previous cohorts, brim with potential. With the right mix of domestic reforms, international support, and sustained commitment, actions taken over the next few years can create a turning point, transforming today's challenge into a new era of shared global prosperity.

APPENDIXES

APPENDIX A Employment growth episodes: Lessons from country cases

Appendix A.1 Australia (1994–2008)[1]

Australia experienced an employment growth episode alongside a period of extended economic expansion. Private sector participation in foundational infrastructure investment and improved schooling outcomes, structural reforms to promote macroeconomic stability and a suite of updates to labor market policies helped underpin this employment growth episode. An expansion of the mandatory retirement system created a pool of domestic savings.

Jobs and labor market performance. Between 1994 and 2008, Australia experienced an employment acceleration episode, with the employment-to-population ratio rising from 43.6 percent in 1993 to 50.4 percent in 2008 (figure A.1.A). The average annual growth rate in total employment was 2.3 percent during this period, almost 1 percentage point higher than the periods on either side of the employment growth episode (figure A.1.B). The growth rate of the total working-age population was similar in and out of the episode, averaging 1.3 percent and 1.4 percent per annum, respectively.[2] The working-age share of the population increased modestly during the episode years, and peaked in 2009 (Australian Government 2018; Gruen and Stevens 2000).

The overall labor force participation rate also rose, driven by a continued increase in female participation, which more than offset a decline in the rate among males (figure A.1.C; Banerji et al. 2017; Wilkins and Wooden 2014). In contrast to the declines seen in other years, labor force participation among young people grew, albeit marginally. The unemployment rate steadily declined through the employment growth period, from almost 11 percent in 1993 to just over 4 percent in 2008, as growth in employment outstripped the growth in the labor force.[3] Employment in both the industrial and services sectors grew at a faster clip during the episode than in other years (figure A.1.D). Real wages grew 1.5 percent per annum on average during the episode, compared to 0.9 percent outside it.

Economic context. The employment growth episode followed a deep recession (in 1990–91) and a marked rise in the unemployment rate. The subsequent years coincided with an extended expansion, characterized by robust economic growth of 3.7 percent per

[1] *Note*: This section was prepared by Samuel Hill and Kate McKinnon.

[2] Data (also for equivalent numbers in subsequent case studies) from UN World Population Prospects (2024).

[3] Data (also for equivalent numbers in subsequent case studies) from OECD Infra-annual labor statistics.

annum, compared to 2.8 percent in other years (figure A.1.E). The 1990s have sometimes been referred to as a period of economic "miracle" for Australia (Bean 2000). At 6.6 percent, the annual growth rate of investment was over three times that seen outside the period. Consumption also expanded faster during the episode than in other years, whereas exports and total factor productivity (TFP) growth were similar.

Policy drivers. Infrastructure and human capital enhancements helped lay the groundwork for Australia's sustained employment growth as well as productivity gains. Although public infrastructure spending declined, this was more than offset by rising private investment amid efforts to improve competition. As a result, total infrastructure investment rose to almost 4.5 percent of GDP in 2006, about 50 percent above its 1987–2000 average (McInerney, Nadarajah, and Perkins 2007). In addition to active labor market policies, education reforms in the 1980s and 1990s saw large improvements in both secondary education completion and higher education enrollment, supporting human capital (Banks 2010).

Reforms to support an enabling environment for business helped underpin Australia's sustained employment growth episode. Macroeconomic stability was bolstered by fiscal and monetary policy settings in the mid-1990s and by reform of the monetary policy framework. Immediately prior to the episode, the primary fiscal balance fell to -2.9 percent of GDP in 1993. However, a sustained fiscal consolidation effort returned the balance to surplus in 1996, keeping it positive until around the time of the 2007–09 global financial crisis. Concurrently, interest rates were cut markedly, and the monetary policy framework was strengthened.

The central bank adopted an inflation-targeting framework in 1993, ushering in an era of contained inflation, which averaged 2.8 percent annually during the employment growth episode years (figure A.1.F). The reform enhanced macroeconomic stability and helped Australia weather external shocks, such as the 1997 Asian financial crisis (Debelle 2018; Gruen and Stevens 2000). The strong link between business cycles and employment in Australia underscores the crucial role of macroeconomic policy in avoiding severe downturns that can harm the labor market (Dawkins 2000).

The employment growth episode took root amid ongoing broad-based labor market policy reforms. These efforts were part of a broader structural reform agenda aimed at boosting productivity and living standards while promoting international competitiveness amid increasing globalization (Banks 2011).[4] The labor reforms addressed wage setting, employment conditions, active labor market programs, and social security and taxation.

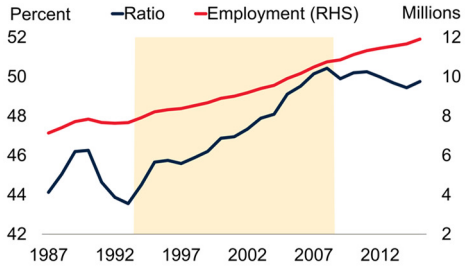
Initiated in the 1980s and subsequently deepened during the employment growth episode, these reforms improved wage flexibility and better aligned wages with produc-

[4] The 1980s and 1990s marked a period of extensive liberalization and deregulation in Australia, encompassing the removal of currency controls and capital account restrictions; a reduction in international trade barriers; the dismantling of barriers to entry across domestic sectors, including telecommunications and aviation; and the privatization of government-owned enterprises (Douglas 2014).

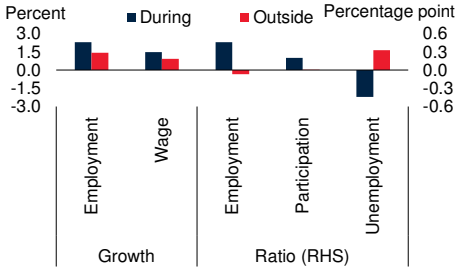
FIGURE A.1 Employment growth episode in Australia

Australia experienced an employment growth episode alongside a period of extended economic expansion. Private sector participation in foundational infrastructure investment and improved schooling outcomes, structural reforms to promote macroeconomic stability and a suite of updates to labor market policies helped underpin this employment growth episode. An expansion of the mandatory retirement system created a pool of domestic savings.

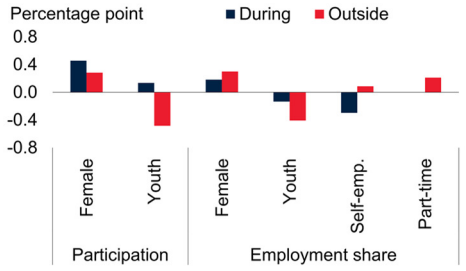
A. Employment in Australia



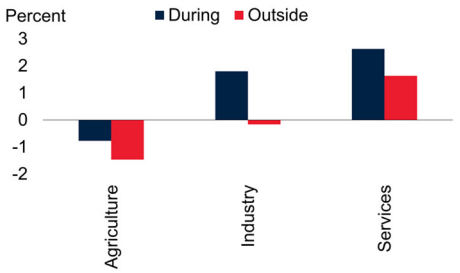
B. Labor market metrics in Australia



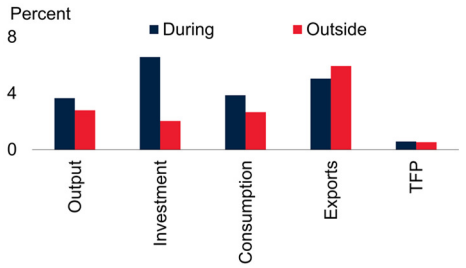
C. Labor force structure in Australia



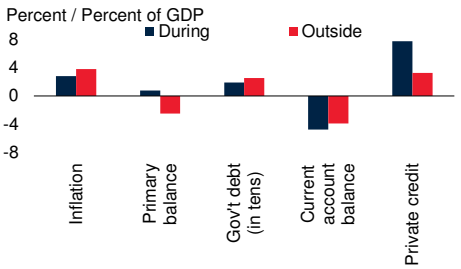
D. Employment growth in Australia, by sector



E. Output and productivity growth in Australia



F. Macroeconomic conditions in Australia



Sources: Feenstra, Inklaar, and Timmer (2015); Haver Analytics; ILOSTAT (database); WEO (database); Organisation for Economic Co-operation and Development; WDI (database); World Bank.

Note: RHS = right-hand scale; TFP = total factor productivity. Employment here covers individuals aged 15+. Employment ratio is employment to total population.

A. Shaded area indicates the employment growth episode.

B.–F. Bars show annual averages of the respective variables during both episode and non-episode periods. Episode years ("During") cover the full duration of the episode. Non-episode years ("Outside") include seven years before and after the episode. Years included in "during" and "outside" periods vary based on data availability.

B.C. Employment ratio, participation rate, unemployment rate, and employment shares refer to annual averages of changes in these variables.

B. Wages are adjusted for inflation.

C. Youth is defined as individuals aged 15 to 24.

F. Inflation is measured as the percent change in CPI; private credit is measured by its real growth rate in percent. Primary balance, government debt, and current account balance are all expressed as a percent of GDP.

tivity growth. The Prices and Incomes Accord—an agreement between the government and unions covering wages and social assistance—aligned minimum wage increases with the cost of living in 1983 (Dawkins 2000).[5] Subsequently, mandatory wage increases were reduced and greater flexibility in negotiating employment conditions was introduced. In 1987, earnings indexation to inflation was superseded by basic wage increases linked to productivity improvements. In 1991, collective bargaining at the firm level was introduced, while minimum standards related to wages and working conditions were maintained.[6] The Workplace Relations Act of 1996 further decentralized wage setting by enabling direct agreements between employers and individual employees. These reforms successfully reduced unemployment and boosted GDP (Productivity Commission 2007).

The scale, scope, and delivery of active labor market policies also evolved significantly throughout the years of sustained and strong employment growth. Following the early 1990s recession, the 1994 Working Nation program was introduced to expand assistance, with a focus on the long-term unemployed.[7]

A key reform was the overhaul of the government's employment services delivery model in 1998, with the implementation of the Job Network initiative. This reform resulted in a move away from a dominant public provider of employment services to the selection of both public and private providers through a competitive bidding process. The primary goal was to enhance the employment prospects of the unemployed by improving the quality of assistance and better targeting support.

Over the 1990s, labor market policy came to be viewed more holistically, encompassing social security and tax measures. In the decade preceding the employment growth episode, disincentives to work had been exacerbated by the high ratio of unemployment benefits to the minimum wage and steep effective marginal income tax rates (Dawkins 2000). Accordingly, the proportion of working-age Australians receiving income support peaked at 25 percent in 1996 (Arthur 2021). To mitigate welfare dependency, policy measures reduced tax burdens for low- and middle-income families and increased the onus on the unemployed to qualify for unemployment benefits by fulfilling a set of "mutual obligations." These could include volunteer or part-time work and study, in addition to job search activities (Borland 2011; OECD 2012).

Alongside wider business-enabling reforms that also helped unlock private investment, some specific policy changes supported private capital mobilization. Notably, superannuation reforms in 1992 saw mandatory employee contributions to retirement savings grow as a share of wages, tripling to 9 percent over the decade to 2002 (Gruen and Soding 2011). This created a large pool of long-term domestic capital (Berger-Thomson, Breusch, and Lilley 2018).

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[5] The Prices and Incomes Accord was in place from 1983 to 1996 and encompassed eight different accords.

[6] Legally enforceable wages and employment conditions, known in Australia as "awards," were historically determined through collective bargaining at the industry level.

[7] A key component of this policy was job placement facilitated by wage subsidies to employers. Although the program was only in place for two years, evidence suggests that Working Nation had some success in reducing unemployment (Junankar and Kapuscinski 1998).

Appendix A.2 Chile (1979–92)[8]

Chile's episode of sustained and strong employment growth did not follow a period of strong working-age population growth, but it came after a period of economic instability. Nevertheless, the episode demonstrates the importance of foundational infrastructure, including human capital, establishing macroeconomic credibility to support economic progress and increases in employment, and stable financial markets to mobilize private capital.

Jobs and labor market performance. Chile experienced an episode of strong and sustained employment growth between 1979 and 1992. It should be noted that this period overlapped with a military administration in Chile, during which there was significant political oppression. During this episode, the employment-to-population ratio increased from 26.6 percent in 1979 to 33.6 percent in 1992 (figure A.2.A). Employment growth, which averaged 1.9 percent during other years, rose to 3.3 percent during the employment growth episode. Working-age population growth had experienced a gradual slowdown prior to the episode, and continued to decline during the episode, averaging 1.9 percent during this period. The unemployment rate declined from 12 percent in 1986 to 6.5 percent in 1992.

During the episode, the economy experienced an increase in the labor force participation rate and lower real wage growth relative to other years (figure A.2.B). Female labor force participation increased more significantly during the years of strong and sustained employment growth compared to other years. The youth labor force participation rate declined during the episode, but less than in other years (figure A.2.C). The industrial sector emerged as the main driver of the episode, with an annual average employment growth of 8.1 percent surpassing by 7.3 percentage points the growth rate in other years (figure A.2.D).

Economic context. The run-up to the sustained employment growth episode was characterized by government efforts to stabilize the economy, in the context of significant imbalances that had developed over the preceding decade. These efforts could not immediately establish macroeconomic stability and could not avert the debt crisis, which crystallized in 1982 (Corbo, Hernández, and Parro 2005; Edwards 1986). However, these reform efforts did help set the foundations for stability and economic acceleration. Following an acute recession in 1975, Chile experienced a period of strong economic performance, with real GDP growing at an average of 6.8 percent annually between 1976 and 1981, and inflation declining dramatically—from a global high of 600 percent in 1973 to 9 percent by 1981. Fiscal balances were consistently in surplus, and substantial private capital inflows supported this growth.

An appreciated real exchange rate, a high dependence on external financing, and vulnerabilities in the financial sector, with undercapitalized banks, were important weaknesses when external conditions deteriorated in the early 1980s. Foreign capital inflows came to a halt in 1982, triggering a balance of payments and banking crises.

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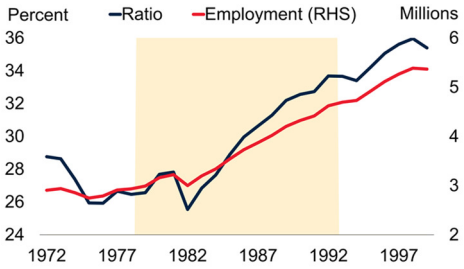
[8] *Note*: This section was prepared by Jiwon Lee and Emiliano Luttini.

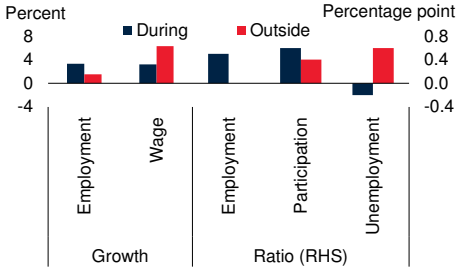
FIGURE A.2 Employment growth episode in Chile

Chile's employment growth episode saw higher employment growth, employment-to-population ratios, and labor force participation rates, along with lower unemployment than outside the period. Female participation rose more, while youth participation rates declined less during the episode. Industry was the sector driving the episode. Output, investment, and TFP growth experienced more dynamism, and macroeconomic stability was enhanced during the episode.

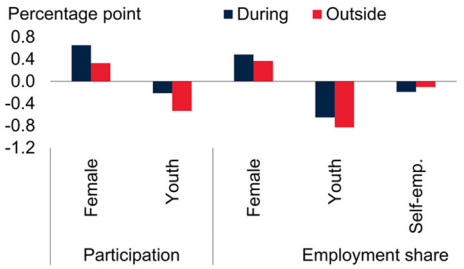
A. Employment in Chile



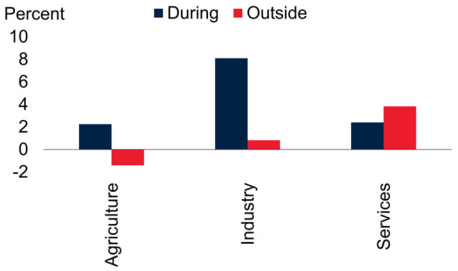
B. Labor market metrics in Chile



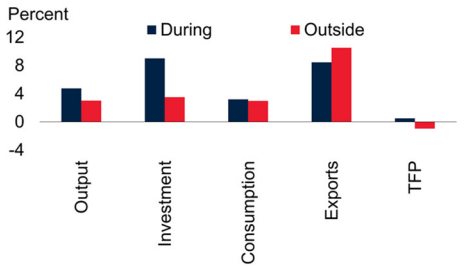
C. Labor force structure in Chile



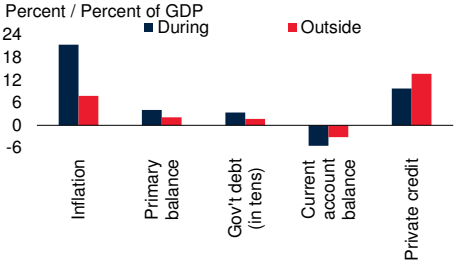
D. Employment growth in Chile, by sector



E. Output and productivity growth in Chile



F. Macroeconomic conditions in Chile



Sources: Central Bank of Chile; Feenstra, Inklaar, and Timmer (2015); Haver Analytics; ILOSTAT (database); WEO (database); Organisation for Economic Co-operation and Development; WDI (database); World Bank.

Note: RHS = right-hand scale; TFP = total factor productivity. Employment here covers individuals aged 15+. Employment ratio is employment to total population.

B.–F. Bars show annual averages of the respective variables during both episode and non-episode periods. Episode years ("During") cover the full duration of the episode. Non-episode years ("Outside") include seven years before and after the episode. Except for employment growth and employment ratio, years included in "during" and "outside" periods vary based on data availability.

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B.C. Employment ratio, participation rate, unemployment rate, and employment shares refer to annual averages of changes in these variables.

B. Wages are adjusted for inflation.

C. Youth is defined as individuals aged 15 to 24.

F. Inflation is measured as the percent change in CPI; private credit is measured by its real growth rate in percent. Primary balance, government debt, and current account balance are all expressed as a percent of GDP.

Cumulative real GDP contracted by 16.4 percent over 1982–83, marking the worst recession the country had experienced up to that point; unemployment also surged at the time.

The policies implemented to stabilize the economy during these turbulent years, alongside other structural reforms, helped underpin remarkable economic progress in the 1980s. After the debt crisis, the economy saw an extended period of economic growth, with GDP growing at an average annual rate of 4.8 percent during the employment growth episode, compared to 3.6 percent in other years (figure A.2.E). Investment exhibited greater dynamism during the episode, while consumption and exports were slightly higher relative to other years.

Policy drivers. The employment growth episode began after a comprehensive macroeconomic stabilization plan implemented during the 1970s, with reforms to bolster stability and improve the business environment continuing through subsequent years. These market-oriented reforms have been described as "deep and daring" (Edwards 1998). In 1974, the government introduced an exacting fiscal package aimed at establishing macroeconomic credibility. This package included cuts in public investment and subsidies and a freeze on wages, which led to a 4 percent primary budget surplus by 1976. The fiscal framework was strengthened in 1980 when a new constitution granted the executive branch exclusive authority to allocate fiscal spending.

Fiscal reforms occurred alongside Chile's transition from high inflation in the 1970s to a moderate-inflation environment in the 1980s. In 1989, the central bank was granted autonomous status, and in 1991, an inflation-targeting framework was established. These improvements in policy credibility contributed to the strong economic and employment growth seen over this period (Corbo, Hernández, and Parro 2005; De Gregorio 2004). Inflation, the government primary balance, and external debt exhibited better performance after the period because of the reforms implemented during the episode (figure A.2.F).

Over the 1970s, sweeping changes were introduced in the labor market.[9] The regulatory landscape before the reforms was characterized by a unionized labor market in which the replacement of striking workers was prohibited, and a "just cause" was required to dismiss workers. Controversial reforms ended the "just cause" provision, and businesses' reasons for terminating employment were thereafter accepted. In 1979, the government introduced a new labor code that formalized labor relations. Union membership became voluntary, and the right to strike was restricted. Employers were granted the ability to replace striking workers from the first day of a strike, and severance payments were capped at five months' wages, reducing the financial burden and uncertainty associated with dismissing workers.

From 1980, firms were allowed to outsource their operations without constraint. The social implications of these measures remain the subject of debate. However, by the mid-

[9] For discussion of the Chilean labor market reforms, refer to Campero (2004), Clavijo (1995), and Lima and Paredes (2007).

1980s the economic effects of these policies had arguably supported an expansion of output in relatively labor-intensive sectors and encouraged the use of more labor in the production process (Kochhar et al. 1996).[10]

As well as fostering competition and improving the business environment, part of the rationale for this wide-ranging set of market-oriented reforms was to focus government efforts on the provision of public goods through building up institutions and developing human capital (Corbo, Hernández, and Parro 2005).

Alongside improvements in the business environment, deepening of the financial sector and opening up to trade also helped Chile to boost private capital mobilization. Liberalization of the trade regime and the banking sector supported higher investment and employment growth. In the 1970s, Chile removed all quantitative import restrictions and introduced a uniform 10 percent tariff on imported goods. This policy shift reduced distortions and facilitated better resource allocation and productivity gains (Bergoeing et al. 2002).[11]

Reforms were also implemented in the financial sector, including the liberalization of interest rates, a radical shake-up of the pensions system, and the removal of entry restrictions (Corbo, Hernández, and Parro 2005; Edwards 1998; Sahay et al. 2015). The accumulation of external obligations before 1982 left the economy vulnerable to international interest rate shocks. This vulnerability crystallized in 1982, triggering the Chilean debt crisis, with a sizeable temporary increase in the unemployment rate. After the crisis, the government enacted a new banking law in 1986 aimed at curbing excessive risk-taking by financial institutions and establishing clear processes for liquidating debtors' assets (Bergoeing et al. 2002; Corbo, Hernández, and Parro 2005). These comprehensive trade and financial reforms boosted private investment, thereby catalyzing employment growth.[12]

Appendix A.3 Colombia (2002–08)[13]

Colombia's employment growth episode did not follow a period of strong working-age population growth but came alongside a period of strong economic growth following an acute downturn. Upgrades to the country's foundational infrastructure and ports with private participation, structural policy measures that created an enabling business environment, and a cyclical rebound accompanied employment growth during the episode. Private investment was supported by more competitive and stable financial markets.

[10] The lagged positive response of employment growth to labor market reforms in Latin American countries, which has played a prominent role in the non-tradables sector as an engine of job creation, has also been suggested in Weller (2001).

[11] The liberalization process saw a temporary reversal in the aftermath of the 1982 debt crisis; it resumed in 1984 and gradually returned to the pre-crisis uniform tariff level by 1988 (Corbo 1997).

[12] Some suggest that these reforms, rather than those in the labor market, were the primary drivers of employment growth during the episode (Campero 2004). Over time, some of these reform efforts may have contributed to inequality and a lack of social mobility: their long-term effects remain the subject of debate.

[13] *Note*: This section was prepared by Jiwon Lee and Emiliano Luttini.

Jobs and labor market performance. Between 2002 and 2008, Colombia experienced a sustained period of strong employment growth. During this period, the employment-to-population ratio rose from 35.9 percent in 2001 to 41.2 percent in 2008 (figure A.3.A). Working-age population growth had gradually slowed in the late-twentieth century. It then remained nearly unchanged, averaging around 2 percent in the years before, during, and after the episode. Average annual employment growth of 3.5 percent during the employment growth episode surpassed the 2 percent observed during other years. The unemployment rate declined from 14.8 percent in 2002 to 11.3 percent in 2008.

During the episode, Colombia's labor force participation rate decreased (mostly explained by the dynamics of female and youth participation), while real wages grew significantly, outpacing the growth of other years by a wide margin (figure A.3.B). Female labor force participation experienced a decrease, and the female share in employment increased less during the episode than in other years. Youth labor force participation fell steeply during the period. Taken together, these declines can be characterized as a modest reversion, following an earlier surge in female and youth participation rates, particularly pronounced in the wake of and during the 1999 recession (World Bank 2005a). The share of self-employed workers also increased (figure A.3.C). Employment in the industrial and services sectors exhibited significant dynamism during the period, with agricultural employment growing less than in other years (figure A.3.D).

Economic context. The episode was preceded by an acute recession in 1999, which drove the unemployment rate from 7.5 percent in 1994 to about 20 percent by the end of the decade. In the early 1990s, Colombia's fiscal position began to deteriorate due to the introduction of unfunded expenditure programs and a rigid revenue-sharing system that diverted an increasing share of central government revenue to territorial governments (IMF 1999). Political uncertainty, fiscal mismanagement, and external pressures resulting from the Asian financial crisis further weakened the economy. By 1998, economic activity had deteriorated significantly, with real GDP contracting in the second half of the year. International financial market turmoil and concerns over Colombia's fiscal and external deficits triggered repeated pressures on the peso, despite a tightening of monetary policy that raised real interest rates to record highs. In response, the peso's trading band against the U.S. dollar widened, with a 9 percent depreciation in September 1998.

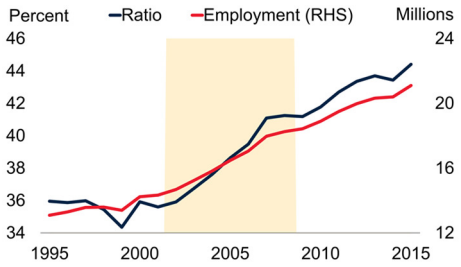
After the deep recession of 1999, Colombia's economy entered a period of robust growth beginning in 2000. During the employment acceleration period (2002-08), GDP expanded at an average annual rate of 4.7 percent, significantly higher than the 2.9 percent seen in other years (figure A.3.E). Investment also surged, growing at an impressive 12.3 percent annually, compared to just 0.9 percent in other years. Additionally, consumption, exports, and TFP were more dynamic, reflecting the broader economic recovery.

Policy drivers. As the cyclical upturn occurred, Colombia improved its infrastructure (including by promoting private participation), implemented reforms to stabilize the macroeconomic environment, and eased restrictions on private capital markets. These

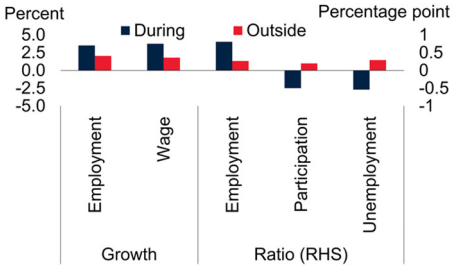
FIGURE A.3 Employment growth episode in Colombia

The employment growth episode in Colombia was associated with higher employment growth and higher employment-to-population ratios, along with lower unemployment than in non-episode years. However, labor force participation rates declined during the episode. Industry and the service sector were key drivers of employment growth. Output, investment, consumption, exports, and TFP all showed greater dynamism, and macroeconomic stability was enhanced during the episode.

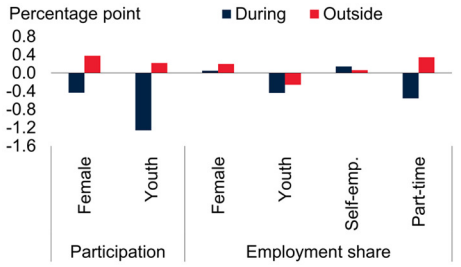
A. Employment in Colombia



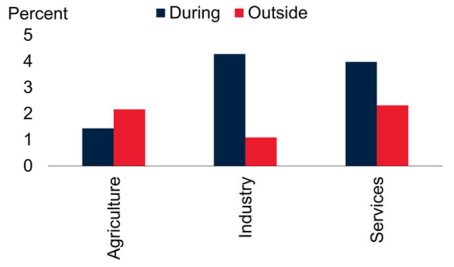
B. Labor market metrics in Colombia



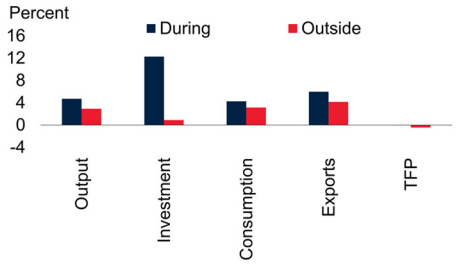
C. Labor force structure in Colombia



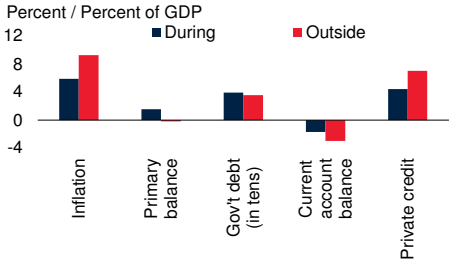
D. Employment growth in Colombia, by sector



E. Output and productivity growth in Colombia



F. Macroeconomic conditions in Colombia



Sources: Feenstra, Inklaar, and Timmer (2015); ILOSTAT (database); OECD (2025); WDI (database); WEO (database); World Bank.
Note: RHS = right-hand scale; TFP = total factor productivity. Employment here covers individuals aged 15+. Employment ratio is employment to total population.

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B. Wages are adjusted for inflation.

C. Youth is defined as individuals aged 15 to 24.

F. Inflation is measured as the percent change in CPI; private credit is measured by its real growth rate in percent. Primary balance, government debt, and current account balance are all expressed as a percent of GDP.

policies included reforms on the fiscal front to put government finances on a sustainable path, adjustments to monetary policy to contain inflationary pressures, measures in the financial sector to recapitalize publicly owned banks, and the introduction of labor market reforms.

Colombia entered the 2000s with high standards in physical infrastructure—such as roads, electricity, and household access to water and sanitation—relative to regional peers. However, businesses cited deficiencies in some productive infrastructure, such as internet connections, as a constraint. With support from the World Bank Group, Colombia expanded public transportation infrastructure, introduced a toll road program to maintain high-traffic corridors, and improved its sea ports (with the involvement of the private sector) (IMF 2008; World Bank 2005b).

Policies implemented at that time helped underpin a sound macroeconomic environment during the employment growth episode. The country adopted an inflation-targeting regime in 2000, contributing to price stability. Average annual inflation was 5.9 percent during the episode, which was 3.4 percentage points lower than in other years. The primary fiscal balance reached an average annual value of 1.5 percent of GDP, which compares favorably to the 0.2 percent deficit recorded outside the episode.

The improved fiscal position can be linked to a suite of fiscal reforms: enhanced tax administration that boosted public tax revenues from 17 percent of GDP in 2000 to about 21 percent of GDP in 2006; the establishment of spending and borrowing limits on territorial governments; and a requirement that all levels of government perform public debt sustainability analysis to justify their spending levels (figure A.3.F; IMF 2006). A windfall from higher oil prices contributed positively to fiscal performance during this period (IMF 2015; World Bank 2024).

Colombia introduced changes in its labor market regulations in 2002 to reduce its high unemployment levels (IMF 2005; World Bank 2005a). Colombia's persistently high natural rate of unemployment, estimated at 10–12 percent, had been driven by structural issues such as high nonwage labor costs, a relatively high minimum wage, labor market regulations, and an oversupply of lower-skilled workers. Minimum wages were believed to have introduced significant rigidities in the labor market, while also affecting informal sector salaries through a "lighthouse effect" (Maloney and Mendez 2004). In response, significant labor reforms were enacted in 2002, extending regular working hours, reducing overtime premiums, lowering severance payments, and cutting nonwage costs for specific employee groups. Reforms also significantly altered the apprenticeship contract by removing contractual obligations between employers and apprentices and allowing remuneration lower than the minimum wage.

The government claimed that these changes increased labor market flexibility and supported human capital development through apprenticeships, contributing to employment growth. The IMF has argued that the subsequent decline in underemployment and labor force participation rates indicated improvements in job quality that could be attributed to the reforms. A World Bank evaluation suggested that the reform agenda had a positive impact in several areas, particularly in reducing informality and

underemployment, accelerating employment generation—especially among young people—and shortening the time people spent unemployed (World Bank 2005a). Higher labor income (resulting from both higher employment and higher wages) played a significant role in poverty reduction in Colombia over the period.

Domestic financial markets deepened as a result of the privatization and liquidation of public banks and improved supervision. In 2000, Colombia adopted a law establishing a trust fund to finance technological development activities and nonfinancial business development services for micro, small, and medium enterprises. At the same time, the authorities also offered partially guaranteed loans for micro, small, and medium enterprises through the commercial banking sector, with public sector backing (World Bank 2005b). A securities market law was approved in 2005 to strengthen clearing and settlement procedures, market integrity, and corporate governance (IMF 2006; World Bank 2024).

Appendix A.4 The Republic of Korea (1986–97)[14]

The Republic of Korea experienced an episode of strong and sustained employment growth (and better-paid jobs) amid a period of rapid economic expansion, the result of a comprehensive long-run economic reform strategy. The growth in employment occurred against a backdrop of strategic investments into foundational infrastructure and human capital, a comprehensive reform effort to create a stable macroeconomic environment, and the expansion and deepening of financial markets.

Jobs and labor market performance. Korea experienced an episode of strong and sustained employment growth between 1986 and 1997 (figure A.4.A). During this period, the employment-to-population ratio surged from 36.9 percent in 1985 to 46.4 percent in 1997. The average annual employment growth rate reached 3.0 percent, 1.7 percentage points higher than in other years. This episode began during a period when Korea's working-age population grew at a relatively high rate (in the mid-2-percent range) during the 1980s. It continued against a backdrop of slowing working-age population growth in the 1990s, as the growth rate of the working-age population decelerated to less than half of the previous decade's rate. Over the episode years themselves, the working-age population grew by an average of 1.7 percent, compared to 1.5 percent in the periods on either side of the episode.

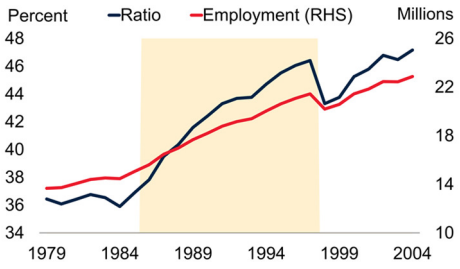
This employment growth episode was accompanied by several positive labor market trends, including an increase in the labor force participation rate, a decrease in the unemployment rate, and higher real wage growth compared to other years (figure A.4.B). Female labor force participation rose significantly, with women's employment share increasing slightly more than it did in other years. The share of youth employment exhibited a consistent downward trend during the period, as did the share of the self-employed. Additionally, the share of part-time workers declined faster during the

[14] *Note*: This section was prepared by Jiwon Lee and Emiliano Luttini.

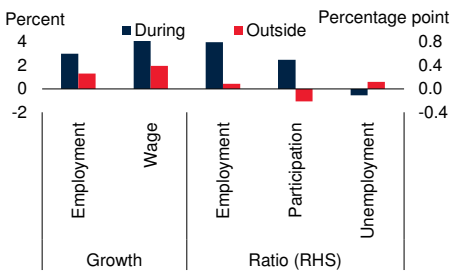
FIGURE A.4 Employment growth episode in the Republic of Korea

The employment growth episode in Korea was associated with higher employment growth, employment-to-population ratios, and labor force participation rates, along with lower unemployment than in non-episode years. Female participation rose more during the episode. Industry and services were the sectors driving the period. Output, investment, consumption, exports, and TFP growth experienced more dynamism over the period.

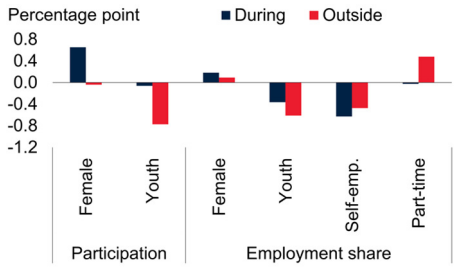
A. Employment in Korea



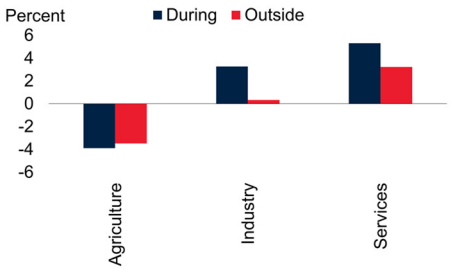
B. Labor market metrics in Korea



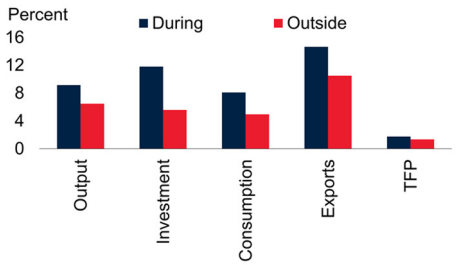
C. Labor force structure in Korea



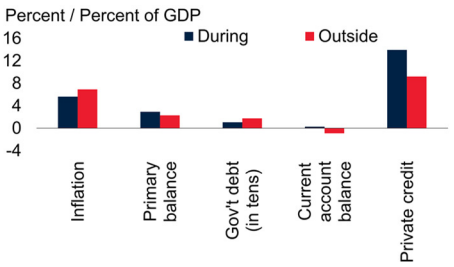
D. Employment growth in Korea, by sector



E. Output and productivity growth in Korea



F. Macroeconomic conditions in Korea



Sources: Feenstra, Inklaar, and Timmer (2015); ILOSTAT (database); IMF Public Finances in Modern History (dataset); OECD (2025); WDI (database); WEO (database); World Bank.

Note: RHS = right-hand scale; TFP = total factor productivity. Employment here covers individuals aged 15+. Employment ratio is employment to total population.

A. Shaded area indicates the employment growth episode.

B.–F. Bars show annual averages of the respective variables during both episode and non-episode periods. Episode years ("During") cover the full duration of the episode. Non-episode years ("Outside") include seven years before and after the episode. Except for employment growth and employment ratio, years included in "during" and "outside" periods vary based on data availability.

B.C. Employment ratio, participation rate, unemployment rate, and employment shares refer to annual averages of changes in these variables.

B. Wages are adjusted for inflation.

C. Youth is defined as individuals aged 15 to 24.

F. Inflation is measured as the percent change in CPI; private credit is measured by its real growth rate in percent. Primary balance, government debt, and current account balance are all expressed as a percent of GDP.

episode years (figure A.4.C). Employment in both the industrial and services sectors grew faster during the episode than in other years (figure A.4.D).

Economic context. The sustained episode of strong employment growth coincided with robust economic performance. Output grew on average by 9.1 percent per year, 2.7 percentage points higher than the average growth rate in the periods on either side of the episode. Investment growth doubled, while consumption, exports, and TFP all exhibited strong dynamism during the episode relative to the other years (figure A.4.E). Throughout the episode, macroeconomic conditions remained more stable than in the years before or after the episode (figure A.4.F).

After Korea's recovery from the second oil shock in the late 1970s and early 1980s, favorable external conditions contributed to this period of robust output growth and employment growth. From the mid-1980s, Korea's exports and economic growth were bolstered by the low value of the Korean won against the Japanese yen, a low international interest rate environment, moderate oil prices, and a wave of global trade liberalization (Lee 2013; SaKong and Koh 2010). Between 1986 and 1989, Korea moved from chronic current account deficits to a surplus. While global conditions became less favorable, with a brief recession in 1991, the global semiconductor boom from 1993 to 1995 led to a surge in exports (Kose, Sugawara, and Terrones 2020). This period of strong economic performance resulted in a substantial increase in income per capita, elevating Korea from upper-middle-income status in the early 1980s to high-income status by the end of the episode. This progress was subsequently interrupted by the Asian financial crisis, with Korea securing substantial financing support from the IMF in 1997, but the interruption was relatively short-lived, and Korea resumed a positive macroeconomic trajectory in the 2000s.[15]

Policy drivers. Korea's employment growth episode was supported by robust economic growth, underpinned by investment in foundational infrastructure, particularly human capital. It was also supported by macroeconomic stabilization policies that created fertile ground for business expansion, and by the mobilization of private capital to facilitate a structural transformation aimed at productivity and innovation.

Predating Korea's employment growth episode, a series of policies strengthened foundational investment into physical infrastructure. In the 1970s and 1980s, policies focused on the expansion of physical infrastructure, such as expressways and dams. These investments improved the reallocation of labor from lower-productivity agriculture to manufacturing and from rural to urban areas (SaKong and Koh 2010).

There was a sustained effort to develop human capital, and the expansion of secondary and tertiary education during the 1980s and 1990s dramatically improved educational

[15] Around the mid-1990s, Korea implemented extensive financial liberalization measures, transitioning to a deregulated financial system and a liberalized capital market. This shift required robust banking supervision and regulation, yet Korea's supervisory framework was inadequate at the time (Ubide and Baliño 1999). As the Asian financial crisis unfolded in 1997, investor confidence plummeted, reversing capital inflows and triggering a severe liquidity crisis that escalated into a full-blown financial crisis.

attainment levels in Korea's labor force. During the employment growth period, the share of workers with tertiary degrees rose by 10 percentage points, while the share of upper-secondary graduates increased by 23 percentage points, reaching 64 percent in 1997. As the economy transitioned toward a technology-intensive and more knowledge-based model, the government's efforts to align education with the evolving demands of industry played a crucial role in developing a well-skilled workforce. This alignment was achieved through the systematic integration of national economic planning with human capital development policies (Lee, Jeong, and Hong 2018; Soh, Koh, and Aridi 2023). The resulting better-educated and more skilled workforce became a significant driver of productivity gains and sustained economic growth in Korea (Han and Lee 2020; Rodrik 1995).

Recognizing the need for macroeconomic stability to sustain long-term growth alongside foundational infrastructure investment, the Korean government implemented a comprehensive stabilization program in 1979. This program focused on tightening monetary policy and emphasizing fiscal reforms. This helped create a more solid platform for economic growth after previous government interventions—notably the heavy and chemical industries drive launched in 1973—had resulted in growing macroeconomic imbalances in the second half of the 1970s.[16]

Fiscal consolidation measures to assert macroeconomic credibility included expenditure cuts, the deferral of public investment projects, and the introduction of the zero-based budgeting principle. In the early 1980s, modest wage increases in the public sector were used to informally guide private sector wage expectations and prevent inflationary pressures (Corbo and Woo 1986; Kim and Kim 1997; Nam and Kim 1997). At the onset of the employment growth period, Korea had achieved a roughly stable fiscal balance, and inflation had decreased to low single-digit levels.

By the mid-1980s, Korea faced mounting challenges both domestically and internationally, including increasing global competition and the need to transition away from imitative learning of mature technologies. This shift required the mobilization of private domestic investment. Korea boosted private investment by promoting competition in the financial services sector and reducing price controls. From 1988, the National Pension Scheme accumulated substantial assets that were channeled into public infrastructure and capital markets. Reforms also deepened capital markets, strengthening the governance of markets to attract investors and incentivizing firms to raise market funding (Amsden and Euh 1993; Davis 2005; Kim and Seong 1997).

When the government embarked on a structural transformation drive to cultivate more technology-intensive industries, this shift was marked by significant investments in research and development (R&D). The private sector increasingly took the lead in driving innovation, bolstered by government support through preferential financing and

[16] The demand generated by the heavy and chemical industries drive——coupled with fiscal deficits from the first and second oil shocks——led to a rapid escalation in inflation. A delay in devaluation amid high inflation resulted in the overvaluation of the Korean won and a loss of price competitiveness for Korean exports, which contracted in 1979 for the first time since the early 1960s (SaKong and Koh 2010).

tax incentives. R&D expenditure, which remained below 0.5 percent of GDP throughout the 1970s, steadily increased, surpassing 2 percent of GDP by 1995. Nearly three-quarters of the investment was driven by the private sector. By the 1990s, the focus of technology development had shifted to the information and communication technology (ICT) sector, which emerged as a key source of economic growth and job creation (Kim and Kim 1997; Kim and Seong 1997; SaKong and Koh 2010). [17]

Appendix A.5 Singapore (2004–14)[18]

Singapore's episode of strong and sustained employment growth followed a series of difficult external shocks. The episode also coincided with an explicit shift in the authorities' growth strategy and featured innovative, targeted approaches to immigration to support the labor market. Singapore benefitted from previous investments into foundational infrastructure, a successful initiative to increase human capital of the domestic population, a supportive business environment, and stable and liquid financial markets that were able to support private investment.

Jobs and labor market performance. Singapore experienced rapid employment growth between 2004 and 2014 (figure A.5.A). The employment-to-population ratio rose from 53.0 percent in 2003 to 65.6 percent in 2014. During this period, the economy saw average annual employment growth of 4.7 percent, 2.5 percentage points higher than the periods on either side of the episode. This growth was accompanied by an increase in labor force participation and a decrease in the unemployment rate. However, real wages grew at a slower pace during the episode than in the periods on either side (figure A.5.B).

Female labor force participation increased more significantly during the episode, while youth participation declined both within and outside the episode (perhaps as more young people pursued education). The share of self-employed workers remained stable (figure A.5.C). Employment in the services sector rose substantially during the episode, as the economy transitioned toward a more knowledge-based structure (figure A.5.D). This episode of strong employment growth came at a time of high working-age population growth, averaging 3.0 percent, more than double the average rate in the periods on either side of the episode.

Economic context. The episode of strong and sustained employment growth was marked by robust economic performance. Output expanded at an average annual rate of 6.3 percent during the episode, driven by strong investment, despite the recession associated with the global financial crisis in 2008 (Monetary Authority of Singapore 2015). Exports and TFP growth also demonstrated increased dynamism during the high employment growth period, but average consumption growth was slower during the

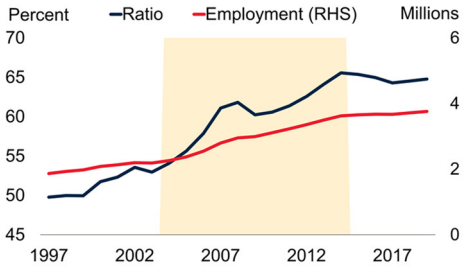
[17] The ICT sector, encompassing both ICT manufacturing and services, experienced double-digit growth from the mid-1990s until the onset of the global financial crisis in Korea.

[18] This section was prepared by Tommy Chrimes, Jiwon Lee, Emiliano Luttini, and Kersten Stamm. We thank Ming Leong from the Ministry of Manpower, Republic of Singapore, for an insightful exchange on Singapore's experience.

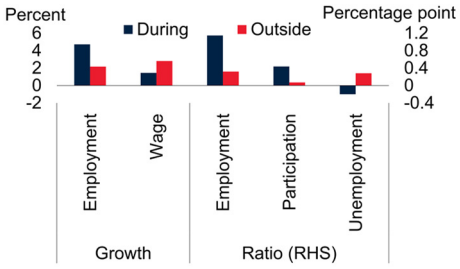
FIGURE A.5 Employment growth episode in Singapore

The employment growth episode in Singapore was associated with higher employment growth, employment-to-population ratios, and labor force participation rates, along with lower unemployment than in non-episode years. Female participation rose more during the episode. Services was the sector driving the episode, although industry also made a positive contribution. Output, investment, exports, and TFP growth experienced more dynamism over the period.

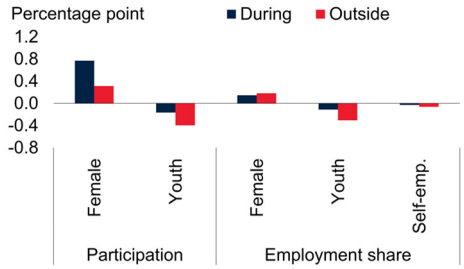
A. Employment in Singapore



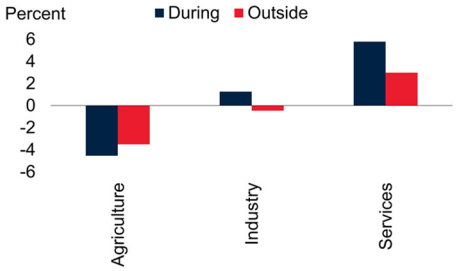
B. Labor market metrics in Singapore



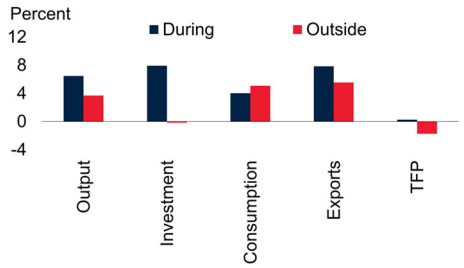
C. Labor force structure in Singapore



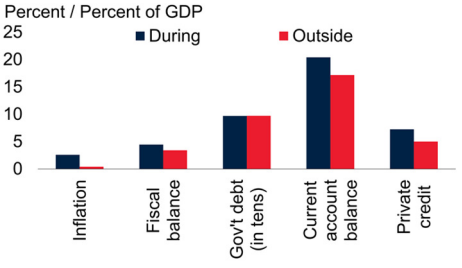
D. Employment growth in Singapore, by sector



E. Output and productivity growth in Singapore



F. Macroeconomic conditions in Singapore



Sources: Feenstra, Inklaar, and Timmer (2015); Haver Analytics; ILOSTAT (database); Organisation for Economic Co-operation and Development; WDI (database); WEO (database); World Bank.

Note: RHS = right-hand scale; TFP = total factor productivity. Employment here covers individuals aged 15+. Employment ratio is employment to total population.

A. Shaded area indicates the employment growth episode.

B.–F. Bars show annual averages of the respective variables during both episode and non-episode periods. Episode years ("During") cover the full duration of the episode. Non-episode years ("Outside") include seven years before and after the episode. Except for employment growth and employment ratio, years included in "during" and "outside" periods vary based on data availability.

B.C. Employment ratio, participation rate, unemployment rate, and employment shares refer to annual averages of changes in these variables.

B. Wages are adjusted for inflation.

C. Youth is defined as individuals aged 15 to 24.

F. Inflation is measured as the percent change in CPI; private credit is measured by its real growth rate in percent. Fiscal balance, government debt, and current account balance are all expressed as a percent of GDP.

episode than in the adjacent periods (figure A.5.E). Throughout this period, Singapore maintained stable macroeconomic conditions (figure A.5.F). This robust output and employment growth period followed soon after three challenging periods for Singapore's economy that had occurred in relatively quick succession: the Asian financial crisis (1997-98), the dot-com crash (2000-01), and the SARS outbreak (2003), all of which had materially harmed growth (IMF 2004a).

Policy drivers. A comprehensive strategy spanning the three pillars of foundational infrastructure, an enabling environment, and private capital mobilization underpinned the episode. Policies focused on human capital and substantially boosted the educational attainment of domestic workers, seeking to remove human-capital-related growth constraints. Policy efforts also sought to strengthen a stable macroeconomic environment, including enhancing a well-functioning financial sector.

During the episode, Singapore boosted the share of domestic workers with a tertiary degree by ten percentage points, which, combined with a liberal regime for the inflow of foreign workers that addressed skill gaps in the domestic workforce, contributed significantly to strong output and employment growth (IMF 2014; Malik 2007; OECD and ILO 2017). The share of employed residents with tertiary degrees increased from 22 percent in 2004 to 33 percent in 2014 (Singapore Ministry of Manpower 2014).

Fostering a business-friendly environment had been a longstanding priority for the Singapore government, predating the acceleration episode. Starting in the late 1980s and early 1990s, Singapore adopted a flexible wage system and lowered barriers for part-time employment. The government also aimed to increase female and older workers' labor force participation. In 2001, the Child Development Co-Savings Act established maternity and paternity leave, and financial support for parents (Norton Rose Fulbright 2023). The authorities also lowered the social security contribution requirement for workers over 55 years old and raised the retirement age to 60 years (Auyong 2022; Bercuson 1995).

In the mid-1990s, Singapore's comparative advantage in lower- to medium-skilled industries declined due to growing regional competitiveness, particularly from China. To address this challenge, the Committee on Singapore's Competitiveness was formed in 1996, and recommended a shift toward a knowledge-based economy (Singapore Ministry of Trade and Industry 1998; Pan and Theseira 2023). In addition, following the Asian financial crisis, Singapore's National Wages Council urged wage reductions by 5 to 8 percent, and Singapore cut social security contributions by more than half. These measures effectively lowered unit labor costs to the levels of 1992–93 (Auyong 2022).

Following multiple crises in the late 1990s and early 2000s, the government of Singapore implemented initiatives to reform and restructure the economy to deliver growth under a stable macroeconomic environment, with improved and more efficient legal institutions. A monetary policy framework centered around exchange-rate stability anchored inflation expectations (IMF 2007, 2014).

In 2003, the government adopted the recommendations of the Economic Review Committee, which emphasized innovation, research and development, and the upgrading of service sectors to act as a regional hub (Chia 2005; IMF 2004a). As a result of these efforts, by 2014, the services sector accounted for three-quarters of real value added and more than 80 percent of employment in Singapore.[19]

A liberal regime for the inflow of foreign workers also supported this transition, augmenting the domestic workforce with foreign talent to help ease the adjustment to a new growth model. Policies to attract foreign talent included liberalized immigration, easier permanent residency and citizenship requirements, scholarships, improved living standards, and a more attractive tax system (Chia 2013).[20] These efforts yielded positive results, with over 200,000 foreign-born individuals granted permanent resident status between 2007 and 2009 (Department of Statistics Singapore 2015, 2023).[21] The share of employed residents working in high-skilled roles also increased, from 46 percent in 2004 to 53 percent in 2014 (Singapore Ministry of Manpower 2014). [22]

Despite the focus on high-skilled immigration, the demand for unskilled and semi-skilled foreign labor persisted. Imported labor helped Singapore meet demand for low-wage services, including care services for the aging population and childcare, which supported an increase in female labor force participation among Singapore residents. The government managed the number of foreign workers through work permits, levies, and dependency ceilings, which were adjusted based on economic conditions. During the employment growth period, these controls were considerably relaxed, leading to a significant increase in foreign labor: nonresident workers increased by one million, amounting to 40 percent of total employment. These low-skilled migrant workers served as a buffer against macroeconomic cycles, enabling workforce expansion during booms while moderating the impact of downturns on resident employment (Chia 2013; Pan and Theseira 2023).[23]

Singapore's success was also shaped by its strong financial markets. Following the Asian financial crisis and the SARS outbreak, Singapore shored up the banking sector, deepened the liquidity of financial markets, and strengthened the role of the monetary policy and oversight authority. The economy entered the acceleration episode with a very liquid financial system and a financial regulatory environment that closely adhered to international standards (IMF 2004b; 2007).

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[19] For the key policies that helped Singapore's development transition from the mid-1980s, refer to Yeo (2016). IMF (2004) summarizes the key recommendations of the Economic Review Committee in 2003.

[20] The Singapore Talent and Recruitment (STAR) committee was established in 1998 to attract highly skilled workers globally (Yap 1999).

[21] The number of individuals granted permanent resident status has been tracked since 2007. Pan and Theseira (2023) note that permanent residents, who are selectively granted this status, tend to have higher wages and employment rates than Singaporean citizens, indicating that they are primarily high-skilled, economically active migrants.

[22] This classification uses Singapore's definition of "professionals, managers, executives and technicians."

[23] However, the influx of foreign workers raised concerns about job displacement and wage suppression for lower-skilled positions. In response, the government implemented more restrictive foreign labor policies in the mid-2010s. These policies stabilized the nonresident workforce by 2014, as Singapore pivoted toward a model focused on increasing productivity growth (Menon 2015).

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APPENDIX B The jobs challenge in numbers[24]

Emerging market and developing economies (EMDEs) face a monumental task to create sufficient job opportunities amid large numbers of young people reaching working age. The "jobs challenge" refers to this task: creating employment opportunities to accommodate large increases in the number of working-age adults. However, no single measure can completely and precisely capture the dimensions of this jobs challenge. Quantitative estimates generally take one of two perspectives. The first projects the expected demand for additional employment over a given period based solely on demographic trends; some approaches use additional scalers with a view to refining the estimate. The second compares expected demographic developments with projected employment growth over time, producing a "gap" between the number of projected workers and the number of available jobs. More complex approaches aim to improve the precision of estimates. However, they depend on the assumptions underpinning the projections, resulting in figures that can vary widely, especially over longer timeframes. These methods generally result in a similar headline conclusion, however: the jobs challenge is particularly acute for EMDEs in Sub-Saharan Africa, South Asia, and, to a lesser extent, in the Middle East and North Africa. Within these regions, many of the most affected economies are low-income countries (LICs) or economies in fragile and conflict situations (FCS).

Demographic projections from the United Nations show that between 2025 and 2035, 1.2 billion young people will enter working age in EMDEs.[25] Factoring in exits from the cohort of 15 to 64-year-olds, the working-age population is projected to grow by about 450 million individuals during this time (United Nations 2024). These young women and men will form the largest-ever cohort of young people in EMDEs entering working age. Not all of these young people will need jobs, but many will. The "jobs challenge" refers to the task of ensuring sufficient employment opportunities to accommodate this large inflow of young people to the working-age population. Job creation is crucial for driving sustained growth and equitable development.[26]

The large volume of young people set to reach working age in EMDEs is not a surprise: the 1.2 billion young people expected to reach working age by 2035 are already alive, with most born in the 2010s. Moreover, in the decade leading up to 2025, more than 1.1 billion young people reached working age. Even as populations in some countries are aging, it has long been clear that working-age populations in many EMDEs will continue to grow as young people reach working age. Yet there is not a uniform view on the scale of the jobs challenge. Quantitative estimates of the magnitude of the jobs

[24] *Note*: This appendix was prepared by Kersten Stamm.

[25] The medium-variant scenario of the UN population prospects projects that 1.2 billion people will turn 15 years of age in the years 2026 to 2035 and thus form the youth cohort of 15 to 24-year-olds at the end of 2035.

[26] This is encapsulated under Sustainable Development Goal 8, which aims to achieve full employment by 2030, and which encompasses a broader set of issues. This study does not examine whether jobs are formal or informal, of good or low quality, wage or self-employed, or full-time or part-time. For an overview of these issues in EMDEs, refer to Hovhannisyan et al. (2025). For the definition of employment, refer to ILO (2013). There are also other challenges related to employment, such as youth unemployment, female labor force participation, population aging, and, in some countries, a declining working-age population (ILO 2024; Kose and Ohnsorge 2024; Maestas, Mullen, and Powell 2023). While these issues are critically important to affected individuals and policy makers, they are not the focus of this study.

challenge vary depending on the analytical approach and on assumptions about the evolution of key (but uncertain) determinants such as economic growth, employment growth, and labor force participation.

This appendix outlines and critically assesses three methods that use different assumptions to produce varying point estimates of the magnitude of the jobs challenge. Together, these methods and assumptions encompass the vast majority of approaches that are found in the literature.[27] In this appendix, results are presented mainly for 2035 to allow for comparison among methods; over longer time horizons, some methods become too uncertain to be meaningful (ratio methods), or simply become less intuitive (the youth method).

There are different perspectives to consider when assessing the jobs challenge. Relevant variables for the different methods include the number of young people entering working age, growth in the working-age population, and labor force participation (the share of the working-age population in work or actively seeking work) or the employment ratio (the share of the working-age population actually in employment). Some approaches make assumptions about output growth, employment growth, and the link between the two. While the projected size of the jobs challenge differs across alternative approaches and methods, the key implications for EMDEs and the regions most affected remain largely consistent.

Among the three main methods, the simplest and most intuitive in the short to medium term is the youth method, which considers the projected number of young people entering working age. The number of young people who will reach working age over the next few years is fairly certain—these people are alive today—and is not heavily dependent on assumptions. Many (though not all) of these young people will be seeking jobs, if not immediately then over time.

The youth method's straightforward approach is helpful in communicating the scale of the jobs challenge. Focusing on the number of young people joining the working-age population provides the highest figure for the jobs challenge, as it considers only this inflow, focusing on the task facing economies with large young populations. However, it offers no real insight into other demographic developments or the economy's capacity to generate jobs.

[27] A range of studies use variants of these approaches. For example, IMF (2024) posits the number of new jobs needed annually in Sub-Saharan Africa, based on working-age population projections and age-specific labor force participation rates at the country level. ADB (2019) uses working-age population and current labor force growth to give an estimate of the number of new jobs Africa needs to create each year to avoid unemployment levels rising. ILO (2014) articulates a "jobs gap" over a five-year horizon, showing the difference between a projected evolution of total employment and the trend growth of total employment prior to the crisis; it also presents regional scenarios adjusting global employment ratios or youth unemployment levels. Fox et al. (2020) note youth-based approaches, but argue that considering the working-age population as a whole is important. ILO (2024) adjusts youth employment ratios to estimate a current "jobs gap" for young people, but does not offer forecasts, noting the difficulty of predicting the evolution of jobs. World Bank (2023) considers working-age population projections to 2050, as well as the number of young people entering the labor market in Sub-Saharan Africa, makes assumptions about the employment ratio, and contrasts these projections with current annual job creation. World Bank (2024) emphasizes that raising the employment-to-working-age population ratio will be crucial to absorb growing working-age populations in South Asia.

An alternative is to track changes in the working-age population. Demographic pressures on labor markets are not shaped solely by incoming youth cohorts. Working-age population changes also factor in those who exit working age (the bounds of which are commonly defined as 15–64). This yields a change in the working-age population. The working-age method is similarly transparent to the youth method. It remains clear and intuitive over longer time horizons. The working-age population is expected to grow by about 450 million individuals over the decade to 2035, with the challenge most acute in Sub-Saharan Africa and, to a lesser extent, in South Asia and the Middle East and North Africa. Beyond 2035, working-age population growth looks set to become increasingly concentrated in Sub-Saharan Africa.[28]

The third method, the ratio method, builds on either of the previous two methods, incorporating additional elements beyond demographic projections to refine the estimates of the number of jobs needed. It is more sophisticated than simply considering the working-age population or the youth population, and thus in some respects more refined. If these additional components could be projected with certainty, the ratio method would be the strongest of the three methods. However, the additional assumptions introduced by these refinements are themselves variable and uncertain. Different assumptions around scaling refinements can lead to wide variations in point estimates of the jobs challenge—especially over longer time periods—even within the same approach and method.

This appendix addresses the following questions:

- How do the three methods measure the jobs challenge?
- How does the magnitude of the jobs challenge vary across these methods?

Measuring the jobs challenge

No single measure can fully and reliably capture the complexities of assessing how much employment is needed for everyone willing and able to work at a future point in time.[29] Data availability is a key constraint. Uncertainty around projections of different variables of interest into the future can be substantial. Different methods for quantifying the extent of required job creation have advantages and disadvantages; the most suitable choice depends on one's specific focus and on the context of the country in question.

The three methods compared here are grouped according to the two complementary approaches to framing the challenge: (i) perspectives on jobs needed based solely on

[28] The official regional classification from the World Bank Group refers to the Middle East, North Africa, Afghanistan, and Pakistan; this classification is used throughout this appendix, with "the Middle East and North Africa" used as shorthand.

[29] The population of interest is often the working-age population, defined, as is standard in the literature, as those aged 15–64 (although some methods described in this appendix only consider a subset of this group). A subset of this, young working-age people (15–24) is relevant for the youth method. In this appendix, positive numbers indicate more potential workers than jobs and a "worse" jobs challenge, and negative differences indicate an oversupply of jobs and a "better" jobs challenge.

demographic projections over time, and (ii) estimates that incorporate both demographic developments and employment growth projections. In both cases, it is important to consider jobs in relation to the size of the economy, as well as the absolute number of jobs needed. Focusing solely on absolute numbers highlights more populous economies—relevant for the global scale of the issue—but, considered alone, would overlook the challenge faced by some smaller economies with very high population growth rates.

Approaches focusing on demographic developments. A common approach uses trends in population growth to infer required additional job creation over time. The first approach, the youth method, examines only those reaching working age, offering an upper-bound estimate of the jobs challenge (ILO 2024). The working-age method focuses on the working-age population (aged 15–64), tracking new entrants and those transitioning out of this group. This conceptually assumes movement along the chain of the labor market: as older workers age out of working age, the assumption is that jobs will move along the demographic chain, with opportunities opening up for young people. This substitution is generally not direct: older and younger workers typically have different skill sets and experiences. In the vast majority of countries, young people are better educated than their parents (Jasmin and Abdur Rahman 2021; Narayan et al. 2018). Demographic projections provide the most robust estimate of the jobs challenge.

Method 1, **the youth method**, focuses solely on new entrants to the working-age population. This approach shows **1.2 billion young people reaching working age** by 2035 (figure B.1.A; table B.1; World Bank 2024).[30] These young women and men form the largest-ever youth cohort to enter working age in EMDEs, taking into account projections until 2100. The youth method takes a simple count of young people reaching working age. This method naturally highlights the most populous countries—such as China and India—and those with particularly large young populations, including Nigeria and Pakistan, as facing the largest challenges.

The surge in young people reaching working age is concentrated in Sub-Saharan Africa, with over 330 million new entrants over the next decade, along with roughly 280 million each in South Asia and East Asia and Pacific, and another 170 million in the Middle East and North Africa (figure B.1.B).[30] The number of new entrants between 2025 and 2035 in Sub-Saharan Africa is over 40 percent of the 2025 working-age population in the region. In contrast, the number of young people entering working age by 2035 amounts to 25 percent of the 2025 working-age population in South Asia, and 20 percent in East Asia and Pacific. At 170 million, the absolute number of projected new entrants in the Middle East and North Africa is smaller, yet this is equivalent to a larger share of the region's 2025 working-age population, at almost 33 percent. The youth method is often used to highlight concerns about youth unemployment (Fox et al. 2020). Numbers generated by the youth method underscore the magnitude of the challenge of ensuring that there are sufficient job opportunities for new entrants.

[30] Alternatively, the number of young people turning 18 over the next decade, effectively those aged 18–27 in 2035, is also projected to reach 1.2 billion young people.

***Method 2*, the working-age method,** uses projected increases in the working-age population (aged 15–64). Central UN projections show that the working-age population in EMDEs will grow by 10 percent between 2025 and 2035, implying that **about 450 million new jobs** would be needed to fully absorb the net increase in the working-age population, on the simplifying assumption that all of these additional people will participate in the labor force (figure B.1.A; table B.1).

Because it spans the whole working-age population, accounting for those exiting working age as well as those entering it, the working-age method allows for comparison of dynamic trends across regions over time. Over the past three decades, the growth rate of the working-age population in absolute numbers has been slowing in EMDEs, but within this, its geographic distribution has shifted dramatically. In the 2000s, one-half of the increase in the working-age population came from East Asia and Pacific and South Asia, with only one-sixth from Sub-Saharan Africa. Between 2025 and 2035, Sub-Saharan Africa will account for just over 50 percent of additional working-age individuals, with around one-quarter in the Middle East and North Africa, and a similar share in South Asia (figure B.1.B).[31] This concentration in Sub-Saharan Africa is expected to increase further beyond 2035.

This method shows that the jobs challenge is particularly acute in LICs. Every LIC will see a rising working-age population over the next decade, while hardly any advanced economies are expected to (figures B.1.C and B.1.D). In every LIC, in 92 percent of Sub-Saharan African countries, and 87 percent of FCS economies, the working-age population is projected to grow by more individuals per year, on average, between 2025 and 2035 than it did over the past two decades. By 2050, the working-age method suggests that the demand for jobs in EMDEs will nearly double, driven by an additional 815 million working-age individuals, three-quarters of whom are expected to live in Sub-Saharan Africa.

The working-age method and youth method yield different results across regions because the numbers of people exiting the working-age population also varies. In many countries in Sub-Saharan Africa, for example, relatively few people are projected to exit the working-age population over the next decade, while a large number of new entrants are expected. In contrast, China appears to face one of the largest challenges under the youth method—because of its large inflow of young people—even though its working-age population is declining, as large numbers of people age out of the working-age population. In East Asia and Pacific, the youth method projects 280 million new workers by 2035, while the working-age method shows a net decline in the working-age population, falling by 25 million (figure B.1.B).

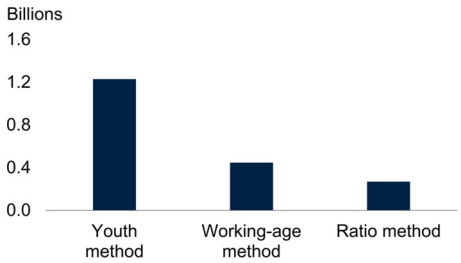
Approaches focusing on employment growth. Rather than assessing dynamic job creation needs based on demographic trajectories alone, an alternative way of framing the challenge is to also consider an economy's capacity to generate jobs. This approach

[31] The working-age population is projected to decline in East Asia and Pacific, and remain broadly stable in Europe and Central Asia, and Latin America and the Caribbean between 2025–35.

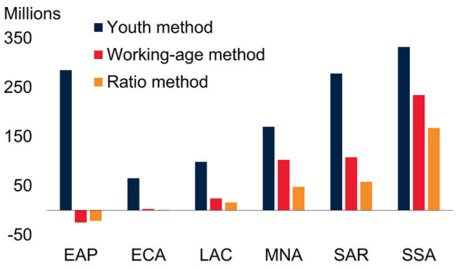
FIGURE B.1 Methods for estimating the global jobs challenge

The jobs challenge can be estimated using demographic projections alone or using a combination of demographic and employment growth projections. Projections of demographic trends are more robust than employment growth forecasts but, by themselves, provide a more limited picture of the jobs challenge. Independent of the method employed, the jobs challenge is predominantly concentrated in three EMDE regions and LICs.

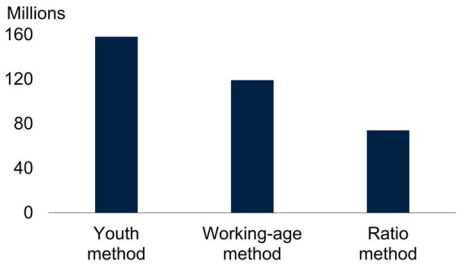
A. Jobs challenge estimates for EMDEs



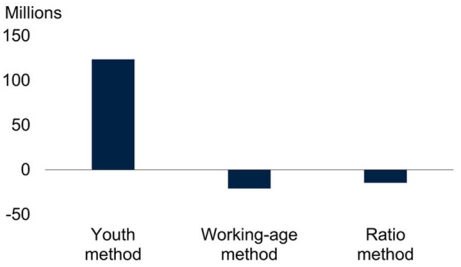
B. Jobs challenge estimates for EMDE regions



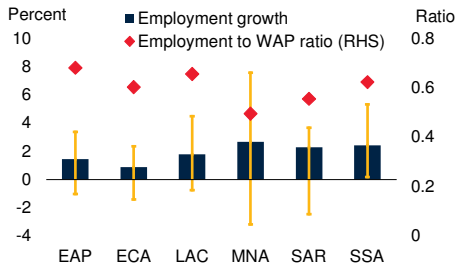
C. Jobs challenge estimates for LICs



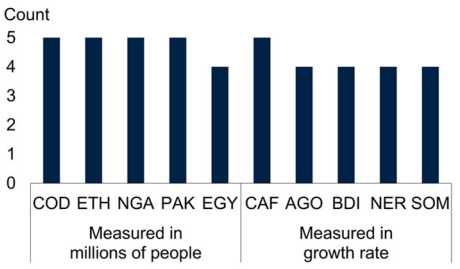
D. Jobs challenge estimates for advanced economies



E. Historical employment growth and employment-to-working-age population (WAP) ratios in EMDEs



F. Number of times an EMDE was among the 10 highest estimates of the jobs challenge, across five estimates



Sources: Crivelli, Furceri, and Toujas-Bernate (2012); ILOSTAT (database); Loungani, Luttini, and Pallan 2025; UN World Population Prospects (2024); WEO (database); World Bank.

Note: AGO = Angola; BDI = Burundi; CAF = Central African Republic; COD = Democratic Republic of Congo; EAP = East Asia and Pacific; ECA = Eastern Europe and Central Asia; EGY = Egypt; EMDEs = emerging market and developing economies; ETH = Ethiopia; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; NER = Niger; NGA = Nigeria; PAK = Pakistan; SAR = South Asia; SOM = Federal Republic of Somalia; SSA = Sub-Saharan Africa.

A.-D. Youth method: new entrants into the working-age population, 2025–35; working-age method: net change in working-age population, 2025–35; Ratio method: net change in the working-age population, 2025–35, scaled with country-specific average 2010–19 employment ratios; Positive numbers show a jobs challenge, while negative numbers imply an improvement in the jobs challenge.

E. Bars show the average employment growth rate in 2010–19 for each EMDE region, and whiskers show the minimum and maximum average growth rates in 2010–19 of any country in that region. Diamonds show the average 2010–19 employment-to-population ratios.

F. Bars show the number of times an economy is in the top 10 economies with the largest challenge, either in absolute numerical magnitude or percentage growth relative to the 2025 estimate (working-age population for the youth method), across all five estimates.

incorporates population projections but adds assumptions about the number of jobs that will be required or available in each country. Compared to methods relying solely on demographic developments, adding an employment component potentially allows for a more nuanced estimate of the number of missing jobs. For example, using employment growth projections will highlight economies where employment growth is expected to outpace working-age population growth. However, reliable current employment-related data do not exist for all countries, including some of those facing the largest jobs challenge by the youth method. In addition, projecting employment growth over medium- or long-term time horizons cannot be done with certainty. As a result, ratio methods tend to produce much less certain estimates than the working-age method.[32]

***Method 3*, the ratio method**, acknowledges that not every working-age individual will participate in the labor force. There are different variants of this method, but the approach introduces at least one assumption beyond simple demographic projections, aiming to adjust changes in the working-age population by accounting for projected employment growth (World Bank 2015, 2023). In principle, ratios can also be applied to the youth method. The most common approach is to adjust the working-age population using the country-specific long-run employment-to-working-age population rate, assuming that employment growth will keep this ratio constant. A variant of this method uses labor force participation as the scaling variable.

Under ratio methods, the jobs challenge is expressed not simply in demographic terms: instead, it scales changes in the working-age population according to the likely demand for jobs within that population, or projects employment growth. For example, if each country's employment-to-working-age population ratio stayed constant at the 2010–19 average, the ratio method suggests a jobs challenge of **270 million** additional people in the EMDE working-age population in need of jobs between 2025 and 2035 (figure B.1.A; table B.1).[33] Since this variant of the ratio method simply adjusts the working-age trends of the working-age method, the distribution of the jobs challenge across regions is not affected. Under this variant of the ratio method, Sub-Saharan Africa accounts for over 60 percent of the EMDE jobs challenge between 2025 and 2035, with an increase of 170 million people needing jobs (figure B.1.B).

Using the employment-to-working-age population ratio to help quantify the jobs challenge has both advantages and disadvantages. On the one hand, it provides a more realistic view than the previous two methods, as full employment of an entire working-age population is not observed in any economy. On the other hand, the share of the working-age population in employment varies significantly across countries and regions, and can also shift over time as a result of policy choices, education, and health outcomes, such as changes in labor force participation rates for youth, women, and older workers (figure B.1.E; ILO 2014; Kose and Ohnsorge 2024). Over time, for example, the share

[32] The following calculations are based on ILO estimates of employment for the population aged 15+, as of November 2024 (ILOSTAT database).

[33] Alternatively, employment can be replaced by the labor force if unemployment data exists. In most low- and middle-income countries, unemployment is very low (Merotto 2019).

of young people in work in EMDEs has been on a declining trend, but this has been offset by an increase in the number of young people enrolled in education (potentially boosting their future work prospects).

Different assumptions about the evolution of the employment ratio in projections can generate very different point estimates of the jobs challenge. Furthermore, not all EMDEs publish reliable data on employment. Projections of the number of people in employment in all EMDEs therefore extrapolate some aggregate employment-to-working-age population ratio from EMDEs with such data to all EMDEs. An example of this variation in employment projections is the application of the ratio method (using the employment-to-young-working age population ratio) to the young working-age population. Based on the median employment-to-population ratio in EMDEs in 2023, and assuming this remains constant, about 408 million of the 1.2 billion young people aged 15–24 in 2035 will be in employment. However, alternative assumptions yield different numbers: higher if using average or population weighted ratios, or country-specific trends for those EMDEs with employment data (up to 450 million), or as low as 340 million if the trend decline in the reported share of young people in work in EMDEs over 2000–23 continues.

A different variant of the ratio method projects employment growth in addition to demographic dynamics. The most common versions of this either extend past employment growth rates into the future or project employment growth based on GDP forecasts and estimated employment-to-growth elasticities. The extension of historical trends is sometimes presented as a gap between working-age population growth and employment growth.[34]

Assuming country-specific employment growth follows the 2010–19 average, this method projects that employment in EMDEs would grow at an annual rate of 2.2 percent between 2025 and 2035. In the most affected region, Sub-Saharan Africa, and among LICs, employment would grow at an annual rate of 2.6 percent. Even these relatively high employment growth rates, however, would not be sufficient to generate enough jobs to absorb the increase in the working-age population. In Sub-Saharan Africa, the gap between employment and the working-age population would grow by 80 million individuals, and in LICs by 60 million. The magnitude of the jobs challenge estimated using this method is heavily influenced by the historical trend growth of employment. Among EMDEs in the 2010s, for example, although employment growth averaged 2.2 percent per year, country-specific averages varied widely, from 8 percent per year at the high end to negative 2 percent at the low end (figure B.1.E).

Based on forward-looking projections of country-specific output growth and regional- or group-specific employment-growth elasticities, Sub-Saharan Africa is projected to face the largest jobs challenge between 2025 and 2035, with 136–177 million additional individuals relative to the number of available jobs. A key drawback of this method is the high uncertainty in both long-run output projections (particularly if looking beyond

[34] Refer to, for example, ADB (2019), ILO (2014), Viollaz et al. (2023), and World Bank (2023).

2030) and in employment-to-GDP elasticity estimates. The latter can vary widely depending on the sample of countries, sectors, and time periods. Different selections can yield very different estimates of the jobs challenge. The estimates above were derived using region-specific elasticities or a common elasticity for all EMDEs, in line with approaches used by Crivelli, Furceri, and Toujas-Bernate (2012) and Loungani, Luttini, and Pallan (2025), respectively.[35] Country-specific elasticity estimates could yield much broader ranges.

The jobs challenge: assessing alternative measures

The method of quantifying the jobs challenge using the number of young people entering working age (Method 1, the youth method) stands out as a simple and compelling way of articulating the jobs challenge in the short to medium term. First, demographic projections for this cohort of young people can be made with a high degree of certainty: these individuals are already alive today. Second, this method emphasizes the importance of creating more and progressively better jobs for the next generation of young people, who will enter working age more educated than the previous generation. Third, the number of young people entering working age can be expressed in absolute terms—highlighting economies with a large jobs challenge—or in percentage terms, which bring into focus less populous countries with relatively high growth rates in potential labor supply, such as EMDEs in the Middle East and North Africa.[36] Fourth, simply tracking the number of young people avoids assumptions about labor force participation rates or employment growth. These refinements would be helpful if accurate, but projecting them into the future adds layers of uncertainty to estimates of the jobs challenge, especially over long time horizons.

This study focuses predominantly on the jobs challenge of large numbers of young people reaching working age in economies where employment growth trends have been highly volatile in the past. Method 1—the youth method—provides a simple but reliable overview. It is therefore used as the benchmark method.

The working-age method, which tracks changes in the working-age population, has many of the same advantages as the youth method but offers a different perspective. It captures both new entrants to the potential workforce and those exiting working age (most obviously via the retirement of older workers), combining a focus on jobs for young people with an economy's broader demographic trajectory. The working-age population method can also be expressed as changes in millions of people, or as a percentage change, putting more of a spotlight on economies with large working-age populations or young economies with rapidly growing populations respectively.

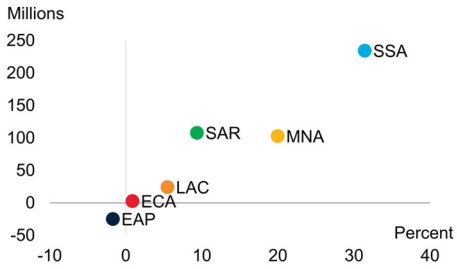
[35] These two approaches generate a range of an estimated 67–86 million jobs in Sub-Saharan Africa between 2025 and 2035.

[36] An example of the advantage of focusing on relative changes is the demographic trends in the Pacific Islands. The number of young people reaching working age, about 600,000, in these island nations seems relatively small. However, for some island nations this inflow will represent a share of the working-age population by 2035 similar to that of the youngest economies in Sub-Saharan Africa (World Bank 2026).

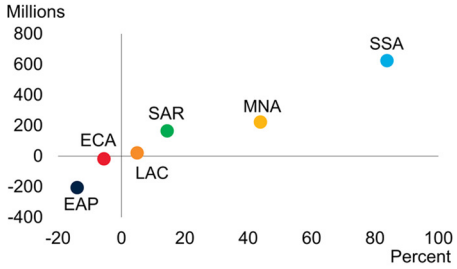
FIGURE B.2 Working-age population growth by EMDE region

In numerical terms, based on the working-age method—the change in the working-age population—Sub-Saharan Africa and South Asia will face the largest jobs challenge between 2025 and 2035. The Middle East and North Africa is also affected, only to a slightly lesser extent than South Asia in absolute numbers. Extending the estimates to 2050, the jobs challenge will be concentrated in Sub-Saharan Africa, while East Asia and Pacific will experience a contraction in the working-age population.

A. Growth in working-age population, by EMDE region, 2025–35



B. Growth in working-age population, by EMDE region, 2025–50



Sources: UN World Population Prospects (2024); World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa. Positive numbers show a jobs challenge, while negative numbers imply an improvement in the jobs challenge.
A. Panel shows the change in the working-age population using the working-age method, over 2025–35 by EMDE region, in numerical magnitude (y-axis) and relative to the 2025 working-age population (x-axis).
B. Panel shows the change in the working-age population using the working-age method, over 2025–50 by EMDE region, in numerical magnitude (y-axis) and relative to the 2025 working-age population (x-axis).

This more holistic approach of the aggregate working-age population makes the implicit assumption of labor substitutability: an indirect jobs transfer from those exiting the working-age population to younger workers. As a result, even in regions with large inflows of young people, there is a risk that focusing on the working-age population underplays the youth dimension of the jobs challenge. Although 280 million young people will reach working age between 2025–35 in East Asia and Pacific, once factoring in those aging out of working age, the working-age population will decline by 25 million, implying that, assuming smooth matching processes and holding other factors equal, the number of jobs required would actually decrease. It does not necessarily follow that young people will step into jobs just because older workers reach the age of 65. However, tracking changes in the working-age population is more meaningful over longer time horizons than simply looking at young people reaching working age. Changes in the working-age population can be made over the long run, including to 2050 or 2100.

Although ratio methods that account for employment may appear more sophisticated, these methods are still based on the same underlying set of demographic projections, while making additional assumptions. As a result, regardless of the method used, the regions and economies highlighted as those most affected by the jobs challenge tend to be similar, even though absolute numbers differ (figure B.1.F). Sub-Saharan Africa is consistently the region with the largest estimated jobs challenge across the three meth-

ods. South Asia follows in second place. It has a similar youth population to East Asia and Pacific but a larger challenge than all regions except Sub-Saharan Africa according to the working-age and ratio estimates. Sub-Saharan Africa's jobs challenge estimate varies based on methods and assumptions, ranging from 80 million additional jobs (ratio method with historical employment growth trends), 230 million using the working-age method, to 330 million additional young people (youth method).

The youth method offers advantages in quantifying the broad jobs challenge even in aging economies. For example, youth unemployment is a concern in many EMDEs with large or growing populations. The youth method arguably provides a better window into this particular challenge (ILO 2024). Yet since no single estimate of the jobs challenge can fully capture the complexities of providing employment for everyone requiring a job in all circumstances, it is useful to compare the different measures and their implications.

According to the youth method, there will be a significant jobs challenge in 2035 across EMDEs, but it will be particularly acute in Sub-Saharan Africa, South Asia, and, relative to population, the Middle East and North Africa. Between 2025 and 2035, just over 1.2 billion individuals will join working-age populations in EMDEs; about 27 percent of this cohort will live in Sub-Saharan Africa, 23 percent in South Asia, and 14 percent in the Middle East and North Africa. In contrast, advanced economies are expected to see 120 million young people reach working age, just 10 percent of the EMDE figure.

Although the analysis in this appendix has largely focused on the medium-term outlook (through 2035), the jobs challenge in EMDEs is expected to become increasingly concentrated in these three regions beyond this period, and in Sub-Saharan Africa in particular. This is underscored when using the working-age method. Between 2025 and 2035, the working-age method shows a concentration of the jobs challenge in three regions (figure B.2.A). Between 2025 and 2050, the working-age population in EMDEs is expected to increase by over 800 million individuals, of whom over 620 million will be in Sub-Saharan Africa (figure B.2.B).

The three main methods presented here for assessing the jobs challenge in EMDEs between 2025 and 2035 show different headline estimates but reveal some common patterns. The youth method shows 1.2 billion individuals are expected to reach working age over the next decade. When considering the working-age population as a whole and applying crude employment growth projections, the number of net additional jobs needed across EMDEs could be as low as 270 million (figure B.1.A). The jobs challenge is particularly acute for LICs (figure B.1.C). In advanced economies, on the other hand, using any concept, the jobs challenge is much smaller compared with EMDEs, or even non-existent under some methods (figure B.1.D). Nevertheless, employment will be a major policy concern in these economies too.

All methods indicate that Sub-Saharan Africa faces the largest task in creating sufficient additional jobs to meet the jobs challenge (table B.1). Under most methods, South Asia also has a significant jobs challenge, in part attributable to continued working-age population growth in India. The Middle East and North Africa also faces significant job

-creation demands due to its relatively young and still-growing population. All methods project that LICs will face a worsening jobs challenge between 2025 and 2035, with the working-age method suggesting that the annual increase of the working-age population in all LICs will be higher between 2025 and 2035 than over the last two decades. All methods consistently show that the most significant job-creation needs are concentrated in countries with lower income levels, and/or large populations. The Democratic Republic of Congo, Egypt, Ethiopia, Nigeria, and Pakistan are among the ten most affected countries in five different estimates in terms of number of people (figure B.1.F). These five estimates include three variants of the ratio method: one based on the employment-to-working-age population ratio (used in all charts showing three methods), one based on historical employment growth projected forward, and one based on employment-growth elasticities.

TABLE B.1 The global jobs challenge through 2035 and beyond

Method	Top 5 economies	2025-35 in EMDEs	2025-35 in SSA	2025-35 in LICs	2025-35 in FCS	2025-50 in SSA
1. Youth method	IND, CHN, NGA, PAK, IDN	1.2 billion	332 million	158 million	267 million	Not informative in long-run.
2. Working-age method	IND, NGA, PAK, ETH, COD	447 million	234 million	119 million	180 million	625 million
3. Ratio method	IND, NGA, ETH, PAK, COD	269 million	168 million	74 million	119 million	447 million

Sources: ILOSTAT (database); UN World Population Prospects (2024); World Bank.

Note: CHN = China; COD = Democratic Republic of Congo; EMDEs = emerging market and developing economies; ETH = Ethiopia; FCS = fragile and conflict-affected situations; IDN = Indonesia; IND = India; LICs = low-income countries; NGA = Nigeria; PAK = Pakistan; SSA = Sub-Saharan Africa. Positive numbers show a worsening jobs problem, while negative numbers imply an improvement. The top 5 countries are listed in alphabetical order. Ethiopia is one of the countries with the largest jobs challenge but does not have an income classification in FY26. The youth method calculates the projected number of new entrants into working age over 2025–35. Youth-method estimates for 2050 would include all individuals aged 15–40 in 2050 and largely overlap with the total working-age population itself. The working-age method calculates the projected change in the working-age population over the indicated time range. The ratio method estimates the projected change in working-age population, adjusted for the employment-to-population ratio.

TABLE B.2 The jobs challenge in numbers

Region / group	Working-age population in 2025, in millions	Number of young people aged 15-24 in 2035, in millions	Level change in working-age population 2025-50, in millions	Share of 15–24-year-olds in 2035 as of 2025 working-age population, in percent	Change in working-age population 2025–50, in percent
World	5,331	1,353	755	25	14
AE	701	124	-60	18	-9
EMDE	4,634	1,229	815	27	18
IDA	1,163	468	800	40	69
FCS	635	267	473	42	74
MIC	399	992	427	25	11
LIC	337	158	328	47	97
EAP	1,470	285	-206	19	-14
ECA	310	65	-17	21	-6
LAC	442	99	22	22	5
MNA	514	170	226	33	44
SAR	1153	278	166	24	14
SSA	746	332	625	45	84

Sources: UN World Population Prospects (2024); World Bank.

Notes: AE = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; IDA = IDA and IDA blend eligible economies; FCS = fragile and conflict-affected situations; LAC = Latin America and the Caribbean; LIC = low-income countries; MIC = middle-income countries; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa. The working-age population includes all individuals aged 15–64. Ethiopia is one of the countries with the largest jobs challenge but does not have an income classification in FY26.

TABLE B.3 List of economies with the largest projected change in working-age population, 2025–50, as numerical change or growth rate

Economy	Level change in working-age population, 2025–50, in thousands	Working-age population in 2025, in thousands	Economy	Growth in working-age population, 2025–50, in percent	Working-age population in 2025, in thousands
India	132,447	1,001,696	Central African Republic	136	2,708
Nigeria	97,928	133,991	Niger	126	14,282
Pakistan	89,038	151,585	Democratic Republic of the Congo	125	57,507
Democratic Republic of the Congo	71,612	57,507	Somalia	122	9,990
Ethiopia	66,906	78,472	Angola	116	20,694
Tanzania	40,240	38,531	Mali	111	13,064
Egypt	31,229	74,775	Chad	110	10,905
Bangladesh	28,456	115,401	Mozambique	108	18,920
Uganda	27,153	28,087	Tanzania	104	38,531
Afghanistan	24,670	24,120	Afghanistan	102	24,120

Sources: UN World Population Prospects (2024); World Bank.
Note: Table shows the top 10 economies with the largest projected change (in level and percent) in the working-age population (those aged 15–64) from 2025–50. Data are taken from the central projection of the UN Population Statistics database.

TABLE B.4 List of economies with the largest projected youth population in 2035, in numbers or as a share of the 2025 working-age population

Economy	Youth population in 2035, in thousands	Share of youth population in 2035 to working age population in 2025, percent	Economy	Youth population in 2035, in thousands	Share of youth population in 2035 to working age population in 2025, percent
India	238,128	24	Central African Republic	1,586	59
China	168,737	17	Niger	7,843	55
Nigeria	61,025	46	Democratic Republic of the Congo	30,661	53
Pakistan	58,640	39	Mali	6,955	53
Indonesia	46,578	24	Somalia	5,275	53
Ethiopia	33,374	43	Burundi	3,982	52
Bangladesh	31,004	27	Angola	10,658	52
Democratic Republic of the Congo	30,661	53	Mozambique	9,632	51
Brazil	27,989	19	Chad	5,425	50
Egypt	25,279	34	Mauritania	1,398	48

Sources: UN World Population Prospects (2024); World Bank.
Note: Table shows the top 10 economies with the largest projected youth population (aged 15–24), and top 10 economies with the largest projected youth influx as a share of the 2025 working-age population.

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APPENDIX C The relationship between employment and output growth

Employment growth is generally positively associated with output growth, though this positive relationship is weaker in emerging market and developing economies (EMDEs) compared to advanced economies. The relationship between employment and output growth tends to be weaker still for countries with a high jobs need. The large share of informal employment in EMDEs partly explains the lower sensitivity of employment to economic activity in EMDEs compared to advanced economies. Employment growth among young people and those with basic education tends to be more responsive to output growth.

Introduction

Over 2010–19, output growth in the average EMDE was 3.1 percentage points higher than in advanced economies. Employment growth in EMDEs over the same period was only 0.2 percentage point higher than in advanced economies, however. The high prevalence of informal employment in EMDE labor markets likely contributes to this disparity. In a context where economic growth in EMDEs is expected to slow while their working-age populations continue to expand, quantifying the relationship between output and employment growth and accounting for the differing patterns between EMDEs and advanced economies becomes critical for overcoming the jobs challenge.

To address these issues, this appendix extends earlier empirical work by comparing advanced economies and EMDEs. It examines the relationship between output and employment, including in EMDEs that face a jobs challenge. It also analyzes the role of informal employment relative to wage employment, and how employment among different population sub-groups adjusts to output fluctuations. Specifically, this appendix addresses the following questions:

- What is the relationship between employment and output growth?
- Why is employment growth more detached from output growth in EMDEs?
- What is the impact of growth on the employment of young people and less-educated people?

Insights from the literature

Labor market outcomes reflect an interaction of shocks and institutions. This has been a common view among economists for several decades in relation to labor adjustments in advanced economies (refer to, for example, Nickell and Layard 1999; Blanchard and Wolfers 2000). More recently, research has examined differences in labor market adjustment by country groups (An, Bluedorn, and Ciminelli 2021; Ball et al. 2019; IMF 2016). This appendix revisits the evidence regarding employment-to-output elasticities

Note: This appendix was prepared by Emiliano Luttini and Hayley Pallan. The analysis is based on and extends Loungani, Luttini, and Pallan (2025).

in EMDEs and advanced economies. It shows that the response of employment to economic growth is more muted in EMDEs, especially in low- and lower-middle income countries, and among those EMDEs with a high job creation need.

This appendix examines the role of informality in the context of how employment responds to economic growth. Informality refers to workers who are generally self-employed—that is, workers who work for themselves, are members of producers' cooperatives, or unpaid family workers.[37] In contrast, formal employment refers to wage employment—that is, employment for a (fixed) wage.

Informality can affect the dynamics of employment if moving into informal employment helps workers cope with adverse shocks, or if shocks that affect the formal sector are different to those affecting the informal sector. Relative to formal employment, economy-wide fluctuations can have a more nuanced impact on informal employment as a result of productivity shocks (Fernández and Meza 2015). The formal sector may be affected by shocks that impact the hiring rate (adversely, in the case of a negative shock), whereas the informal sector may remain more insulated from these shocks (Leyva and Urrutia 2020).[38]

This appendix presents estimates for informal and formal employment-to-output elasticities in advanced economies and EMDEs. It finds that there are differences in how informal and formal employment adjust to economic activity. Individually, informal and formal employment both adjust similarly to output growth in both groups of economies. The difference in the economy-wide employment response to output growth between EMDEs and advanced economies, therefore, implies that the smaller reaction of employment to economic growth in EMDEs is largely explained by the relatively large presence of informality in these economies.

Empirical strategy

Over the cycle, employment and activity are closely related: activity decreases when capital and employment are under-utilized, and increases during economic upturns. Okun (1962) posits a stable relationship between output growth and the change in the unemployment rate. Here, this framework is adjusted to examine the relationship between GDP growth and employment growth. The baseline regression is as follows:

$$\Delta \text{EMP}_{ct} = \alpha_c + \beta \Delta y_{ct} + \beta^{\text{EMDE diff}} \Delta y_{ct} \times I_{\text{EMDE}} + \varepsilon_{ct}, \quad \text{(C.1)}$$

where ΔEMP_{ct} is employment growth in country c in year t, Δy_{ct} is output growth, and I_{EMDE} is a dummy variable equal to one for EMDEs. Country fixed effects are included.

[37] The ILO defines informal employment as "working arrangements that are in practice or by law not subject to national labour legislation, income taxation, or entitlement to social protection or other employment guarantees" (ILO 2013). This appendix follows a well-established approach in the literature by using self-employment as a proxy for informality. For examples, refer to La Porta and Shliefer (2014) and Loayza and Rigolini (2006).

[38] Another strand of this literature focuses on the size of the informal sector, showing that the larger this sector is, the easier workers can transition in or out of informal jobs, helping workers adjust to adverse shocks (Horvath and Yang 2022; Shapiro 2014).

The β coefficient captures the employment-to-output elasticity in advanced economies, the $\beta^{\text{EMDE diff}}$ coefficient captures the differential adjustment in EMDEs compared to advanced economies, and $\beta + \beta^{\text{EMDE diff}}$ is the employment-to-output elasticity for EMDEs.

Beyond the distinctions between advanced economies and EMDEs, heterogeneity within EMDEs is examined by extending Equation (C.1) to include dummy variables based on EMDE groups. This appendix also investigates whether these elasticities differ for economies based on their income level, or whether the economy is facing a jobs challenge.[39] For example, the specification for elasticities for EMDEs taking into account income levels is as follows:

$$\Delta \text{EMP}_{ct} = \alpha_c + \beta \Delta y_{ct} + \beta^{\text{EMDE, low}} \Delta y_{ct} \times \text{I}_{\text{EMDE, low}} + \beta^{\text{EMDE, middle}} \Delta y_{ct} \times I_{\text{EMDE, middle}} + \beta^{\text{EMDE, high}} \Delta y_{ct} \times I_{\text{EMDE, high}} + \varepsilon_{ct} \quad \text{(C.2)}$$

In this model, there are three dummy variables ($I_{\text{EMDE, low}}$, $I_{\text{EMDE, middle}}$, $I_{\text{EMDE, high}}$) that are equal to one when an EMDE is classified in a particular income level and zero otherwise. To compare elasticities for EMDEs with and without a jobs challenge, instead of income-level dummies, dummies for these two EMDE groups are interacted with output growth following the approach in Equation (C.2). Estimating this equation provides information on the extent to which output growth can support employment growth in countries with a jobs challenge.

Informality is more prominent in EMDEs, so quantifying its relationship with economic growth helps assess whether advanced economies and EMDEs are fundamentally different because formal and informal employment respond differently to output fluctuations. If these types of employment were to share similar statistical properties with respect to output growth, then the composition of employment in terms of formal and informal employment would have a negligible role. However, if these types of employment have different elasticities, then differences in the relative sizes of informal and formal employment will help to explain the implications of different elasticities. Thus, the employment elasticities are estimated not only for total employment as the dependent variable, but also for informal and formal employment.

Employment may not fully respond to output growth shocks in the short-run (for example, a one-year time horizon). Over the medium term, the employment-to-output elasticity may be higher, as real wages are expected to increase (positively influencing household choices about participating in the labor market) and as search and matching frictions in the labor market should decline over time. However, as wages increase with output growth, labor demand may also fall. Therefore, estimating the size of the

[39] For the purpose of this analysis and subject to data limitations, the twelve countries with the largest increase in working-age population by 2030 in the sample are categorized as countries with a high jobs need. These countries include Angola, Bangladesh, Egypt, India, Indonesia, Iraq, the Islamic Republic of Iran, Kenya, Mexico, Pakistan, the Philippines, and Tanzania. The remaining eight countries in the top 20 are not in the regression sample. The following robustness exercises yield similar results: regressing the cumulative changes of (log) employment on (log) GDP, replacing employment growth as the dependent variable with the change in the employment rate, and including different lag structures of GDP growth.

medium-term elasticity is an important empirical question. Thus, a more flexible specification is explored to estimate the medium-term relationship between employment and output growth. Equation (C.1) is augmented with lags of output growth:[40]

$$\Delta \text{EMP}_{ct} = \alpha_c + \Sigma_{l=1}^{S} \left(\beta_l \Delta y_{c,t+1-l} + \beta_l^{\text{EMDEdiff}} \Delta y_{c,t+1-l} \times I_{\text{EMDE}}\right) + \varepsilon_{ct}, \quad \text{(C.3)}$$

In distributed lag models, the cumulative effect of a sustained one-percentage-point increase in output growth on employment growth is computed based on the sum of the coefficients over a given horizon. That is, the cumulative responses of employment growth over S years to a sustained one-percentage-point increase in output growth are computed as $\Sigma_{l=1}^{S}(\beta_l)$ and $\Sigma_{l=1}^{S}(\beta_l + \beta_l^{\text{EMDEdiff}})$ for advanced economies and EMDEs respectively. Below, $S = 3$ years is referred to as the medium-term elasticity. Equation (C.3) can be adjusted to include dummies for specific EMDE income levels or for whether an economy is facing a jobs challenge.

These exercises are implemented using annual frequency data for up to 30 advanced economies and 67 EMDEs between 1990 and 2019. Among the EMDEs in the sample, 12 are classified as having a "high jobs need": countries that rank among the top 20 in terms of the largest increases in the working-age population by 2030. Employment data are sourced from ILO Statistics and the OECD's Labour Statistics. Output growth refers to real output growth in constant 2015 U.S. dollars from the World Bank's World Development Indicators.

Results and implications

Employment and output tend to go hand-in-hand over both the short term and medium term. Differences between EMDEs and advanced economies are also consistent regardless of the horizon. However, the relationship between employment and output growth differs depending on a country's income level, as well as by type of employment, education level, and age.

Short- and medium-term. Estimating Equation (C.1) over a sample of advanced economies and EMDEs shows that a one-percentage-point increase in output growth is associated with a 0.3-percentage-point increase in employment growth. The relationship tends to be stronger in advanced economies than in EMDEs (figure C.1.A). Specifically, a one-percentage-point increase in output growth leads to a 0.4-percentage-point increase in employment growth in advanced economies, versus 0.2-percentage-point in EMDEs.[41]

Extending the framework to examine the cumulative effects of sustained output growth over the medium term again reveals differences in labor market adjustment between advanced economies and EMDEs (figure C.1.B). In advanced economies, after three

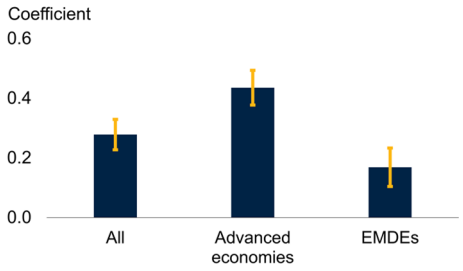
[40] When $I = 1$, these are representative of short-run employment-to-output elasticities. To examine the medium-term elasticities for EMDE groups (by income level or degree of the jobs challenge), Equation (C.2) is augmented with lags of output growth and its interaction with dummies for the relevant EMDE groups.

[41] These estimates are broadly similar to those presented in Crivelli, Furceri, and Toujas-Bernate (2012) and IMF (2016).

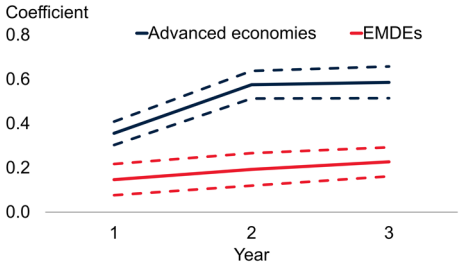
FIGURE C.1 Employment elasticities

Employment tends to be less sensitive to output in EMDEs compared to advanced economies, in the short and medium term. Among EMDEs, elasticities are weakest in low- and lower-middle-income countries and EMDEs with a high jobs need.

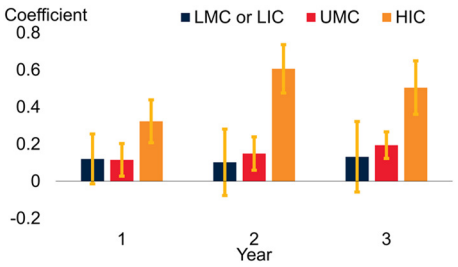
A. Short-term employment elasticities



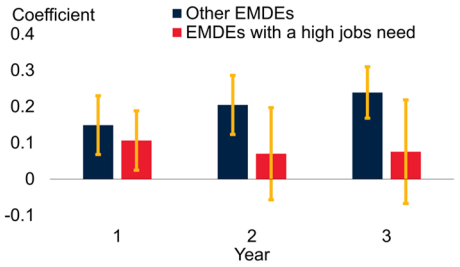
B. Medium-term employment elasticities



C. Medium-term employment elasticities in EMDEs, by income group



D. Medium-term employment elasticities in EMDEs, by jobs need status



Sources: Loungani, Luttini, and Pallan (2025); World Bank.

Note: EMDEs = emerging market and developing economies; HIC = high-income countries; LIC = low-income countries; LMC = lower-middle-income countries; UMC = upper-middle-income countries. "High jobs need" refers to EMDEs defined as being among the 20 countries with the largest increases in the working-age population by 2030. Employment elasticities refer to employment-to-output elasticities. Whiskers and dashed lines show 90-percent confidence intervals. Short term refers to one year, medium term refers to three years.

A. Bars are employment-to-output elasticities based on estimating Equation (C.1) with and without the interaction between GDP growth and the EMDE indicator. Sample includes 30 advanced economies and 67 EMDEs.

B. Cumulative employment-to-output elasticities based on estimating Equation (C.3) with and without the interaction terms between GDP growth and the EMDE indicator. Sample includes 30 advanced economies and 67 EMDEs.

C.D. Cumulative employment-to-output elasticities based on estimating a version of Equation (C.3), including interaction terms between GDP growth and either dummy variables for EMDE income levels or dummy variables for EMDEs based on the degree of their jobs need. Sample includes 28 LICs or LMCs, 31 UMCs, and 8 HICs. Of the 67 EMDEs included in the regression sample, 12 are designated as EMDEs with a high jobs need.

years, a one-percentage-point increase in output growth is associated with a 0.6-percentage-point increase in employment growth. The employment-to-output elasticity in EMDEs changes little over time, reaching a value of 0.23. These differences in coefficients suggest that, as output expands, labor markets in advanced economies are more accommodative to rising labor demand than those in EMDEs—especially over the medium term.[42]

[42] When output growth is replaced with investment growth in the baseline medium-term regressions, a positive and statistically significant relationship is found between investment growth and employment growth, suggesting that investment growth is associated with faster job creation.

EMDE heterogeneity. Employment-to-output elasticities vary with an economy's income level and are lower in economies with a high jobs need. Medium-term elasticities are also smaller in non-high-income countries (figure C.1.C). This result shows that there is widespread variation in the response of employment to output in EMDEs. Notably, employment in high-income EMDEs behaves similarly to employment in advanced economies. Low-income and lower-middle-income countries tend to have employment-to-output elasticities that are not statistically different from zero. While upper middle-income countries have statistically significant elasticities, they are less than half the level of those in high-income countries.

Countries identified as having a jobs challenge tend to have a relatively low employment-to-output elasticity. This weaker relationship highlights that creating jobs requires stronger output growth in these economies (figure C.1.D). In the medium term, a sustained one-percentage-point increase in output growth is associated with a 0.08-percentage-point (not statistically significant) increase in employment growth in EMDEs with a high jobs need. In contrast, the same scenario leads to a statistically significant 0.24-percentage-point increase in employment growth in other EMDEs.

A potential explanation for this difference in elasticities across the income spectrum is that formal and informal employment may adjust differently to output growth. This appendix therefore also estimates employment-to-output elasticities for formal and informal employment.

Types of employment. The structure of employment in EMDEs differs from that in advanced economies. In EMDEs, and particularly in EMDEs with a high jobs need, informal employment accounts for a larger proportion of total jobs, a characteristic that is inversely related with the level of economic development (figures C.2.A and C.2.B). For example, the share of informal employment in total employment is nearly three times higher in EMDEs than in advanced economies. This higher share likely reflects structural differences in labor markets, with informal employment not registered nationally and thus generally sitting beyond the reach of national legislation, protection, and income tax frameworks. If employment-to-output elasticities for formal and informal employment differ, these features may account for the difference in employment-to-output elasticities between advanced economies and EMDEs—and explain the difference in elasticities between EMDEs with and without a jobs challenge.

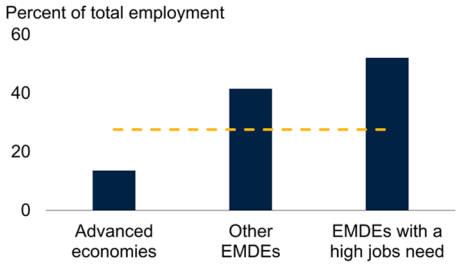
Formal employment growth has a positive and statistically significant relationship with output growth, while informal employment growth tends to have a weaker and negative relationship with output growth (figure C.2.C). This pattern holds in both advanced economies and EMDEs. Consequently, the larger informal sector in EMDEs contributes to the lower employment-to-output elasticities observed in these economies compared to advanced economies. Examining EMDEs with and without a jobs challenge, informal employment plays a countercyclical role (figure C.2.D). While the informal employment elasticity is somewhat larger in absolute terms for EMDEs with a high jobs need, it is not statistically different from that of other EMDEs.

Employment by demographic groups. Employment growth among youth and those with a basic education is more responsive to changes in economic activity (figures C.3.A and

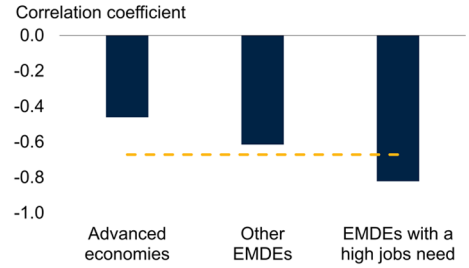
FIGURE C.2 Output and informality

The prevalence of informal employment tends to have an inverse relationship with output per capita. The share of informal employment tends to be larger in EMDEs compared to advanced economies, and even larger in EMDEs with a high jobs need. While medium-term formal-employment-to-output elasticities are positive, informal-employment-to-output elasticities tend to be negative in all country groups.

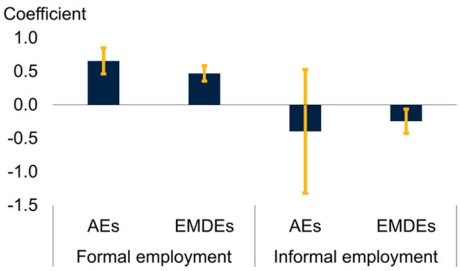
A. Share of informality



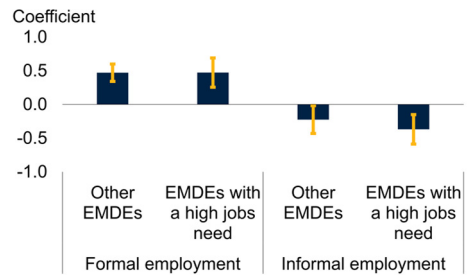
B. Correlation between informality and GDP per capita



C. Formal and informal employment elasticities



D. Formal and informal employment elasticities in EMDEs



Sources: Loungani, Luttini, and Pallan (2025); World Bank.

Note: AEs = advanced economies; EMDEs = emerging market and developing economies. Employment elasticities refer to employment-to-output elasticities. Informal employment refers to self-employment, and formal employment refers to wage employment. "High jobs need" refers to EMDEs defined as being among the 20 countries with the largest increases in the working-age population by 2030. Sample includes 28 advanced economies and 48 EMDEs, of which 6 have a high jobs need.

A. Bars show median of country averages in each group. Dashed line shows the correlation in the overall sample.

B. Correlation between the share of informal employment and real per capita GDP. Dashed line shows the median correlation in the overall sample.

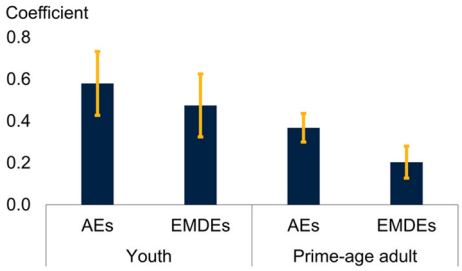
C.D. Bars are cumulative (S=3) informal- and formal-employment-to-output elasticities based on estimating Equation (C.3) with informal and formal employment growth as the dependent variable, including either the interaction between (lagged) output and an EMDE dummy or (lagged) output and two EMDE dummies indicating whether the economy is facing a high jobs need. Whiskers show 90-percent confidence intervals.

C.3.B). For instance, a one-percentage-point increase in GDP growth is associated with a 0.5-percentage-point rise in the growth rate of youth employment in EMDEs, roughly triple the medium-term total employment-to-output elasticity for these economies. For those with a basic education in EMDEs, a one-percentage-point increase in output growth is associated with a 0.2-percentage-point increase in employment growth—slightly higher than the association between output growth and total employment and about one-third higher than the employment-to-output elasticity for those with an advanced education.

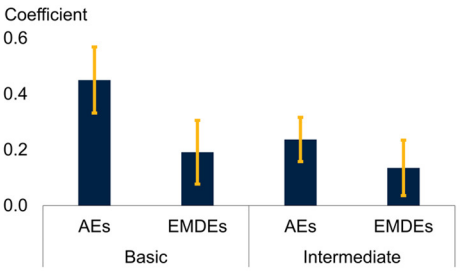
FIGURE C.3 Employment elasticities by different groups

Youth and basic-level education employment tend to be more sensitive to output growth, and thus can benefit more from higher output than less vulnerable groups. However, in EMDEs with a high jobs need, youth and basic-education employment are relatively disconnected from output growth—as a result, these groups in these countries face challenging job prospects, even when growth is strong.

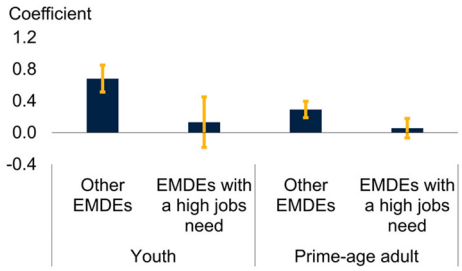
A. Employment elasticities, by age group



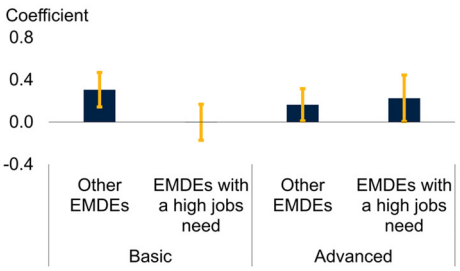
B. Employment elasticities, by education level



C. Employment elasticities, by age group, in EMDEs



D. Employment elasticities, by education level, in EMDEs



Sources: Loungani, Luttini, and Pallan (2025); World Bank.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies. Sample includes up to 26 advanced economies and 55 EMDEs, of which 8 have a high jobs need. "High jobs need" refers to EMDEs defined as being among the 20 countries with the largest increases in the working-age population by 2030. Employment elasticities refer to employment-to-output elasticities. Whiskers show 90-percent confidence intervals.
A.-D. Age groups are defined as youth (15–24) and prime-age adult (25–54). Education levels are as defined by the International Labour Organization. Basic education is defined as having primary education, lower-secondary education, or less; advanced education is defined as having tertiary education. Bars are medium-term elasticities based on Equation (C.3) with employment for a specific group as the dependent variable.

These findings highlight the positive impact that higher output growth can have on youth employment and jobs for lower-skilled workers with basic education. The flip side of this result suggests that their jobs are more vulnerable during economic downturns than those of other workers.[43] In EMDEs with a jobs challenge, youth and basic-education employment are relatively disconnected from output growth (figures C.3.C and C.3.D). As a result, these groups in such countries face challenging job prospects, even when growth is strong.

[43] The findings regarding youth and basic education are supported by results in Donovan et al. (2024), which document that these groups are the most adversely affected during downturns.

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APPENDIX D List of economies included in the study

TABLE D.1 List of emerging market and developing economies

East Asia and Pacific		
Brunei Darussalam	Marshall Islands	Samoa
Cambodia	Micronesia, Fed. Sts.	Solomon Islands
China	Mongolia	Thailand
Fiji	Myanmar	Timor-Leste
Indonesia	Nauru	Tonga
Kiribati	Palau	Tuvalu
Lao PDR	Papua New Guinea	Vanuatu
Malaysia	Philippines	Viet Nam
Europe and Central Asia		
Albania	Kazakhstan	Russian Federation
Armenia	Kosovo	Serbia
Azerbaijan	Kyrgyz Republic	Tajikistan
Belarus	Moldova	Turkmenistan
Bosnia and Herzegovina	Montenegro	Türkiye
Bulgaria	North Macedonia	Ukraine
Georgia	Poland	Uzbekistan
Hungary	Romania	
Latin America and the Caribbean		
Antigua and Barbuda	Dominican Republic	Panama
Argentina	Ecuador	Paraguay
Bahamas, The	El Salvador	Peru
Barbados	Grenada	St. Kitts and Nevis
Belize	Guatemala	St. Lucia
Bolivia	Guyana	St. Vincent and the Grenadines
Brazil	Haiti	Suriname
Chile	Honduras	Trinidad and Tobago
Colombia	Jamaica	Uruguay
Costa Rica	Mexico	Venezuela, RB
Dominica	Nicaragua	
Middle East, North Africa, Afghanistan and Pakistan		
Afghanistan	Jordan	Qatar
Algeria	Kuwait	Saudi Arabia
Bahrain	Lebanon	Syrian Arab Republic
Djibouti	Libya	Tunisia
Egypt, Arab Rep.	Morocco	United Arab Emirates
Iran, Islamic Rep.	Oman	West Bank and Gaza
Iraq	Pakistan	Yemen, Rep.
South Asia		
Bangladesh	India	Nepal
Bhutan	Maldives	Sri Lanka

TABLE D.1 List of emerging market and developing economies (*continued*)

Sub-Saharan Africa		
Angola	Ethiopia	Niger
Benin	Gabon	Nigeria
Botswana	Gambia, The	Rwanda
Burkina Faso	Ghana	Senegal
Burundi	Guinea	Seychelles
Cabo Verde	Guinea-Bissau	Sierra Leone
Cameroon	Kenya	Somalia, Fed. Rep.
Central African Republic	Lesotho	South Africa
Chad	Liberia	South Sudan
Comoros	Madagascar	Sudan
Congo, Dem. Rep.	Malawi	São Tomé and Príncipe
Congo, Rep.	Mali	Tanzania
Côte d'Ivoire	Mauritania	Togo
Equatorial Guinea	Mauritius	Uganda
Eritrea	Mozambique	Zambia
Eswatini	Namibia	Zimbabwe

Source: World Bank.

TABLE D.2 List of advanced economies

World		
Australia	Hong Kong SAR, China	Norway
Austria	Iceland	Portugal
Belgium	Ireland	San Marino
Canada	Israel	Singapore
Croatia	Italy	Slovak Republic
Cyprus	Japan	Slovenia
Czechia	Korea, Rep.	Spain
Denmark	Latvia	Sweden
Estonia	Lithuania	Switzerland
Finland	Luxembourg	Taiwan, China
France	Malta	United Kingdom
Germany	Netherlands	United States
Greece	New Zealand	New Zealand

Source: World Bank.

The world faces a jobs challenge of historic proportions that will shape global prosperity and stability for decades to come. Between 2025 and 2035, around 1.2 billion young people in emerging market and developing economies are set to reach working age, the largest youth cohort the world will likely ever see. Jobs are essential to reducing poverty, promoting shared prosperity, building self-sufficient economies, and strengthening social stability.

In the recent past, many countries have struggled to generate enough jobs during periods of large inflows of young people into the working-age population. Today, the task is even more difficult. Many of the most-affected economies are entering this period with low per-capita incomes, high debt, and limited room for policy action. The effects of recent crises add to these pressures. At the same time, global growth has slowed, traditional export-led growth strategies look harder to execute, and structural and technological shifts such as the rise of artificial intelligence and the energy transition create new uncertainties.

There are also strong reasons for hope. This starts with young people themselves: this record cohort is better educated than previous generations and has enormous potential. There are success cases from regions that have seen large influxes of young people in the past. If sufficient job opportunities can be created, today's young people could drive economic and development progress for decades to come.

This study offers a wide-ranging assessment of the global jobs challenge. It explores demographic and labor market trends, explains why the challenge has become more complex, and discusses policies to address it. The study highlights three policy pillars: foundational infrastructure (physical, human, and digital capital), a business-friendly environment, and mobilization of private capital. Complementary policies focus on five sectors identified by the World Bank Group with high potential for resilient, large-scale job creation: infrastructure (including energy), agribusiness and farming, health, tourism, and value-added manufacturing.

Success will depend on comprehensive national strategies adapted to country circumstances, with the international community also playing its part. With determined action, this demographic wave can become a powerful engine of growth, poverty reduction, and shared prosperity.

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