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World Employment and Social Outlook

Trends 2023

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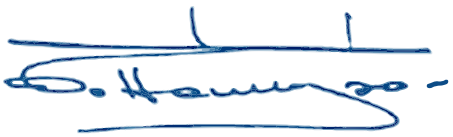
Preface

This year's *World Employment and Social Outlook: Trends* provides a comprehensive assessment of current decent work deficits and how these have been exacerbated by multiple, overlapping crises in recent years. It analyses global patterns, regional differences and outcomes across groups of workers. The report provides labour market projections for 2023 and 2024 and presents trends in labour productivity growth, analysing the factors contributing to its decline.

By the end of 2022, the recovery from the COVID-19 crisis was still incomplete and highly uneven across the world, particularly in low-income and middle-income countries, and was further hampered by the consequences of the conflict in Ukraine, accelerating climate change and unprecedented humanitarian challenges. Projections of a slowdown in economic and employment growth in 2023 imply that most countries will fall short of a full recovery to pre-pandemic levels in the foreseeable future. Worse still, progress in labour markets is likely to be far too slow to reduce the enormous decent work deficits that existed prior to, and were exacerbated by, the pandemic. Lack of access to employment, poor job quality, insufficient pay and major inequalities are only some of the challenges that undermine social justice. The globally observed slowdown in productivity growth is likely to make those challenges even more difficult to address.

In times of crisis, international solidarity is more critical than ever. A new global social contract is needed to narrow the existing deficits in decent work and social justice. To this end, in 2023 the ILO will launch a Global Coalition for Social Justice aimed at strengthening global solidarity and improving policy coherence, in order to bring about action and investment for decent work and social justice.

More than ever, the convergence of crises and the associated uncertainties are fuelling the sources of inequalities and undermining the already endangered social contract. Beyond the individual human tragedies they have caused, and their impact on the world of work, these crises have highlighted the interlinkages and dependencies of economies and societies around the world and have shown the crucial need for concerted, coordinated action at all levels. We need both awareness of the necessity to act and new ways of translating this awareness into resolute action without further delay.



Gilbert F. Houngbo
ILO Director-General

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Executive summary

Labour markets face enormous challenges

The global outlook for labour markets deteriorated significantly during 2022. Emerging geopolitical tensions, the Ukraine conflict, an uneven recovery from the pandemic, and ongoing bottlenecks in supply chains have created the conditions for a stagflationary episode, the first period of simultaneously high inflation and low growth since the 1970s. Policymakers face a challenging trade-off as they deal with elevated inflation in an environment of incomplete jobs recovery. Most countries have not yet returned to the levels of employment and hours worked seen at the end of 2019, before the outbreak of the COVID-19 health crisis. Yet, a series of supply shocks, predominantly in food and commodities markets, have raised producer prices, causing spikes in consumer price inflation and pushing major central banks into a more restrictive policy stance. In the absence of corresponding increases in labour incomes, the cost-of-living crisis directly threatens the livelihoods of households and risks depressing aggregate demand. Many countries have accumulated a significant amount of debt, in part to address the severe fallout from the pandemic. The risk of a global debt crisis therefore looms large, jeopardizing the fragile recovery in many frontier markets.

In the midst of these challenging circumstances, major decent work deficits persist around the world, undermining social justice. Hundreds of millions of people lack access to paid employment. Those who are employed all too often lack access to social protection and fundamental rights at work, the majority of workers being informal or unable to express their interests through social dialogue. Incomes are distributed highly unequally, such that many workers fail to escape poverty. Labour market prospects are highly unequal, not only across but also within countries. Gender gaps exist in all areas of the world of work, and young people face particular challenges.

Informality and working poverty rose further with the COVID-19 crisis. Despite the recovery that started in 2021, the ongoing shortage of better job opportunities is likely to worsen with

the projected slowdown, pushing workers into jobs of worse quality and depriving others of adequate social protection. Real labour incomes fall when prices outpace nominal incomes. The resulting downward pressure on demand in high-income countries impacts low- and middle-income countries through global supply chain (GSC) linkages. In addition, persistent disruptions to supply chains threaten employment prospects and job quality, especially in frontier markets, further reducing their prospects of a swift labour market recovery.

In sum, an environment of high and persistent uncertainty has emerged globally, depressing business investment, especially of small and medium-sized enterprises, eroding real wages and pushing workers back into informal employment. Progress in poverty reduction achieved over the previous decade has largely faltered and convergence in living standards and work quality is coming to a halt as productivity growth slows worldwide, making decent work deficits more difficult to overcome.

Challenging labour market conditions undermine social justice

Decent work is fundamental to social justice. Households rely overwhelmingly on labour income generated by decent work opportunities that offer a fair income, security in the workplace and social protection.

The global jobs gap stood at 473 million people in 2022, corresponding to a jobs gap rate of 12.3 per cent. The global jobs gap is a new measure of the unmet need for employment in the world. It consists of the 205 million unemployed – corresponding to an unemployment rate of 5.8 per cent – and 268 million people who have an unmet need for employment but are outside the labour force because they do not satisfy the criteria to be considered unemployed. This jobs gap is particularly large for women and in developing countries. Although men and women currently face similar global unemployment rates, the jobs gap for women is 15.0 per cent, compared with 10.5 per cent for men. Personal and family responsibilities (including unpaid care work), discouragement by the lack of decent employment opportunities, and scarcity of possibilities for (re)training can prevent many people from seeking employment or limit their availability to work at short notice. Low-income and lower-middle-income countries present high job gap rates, between 13 and 20 per cent, whereas upper-middle-income countries show a gap of around 11 per cent and high-income countries register a gap of only 8 per cent.

Globally, around 2 billion workers were in informal employment in 2022. The incidence of informal employment declined by 5 percentage points between 2004 and 2019. Employment recovery from the COVID-19 crisis has been driven mainly by informal employment, which has caused a slight increase in the incidence of informality. Informality lacks many characteristics of the formal employment relationship that are important to advancing social justice. For example, the jobs are much less likely to give access to social protection systems than their formal counterparts. Overall, only 47 per cent of people worldwide are effectively covered by at least one social protection benefit, meaning that more than 4 billion people still lack any social protection.

In 2022, an estimated 214 million workers were living in extreme poverty (earning less than US$1.90 per day per person in purchasing power parity [PPP] terms), corresponding to around 6.4 per cent of employed people. Low-income countries are estimated to have the same rate of extreme working poverty as in 2019, and a rising number of working poor. Without significant progress to break this stagnation, the achievement of Sustainable Development Goal (SDG) 1 – the eradication of poverty in all its forms – will be impossible. As nominal labour incomes fail to keep up with inflation, the cost-of-living crisis risks putting more people into absolute or relative poverty – where "relative poverty" equates to falling below a national poverty line. This risk is particularly elevated for those at the bottom of the highly unequal income distribution; the lower half of workers globally earn only about 8 per cent of total labour income.

Women and young people fare significantly worse in labour markets, a fact indicative of large inequalities in the world of work in many countries. Globally, the labour force participation rate of women stood at 47.4 per cent in 2022, compared with 72.3 per cent for men. The gap of 24.9 percentage points means that for every economically inactive man there are two such

women. Young people (aged 15–24) face severe difficulties in securing decent employment. Their unemployment rate is three times as high as that of adults (aged 25 or more). More than one in five – 23.5 per cent – of young people are not in education, employment or training (NEET).

Multiple crises are impeding employment growth

The ongoing impact of the COVID-19, cost-of-living and geopolitical crises is weighing heavily on labour market prospects. Supply and demand shocks have triggered price increases, leading to the highest inflation rates in decades. The Ukraine conflict and other geopolitical conflicts are worsening supply shortages and raising uncertainty. The ensuing cost-of-living crisis is eroding the purchasing power of household disposable income and reducing aggregate demand. Tightening of monetary policy is squeezing financing conditions not only in advanced economies but also through spillovers to emerging and developing economies. In the absence of proper policy coordination, the risk is that the dominant economies will pursue a policy agenda primarily catering to their domestic challenges without due regard for the potential collateral impacts. Job vacancies have started to fall sharply in those countries that have reported them; however, they are falling from record levels and in October 2022 remained high from a historical perspective.

Beyond these immediate challenges, longer-term structural changes in global labour markets are increasingly being felt. For example, climate change is contributing to a higher incidence of natural disasters and extreme weather events, including flooding, drought, land degradation, soil erosion, heatwaves and unpredictable rainfall. Adjusting to these new realities will require major adaptation initiatives, including significant infrastructure investment in highly affected regions. Yet, these adaptation measures also present opportunities for job creation, particularly in some of the poorest areas of the world, including in Africa. Meanwhile, population ageing in almost all advanced and many emerging countries has accelerated, causing a depression of labour supply that is unlikely to be offset by outward migration from demographically more dynamic regions. At the same time, technological change, pertaining especially to new digital devices and tools such as artificial intelligence, has yet to live up to earlier optimistic projections about its potential to increase productivity growth and alleviate much of the drudgery of work, but such innovations are needed to address some upcoming labour shortages resulting from demographic shifts.

The interaction of macroeconomic factors, long-term trends and institutional settings varies and affects employment growth differently across country income groups. First, the macroeconomic outlook is pessimistic for high-income countries, whereas many other countries are likely to see a normalization of growth after the higher growth rates of 2021 and 2022. Second, low social protection coverage in low-income and lower-middle-income countries means that many workers won't stop working but will be forced into the informal economy as economic activity slows. By contrast, countries with tried-and-tested employment retention schemes – most of which are high income – will make use of them again, thereby limiting employment losses. Third, enterprises in high-income countries could face labour shortages in an ensuing upswing because of an ageing and contracting labour force, which will motivate them to hold on to their workers if they can.

Employment growth is likely to slow significantly

Global employment is projected to expand by 1.0 per cent in 2023, a significant deceleration from the 2.3 per cent growth rate of 2022. This projection for 2023 is a notable downward revision of 0.5 percentage points from the previous projection. No major improvement is projected for 2024, when employment growth is expected to have edged up to 1.1 per cent. The outlook is pessimistic for high-income countries, with close to zero employment growth. By contrast, low-income and lower-middle-income countries are projected to see employment growth surpassing their pre-pandemic growth trend.

The slowdown in employment growth means that gaps opened up by the COVID-19 crisis, globally, are not projected to be closed in the next two years. Strong employment growth in 2022 raised the global employment-to-population ratio to 56.4 per cent, up from 54.5 per cent in 2020 but still almost half a percentage point below the level of 2019. Total weekly hours worked in 2022 remained shy of their level in the fourth quarter of 2019 by 1.4 per cent when adjusted for population growth; this figure translates into the equivalent of 41 million full-time jobs (at 48 hours per week). Average weekly hours worked per worker are projected to decline slightly in 2023 as a result of the economic slowdown, to remain at just above 41 hours per week. This reduction in activity limits the earnings potential of workers and in all likelihood lessens opportunities for transitions into better-quality, well-paying jobs.

Employment growth in 2021 was robust as key sectors of the economy reopened, and labour market conditions continued to improve in 2022. The employment-to-population ratio surpassed its pre-crisis level in Europe and Central Asia in 2022 and has recovered the majority of its losses in the other regions. Women, disproportionately affected by employment losses in 2020, have seen particularly strong employment growth. By 2022 their employment-to-population ratio had recovered to within 0.3 percentage points of the pre-crisis level, compared with a gap of 0.6 percentage points for men. However, this stronger recovery was mainly driven by informal employment: four out of five jobs created in 2022 for women were informal, versus only two out of three for men.

The labour market outlook for 2023 varies considerably by region. Africa and the Arab States should see employment growth in the order of 3 per cent or more. However, with their growing working-age populations, both regions are likely to see unemployment rates decline only modestly (from 7.4 to 7.3 per cent in Africa and from 8.5 to 8.2 per cent in the Arab States). In Asia and the Pacific and in Latin America and the Caribbean, annual employment growth is projected to be in the order of 1 per cent. In North America, there will be no employment gains in 2023 and unemployment will pick up. Europe and Central Asia are particularly hard hit by the economic fallout from the Ukraine conflict; employment is projected to decline in 2023, but unemployment rates should increase only slightly against the backdrop of limited growth in the working-age population. Indeed, in Europe and Central Asia the labour force is set to decline in 2023. Regardless of these trends in headline labour market indicators, each region will continue to face a myriad of decent work deficits that are likely to worsen in the face of global economic conditions and long-term challenges like climate change.

Global labour supply growth is likely to continue its deceleration, which will contribute to substantial labour shortages in advanced economies in particular. Part of this deceleration is to be expected because over the past decade both developing and emerging countries have experienced rising income levels that have allowed many younger citizens to extend their time in education. Nevertheless, a large share of young people remain outside employment, education or training (the so-called NEET rate), which will adversely affect their future labour market opportunities. Reducing these NEET rates continues to be a significant challenge that needs to be addressed if the global economy is to benefit from the youth bulge in the demographic profile of many developing countries. Even partially closing the global jobs gap by expanding gainful employment would reduce decent work deficits and boost economic activity. Advanced economies have made considerable progress in this regard, offering opportunities for older workers in particular to remain attached to the labour market; this is the only group of countries where labour force participation rates have increased over the past decade rather than declined.

Global unemployment is projected to edge up slightly in 2023, by around 3 million, to reach 208 million. This corresponds to an unemployment rate of 5.8 per cent. Despite the negative global economic outlook, global unemployment is projected to increase only moderately, since a large part of the shock is being absorbed by rapidly falling real wages in an environment of accelerating inflation. However, although global unemployment declined significantly in 2022, down to 205 million from 235 million in 2020, it still remained 13 million above the 2019 level. In 2022, unemployment rates fell below their pre-crisis level only in the Americas and in Europe and Central Asia; they remain above that level in the other regions.

Job quality is under pressure as well

Beyond the gap in employment, job quality remains a key concern. Without access to social protection, many people simply cannot afford to be without a job. They often accept any kind of work, often at very low pay and with inconvenient or insufficient hours. The projected slowdown is therefore likely to force workers to accept jobs of worse quality than they might enjoy in better economic conditions. Furthermore, with prices rising faster than nominal wages, workers will experience rapidly declining disposable incomes even when they can keep their current jobs.

Such decent work deficits vary by region in form and severity, yet they are widespread. In the Arab States, North Africa and South Asia, gender-related differences in labour market indicators, including labour force participation rates, are substantial. In Latin America and the Caribbean, and sub-Saharan Africa, elevated rates of informality inhibit access to social protection and fundamental rights at work. All regions are afflicted by one or another form of decent work deficit. The current deterioration in global economic conditions is likely to reverse past progress and worsen these deficits in several directions.

Inflation has a strong impact on the distribution of real incomes. Many workers and enterprises are unable to increase their income in line with inflation and they hence suffer real income losses. However, some workers and enterprises – for example, those operating in the energy sector – experience income gains higher than the inflation rate, which thus raise their real income. Falling real incomes are particularly devastating for poorer households, which risk slipping into poverty and food insecurity. In sub-Saharan Africa and South Asia, respectively, 60.8 per cent and 34.7 per cent of the employed population in 2021 were considered to be working poor at the US$3.10 per day (PPP per capita) level.

Global supply chain linkages are propagating to low- and middle-income countries the slow-down in demand in high-income countries. An estimated average of 11.3 per cent of jobs in the sample of 24 middle-income countries with available data – excluding those in agriculture and non-market services – are dependent on GSC linkages to high-income countries (see Appendix D). In some smaller economies, the proportion well exceeds 20 per cent. In middle-income countries, sectors with higher GSC integration tend to have a larger share of wage and salaried employment, a lower incidence of informality and a lower proportion of low-paid employees – and hence in principle a higher quality of employment. Since a slump in demand in high-income countries is likely to shift employment growth in middle-income countries to activities not linked to GSCs, the average quality of employment may then decline.

Productivity growth remains vitally important

The long-term slowdown in productivity growth in advanced economies has spread to major emerging economies. This is a matter of much concern, since growth in productivity is key to addressing today's multiple crises in purchasing power, well-being and ecological sustainability. To address threats to decent work and well-being, including widespread poverty, informality, and lack of safe and secure workplaces, will require investment, innovation and the diffusion of technological progress. For example, investment in people's skills and capabilities is widely recognized as a central factor in labour productivity growth. Moreover, the climate goals of the Paris Agreement require an acceleration of technical progress to enable economies to grow while using energy and other natural resources much more efficiently and generating dramatically lower greenhouse gas emissions. The last two decades, however, have seen a gradual deceleration in productivity growth, most pronounced in advanced economies but increasingly evident in major emerging economies as well.

Not only has productivity growth slowed but the fruits of such growth are also being shared less equally. The global labour income share was on a declining trend in the decade and a half preceding the COVID-19 crisis. Decades of falling (real) minimum wages, erosion of once strong labour market institutions, and failure to revive social dialogue on a larger scale have prevented labour from participating more fully and equitably in the benefits of economic growth. Rising industrial concentration in certain sectors is further

fuelling inequality and hindering economic dynamism, especially among small and medium-sized enterprises. Worsening inequality and slowing productivity growth reinforce each other because they concentrate income gains in a way that fails to stimulate investment.

The pace of technological innovation in the digital economy is high but the benefits are not being shared widely. Industry concentration is particularly prevalent in the digital economy because of the substantial role of intangible assets in the business model, causing productivity growth to diverge between a few leading companies and the rest. Digital innovations have yet to produce economy-wide spillovers in productivity that would boost jobs and growth. Rather, concentrated productivity gains have skewed the distribution of high-skilled job opportunities towards a few tech-based industries, exacerbating both inequality and the (aggregate) productivity slowdown. Technological breakthroughs are still missing that bring with them society-wide benefits, for instance in mobility management or grid management for the transition to sustainable energy. Other opportunities could arise to facilitate the shift towards remote and hybrid work and to address the need for innovative solutions to support collaboration in an ever more diverse labour market. Regulatory and policy innovation is needed to strengthen technological development in areas with high social returns, using a mix of standard-setting and public procurement approaches and productivity-enhancing collaborations among social partners.

Productivity growth has suffered from weakening investment, partly owing to high levels of economic uncertainty. Ever since the global financial crisis, economic uncertainty has been pervasive, hindering investment notwithstanding the low level of interest rates. This investment slowdown has often been accompanied by a shift from business to residential investment, which is less conducive to rapid productivity improvements. Part of the reason is the volatility of general economic conditions stemming from recent crises, which have made businesses reluctant to expand capacity or start new ventures. Movement towards a more stable macroeconomic environment would probably help to close some of the investment gap that the pandemic has magnified. Stronger action to address inequalities would also help to stimulate investment activity by leading to more broadly based increases in disposable incomes.

A deteriorating labour market outlook and increases in informal employment have further undermined incentives for productive investment. Given the substantial rise in uncertainty regarding the future course of the global economy, employment expansion is fastest among informal workers. This will have knock-on effects on investment rates that have continued their long-term decline, at least in advanced economies and regardless of the short-term direction of interest rates. Moreover, increases in this type of work are associated with lower wage growth and reduced incentives for employers to invest in workforce upgrading and upskilling. With weakened labour market institutions, many countries lack mechanisms to limit or prevent further erosion of real wages and hence to support aggregate demand and balanced and inclusive economic growth.

Downside risks are therefore significant in 2023

The labour market outlook is characterized by multiple downside risks. Today's "polycrisis" could push global economic growth in 2023 below 2 per cent, with serious implications for employment creation. Even without such further deceleration of growth, labour market prospects could deteriorate if for example businesses were unable to hold on to workers owing to financing constraints, or governments found themselves in a debt crisis and unable to support labour markets. In low- and middle-income countries, inequality and declining real incomes in the face of rising prices could suppress demand for domestically produced goods and services, thereby further reducing employment growth, particularly in the formal sector.

Despite the overall slowdown in employment growth, shortages of qualified labour remain a risk in certain countries and sectors. A major increase in investment in education and training is necessary to unlock the full potential of the global labour force. Currently, two thirds of

the global youth labour force remain without a basic set of skills, a circumstance that restricts their labour market opportunities and easily pushes them into lower-quality forms of employment. Indeed, the expansion of labour force participation in advanced economies often came at the price of a gradual decline in the average quality of education over the past decade, thereby contributing to the deceleration of productivity growth. In the current environment of challenges to both productivity and employment, a broad-based labour market initiative focusing on both employment and skills is necessary to make the labour market work for all.

Global policy space is fragmented

The coronavirus pandemic has created significant capacity challenges for major policy-making institutions. Central banks around the world face difficult trade-offs between further supporting recovery from the pandemic and addressing elevated inflation. Although many countries have not yet recovered to pre-pandemic levels in terms of hours worked, shocks to energy and food prices have brought a need to normalize policy and reduce the emergency measures introduced during the pandemic. Governments that have accumulated a significant amount of debt to support local businesses and households now find themselves under pressure to phase out some of their support measures, if they have not done so already.

Just as the recovery from the pandemic has remained uneven across countries, so has the exposure to geopolitical tensions and price hikes stemming from supply disruptions. European countries are facing substantial and sudden rises in energy costs which are contributing to a stagflationary dynamic. Among African countries, the food price increases experienced in previous years have worsened; many sub-Saharan countries are not self-sufficient in food production and their food imports are not well diversified. Around the world, ensuring access to basic goods and services at reasonable prices has become a national preoccupation, sometimes without regard for the international spillover effects of such action.

In the response to multiple economic and geopolitical crises, international solidarity is more critical than ever. Strong commitment to initiatives such as **the UN Global Accelerator on Jobs and Social Protection for Just Transitions** as well as the close involvement of social partners in all areas of policymaking at national and international levels are key measures that will strengthen policy coherence and partnerships to tackle current challenges and respond to long-term trends in the future of work.

Amidst large deficits in decent work and social justice, a new global social contract is needed to enhance the resilience of economies and societies in the face of today's multiple crises. The ILO's 2019 Centenary Declaration and 2021 global call to action for a human-centred recovery from the COVID-19 crisis which is inclusive, sustainable and resilient frame the core elements of such a strategy at the national and international levels. To this end, **in 2023 the ILO will promote a Global Coalition for Social Justice** aimed at strengthening global solidarity and improving policy coherence in order to bring about action and investments in decent work and social justice.

Accelerated progress in reducing the global jobs gap, strengthening the quality of jobs and protecting real incomes will require renewed policy coordination and social dialogue. **A strengthened global social contract will also need to integrate longer-term objectives**, addressing threats from climate change while resolving deficits in development and living standards, in part through faster productivity growth. Governments and social partners should seize the moment to deepen their collaboration to this end.

1 Stalled labour market recovery undermines social justice

Overview

A worsening global economic outlook threatens to exacerbate decent work deficits. Rising geopolitical tensions, an uneven recovery from the COVID-19 pandemic, and bottlenecks in supply chains that are only slowly easing have created conditions for "stagflation", the first period of high inflation coupled with low growth since the 1970s.[1] The large swings in consumption and disruptions in supply chains that accompanied the pandemic led to asymmetric demand and supply shocks, causing labour shortages and rising prices in a number of sectors. Inflation – in particular, high food and energy prices – is eroding disposable income, with repercussions for aggregate demand and the ability of the poorest in the world to maintain adequate living standards.

1 By September 2022, the Global Supply Chain Pressure Index had started to fall back to levels seen before the pandemic (Federal Reserve Bank of New York 2022). In contrast, the indicator of shortage of intermediate inputs among German manufacturers remained, in the third quarter of 2022, at the high levels experienced during the pandemic, far above shortages experienced during previous business cycles (DESTATIS 2022).

These inflationary pressures have prompted major central banks to take a more restrictive monetary policy stance. The ensuing increases in interest rates, compounded by the conflict in Ukraine, are slowing economic activity and raising the spectre of financial instability in highly indebted countries.[2] This is significantly increasing uncertainty and deterring the business investment on which continued reduction in unemployment and working poverty depends. In short, the progress in decent work and social justice that many countries achieved in recent decades is at risk of being eroded for many years to come.

Decent work deficits remain very large in the midst of such challenging circumstances (figure 1.1). About 473 million people around the world are deprived of earning an income through employment. They include 205 million unemployed – those who satisfy the requirements of having recently searched for a job and being available at short notice. Thus there are 268 million people who do not satisfy these requirements but have an unmet need for employment.[3] Two billion of those who are employed have an informal job, meaning that they are significantly less likely to have rights at work, to have a voice through social dialogue or to enjoy the benefits of social protection systems. This is particularly true in rural areas (ILO 2022a). Furthermore, 214 million people are in employment but are unable to escape extreme poverty – they and their families live on less than US$1.90 per person per day in purchasing power parity (PPP) terms.[4] Global labour income is distributed highly unequally, the bottom 50 per cent of workers earning only around 8 per cent of global labour income. This inequality is partly driven by a vast gap in labour productivity: gross domestic product (GDP) per worker in high-income countries is 18 times that in low-income countries. Access to income support for those who fall out of employment is also highly unequal across the world, only 47 per cent of the population being covered by social protection (ILO 2021a). In 2020, around 160 million children in the world were in child labour, most of them working in agriculture (ILO 2021b). This, together with the around 28 million people in forced labour (ILO 2022b), means that a total 188 million people are in forms of work that should be abolished.

Women and young people fare significantly worse in labour markets, an indication of the large inequalities within the world of work in many countries. Globally, the labour force participation rate (LFPR) of women stood at 47.4 per cent in 2022, compared with 72.3 per cent for men. The gap of 24.9 percentage points means that for every economically inactive man there are two such women. Young people (aged 15–24) face severe difficulties in securing and keeping decent employment. Their unemployment rate is three times as high as that of adults (aged 25+). More than one in five – 23.5 per cent – of young people are not in education, employment or training (NEET).

Longer-term trends show progress on reducing decent work deficits on some fronts, but that this is not fast enough. Although the decline in the extreme working poverty rate from 35 per cent in 1991 to 6.4 per cent in 2022 is a notable success, the absence of further progress in low-income countries means that the numbers of working poor in those countries are on the rise. The decline of the informality rate by 5 percentage points over the past 18 years is too slow for widespread formalization to be expected any time soon. The gender gap in the LFPR has remained essentially unchanged over the past three decades. The NEET rate among young men has increased over the past 17 years, while it has declined among young women. The global labour income share has declined since 2004. Meanwhile, unemployment is generally a cyclical phenomenon, without a clear long-term trend.

2 The Capital Flows Tracker of the Institute of International Finance shows large net capital outflows from emerging markets in the first half of 2022, but some reversal in August to October 2022 (https://www.iif.com/Products/Capital-Flows-Tracker).

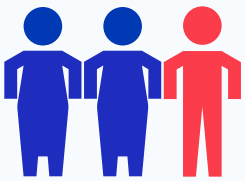
3 As the 19th International Conference of Labour Statisticians (ICLS 2018) established, labour underutilization implies an unmet need for employment of which unemployment is one of the measures.

4 The World Bank revised the threshold for extreme poverty to US$2.15 per day (PPP) during 2022. This change could not yet be taken into account in the production of estimates for this report, but it will be taken into account in future editions.

Figure 1.1. Overview of deficits in decent work and social justice, 2022 or latest year available

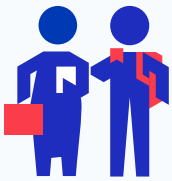
473
million

Jobs gap
473 million want employment – 205 million of them are unemployed (meaning actively looking for work)



2
times

Gender gap
Twice as many women as men are outside the labour force



23.5
per cent

Young people
23.5% of youth are not in education, employment or training

2
billion

Informal employment
2 billion informal workers with limited rights at work or access to social protection

214
million

Working poverty
214 million workers in extreme poverty (< US$1.90 PPP per day)

47
per cent

Social protection
Only 47% of the population are covered by at least one form of social protection

8
per cent

Inequality
Half of workers earn only 8% of global labour income

18
times

Productivity gap
Labour productivity is 18 times greater in high-income countries than in low-income countries

188
million

Employment to be abolished
160 million children in child labour and 28 million workers in forced labour

Note: Estimates for labour income refer to 2019, estimates for child labour to the beginning of 2020.

Source: ILOSTAT, ILO modelled estimates, November 2022; ILO social protection database; ILO (2021b).

The COVID-19 crisis has exacerbated decent work deficits that existed before the pandemic (ILO 2021c). In 2020, total hours worked fell short by an estimated 8.7 per cent relative to the fourth quarter of 2019, corresponding to the equivalent of 252 million full-time jobs (at 48 hours per week). Although losses of working hours and therefore also of income occurred worldwide, the unequal provision of income support measures reinforced existing income inequalities across countries, since these inequalities depended on the scale of existing and emergency social protection systems. Within countries, too, inequalities rose, since women, for instance, and also workers in low- and medium-skill occupations suffered greater losses of employment (ILO 2022c). Downward trends in the incidence of informality and working poverty have been halted and reversed in the wake of the COVID-19 crisis. With a few exceptions, most countries have not yet returned to the employment and working hours levels – once adjusted for population growth – seen at the end of 2019, before the outbreak of the health crisis. Recovery has been lagging behind in low-income and lower-middle-income countries – where many indicators of decent work are particularly worrisome.

Global employment growth is projected to decline drastically in 2023 following the rapid expansion in 2022. This will entrench the divergence in recovery, making it very difficult for low-income and lower-middle-income countries to close the gaps with respect to high-income countries which opened during 2021 and 2022. The reduction in global unemployment achieved in 2021 and 2022 will also stall; a moderate increase is projected for 2023 and 2024. Hours worked per person employed are also projected to decline amidst slowing economic activity and remain significantly below their pre-pandemic level.

This chapter presents trends and projections of key labour market indicators globally and by country income group. First, the chapter discusses the multiple crises that have created such a challenging environment for labour markets. Next, the key indicators of quantity of work are presented: labour force, employment, working hours and labour underutilization. The chapter subsequently investigates trends in the types of jobs that people have, and the implications for social justice, and then concludes with some policy implications.

The accumulation of risk factors has resulted in a highly uncertain labour market outlook. This comes on top of uncertainty about the impact the COVID-19 crisis has had on the world of work.[5] Consequently, the labour market indicators presented in this report are subject to substantial uncertainty.[6] The term "employment" as used here applies to activities within the production boundary defined by the United Nations (UN) System of National Accounts and follows the definition established by the 13th International Conference of Labour Statisticians (ICLS). The term "work", according to the more recent standards (adopted by the 19th ICLS), is defined as any activity performed by persons of any sex and age to produce goods or to provide services for use by others or for one's own use. This distinction is important because more people are engaged in work (19th ICLS concept) than are in employment (13th ICLS concept). Women in particular do large amounts of work, such as unpaid care work, that is not captured by the reported employment figures (ILO 2022d). In this report, however, the term "work" is used on occasion as a synonym for "employment" for ease of exposition. All statistics presented in the text without an explicit reference are published in the ILO modelled estimates repository of ILOSTAT;[7] many can also be found in the WESO Data Finder.

5 Many countries conduct labour force surveys infrequently. The missing values are imputed to obtain global estimates of labour market indicators, published in the ILO modelled estimates. In normal times, the imputed values of labour market indicators for years when no survey was conducted have relatively small error bounds thanks to the econometric techniques used to produce the ILO modelled estimates. Owing to the size and nature of the COVID-19 shock, the precision of the labour market estimates has declined.

6 Regions that are composed mainly of countries with good coverage through labour force surveys have a small error for indicators up to and including 2021. These include the Americas and Europe.

7 See Appendix B for details on the ILO modelled estimates series.

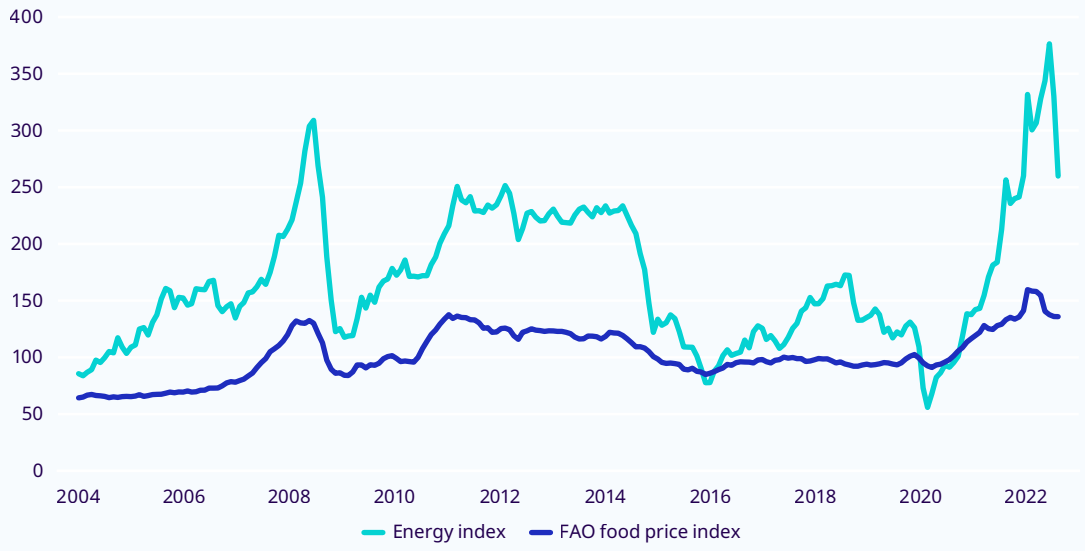
A challenging macroeconomic environment for labour markets

The cost-of-living crisis is eroding disposable incomes

A combination of asymmetric demand and supply shocks has increased core inflation rates.[8] Part of these problems stems from the large swings in consumption observed during the pandemic when demand shifted away from services towards (electronic) goods in 2020, to swing back to services in the course of 2021 as economies around the world gradually lifted workplace and travel restrictions. Supply adjustments did not take place at the same speed, however. Especially the rising demand for goods together with the simultaneous decline in maritime transportation capacity led to significant disruptions in global supply chains (GSCs) (Rees and Rungcharoenkitkul 2021). With the gradual opening that began in 2021, activity resumed quickly, thanks to pent-up demand stimulated by forced savings built up at the beginning of the pandemic. As a consequence, several sectors, including aviation and tourism, experienced serious capacity shortages. Surprisingly, the strength of these shocks seems to have been underestimated by policymakers despite them having been fully anticipated (Ernst 2020; OECD 2020).

Rising prices for energy and food, driven by cyclical factors and reinforced by supply disruptions caused by the conflict in Ukraine, pose existential threats for the poor. By March 2022, the global food price index had reached 159.7 points, the highest level since the start of the series in 1990 (figure 1.2). Thereafter, prices eased, but in September 2022 they were still 43 per cent higher than the average of 2019 and

Figure 1.2. Food and energy prices indices



Note: Food and Agriculture Organization (FAO) food price index with average price of 2014–16 equalling 100.

Source: International Monetary Fund (IMF) primary commodity price system; FAO.

8 In a sample of 35 countries, median core inflation rates started to increase in the second quarter of 2021, from around 2 per cent, to reach 6.5 per cent in the third quarter of 2022 (IMF 2022).

stood at similar levels as during the last global food price crisis, in 2011. Energy prices had risen to three times the average price of 2019 by August 2022, surpassing the price level of the last high-price period, 2011–14, by 60 per cent. The combination of high energy and food prices is causing a cost-of-living crisis for many households, which may become existential for poorer ones that tend to spend a larger share of their income on food and energy.[9] Many enterprises too – in particular, small and medium-sized ones without much market power to pass on cost increases to consumers – face an existential threat from rising energy prices (Global Alliance for Improved Nutrition 2022). The energy price index is a global average; the regions have a varying energy mix, and some energy markets – such as electricity and to some degree natural gas – are local and hence exhibit large price variations around the world.

As a result, double-digit inflation rates are affecting more than 2 billion people worldwide (UNCTAD 2022), deepening inequalities within countries and lowering aggregate demand. Energy producers and enterprises with market power are earning record profits while other enterprises are struggling to pass on cost increases to their customers or are feeling the crunch of reduced demand.[10] Workers are already experiencing a significant decline in real income and often lack bargaining power to seek compensation for these losses or are employed by struggling enterprises that are unable to raise their pay. The *Global Wage Report 2022–23* shows that global real wages are estimated to have declined by 0.9 per cent in 2022 (ILO 2022e). Even among low-wage service workers in advanced economies, who have seen the fastest increase in wages in decades owing to a shortage of labour, wage growth is barely keeping par with inflation. Labour market and social protection reforms, the gradual erosion of trade union membership and a fall in industrial employment have led to a phasing out of automatic indexation of wages and other nominal anchors, preventing real wages from fully reflecting increases in productivity.[11] The unexpected acceleration of inflation came to the detriment of workers, who find themselves on the losing side of surprise inflation. Meanwhile, the decline of unionization rates and collective bargaining coverage has reduced the power of social dialogue to elicit a fair sharing of the cost of inflation (ILO 2017a). In the absence of redistributive efforts, the majority of households will see declining real incomes, which will cause aggregate demand to fall.

Countries that are experiencing deteriorating terms of trade face additional declines in real incomes as a result of inflation. These countries need to spend significantly more on imports of food and energy, thereby transferring purchasing power to net exporters of those items.[12] This increased spending can cause balance-of-payment crises for developing countries with limited opportunities to borrow internationally, thereby worsening financing conditions for governments and enterprises.[13]

Options for fiscal and monetary policy are limited

Global policy space is limited and fragmented. The COVID-19 pandemic has left a large dent in the capacity of major policymaking institutions. Central banks around the world have exhausted their capacity to support the recovery. Similarly, fiscal policymakers have accumulated a substantial amount of debt in order to support local businesses and households and are increasingly compelled to phase out some of the support measures, if

9 Price indices show the nominal changes in prices. The evolution of incomes needs to be considered as well to evaluate the impact of price changes on households.

10 In 2021 and 2022, price hikes amidst still strong consumer demand meant that many companies were able to increase their profits margin. In the United States, corporate profits before tax as a proportion of gross national product rose from an average of 10.7 per cent in 2018–19 to an average of 13.4 per cent in 2021 and the first two quarters of 2022 (calculations based on https://fred.stlouisfed.org/).

11 On the evolution of trade unionization rates and collective bargaining arrangements see Visser (2012) and ILO (2022h).

12 The terms-of-trade effect lowered real incomes by 1.3 per cent in the euro area in the fourth quarter of 2021 (ECB 2022). Energy prices have risen significantly since then.

13 Even in developed economies with well-integrated financial markets fiscal policy can become constrained through financial markets requesting significantly higher risk premiums, as shown by events in the United Kingdom in October 2022 surrounding the proposed large fiscal deficits that necessitated intervention by the Bank of England.

they have not done so already. Rising interest rates, along with a strong US dollar, threaten the ability of countries to refinance debt, especially when coupled with capital flight. Between 2019 and 2022 the proportion of low-income countries experiencing debt distress or facing a high risk of debt distress increased from 49 per cent to 56 per cent. It is of utmost importance to ensure that governments continue to have access to finance, since the implementation of austerity measures, or a situation of being forced to implement them by financial market distress during an economic downturn, would be catastrophic for labour markets.

Fiscal policy needs to balance conflicting goals. On the one hand, countries should avoid a generally expansionary fiscal stance that would run counter to the efforts of monetary policy. On the other, hard-hit enterprises and households do require support to weather the crisis. Consequently, support needs to become more targeted at low-income households, vulnerable workers and struggling small and medium-sized businesses.[14]

Given the current economic policy consensus, the process of keeping inflation under control will be painful for households and many enterprises. Although inflation is driven more by supply than by demand factors (IMF 2022), most policy action has focused on demand-side management to counter expectations of rising inflation. In particular, the current policy response in advanced economies relies very much on monetary policy causing a contraction in aggregate demand, as evidenced by the record pace of interest rate hikes. Workers will experience pressure on incomes under such a policy, either because of reduced jobs growth, or job losses, or because of falling real wages for those who remain employed. Reduced aggregate demand also raises competitive pressure on firms, thereby limiting price hikes and potentially reducing their profit margins.[15] A more balanced approach is needed to limit the economic and social pain, focusing on measures to bolster supply – including accelerated investment in sustainable energy production.

High levels of inequality that have built up over the past few decades are compounding challenges for central bankers in their attempt to bring down inflation rates. With an ever larger proportion of aggregate consumption driven by well-to-do households that are insensitive to interest rate hikes, there is a risk that a monetary policy much tighter than in the past will be perceived as necessary in order to produce a significant impact on inflation (Pereira da Silva et al. 2022). This will disproportionately raise the cost for poorer households and also for businesses with high levels of external financing.

In the absence of proper policy coordination, the risk is that large advanced and emerging economies will pursue a policy agenda primarily catering to their own domestic challenges, without regard for the wider global spillovers. Monetary policy tightening, in particular, seems to be reacting to immediate inflation concerns without sufficient consideration of intertemporal and international spillovers (Obstfeld 2022). This may be creating an overly tight global macroeconomic environment that will have an unduly severe impact on the real economy and labour markets around the world. Alternative policy responses that balance demand- and supply-side measures and protect the most vulnerable through targeted interventions could offer a more effective means of combating inflation while sustaining economic growth and development.

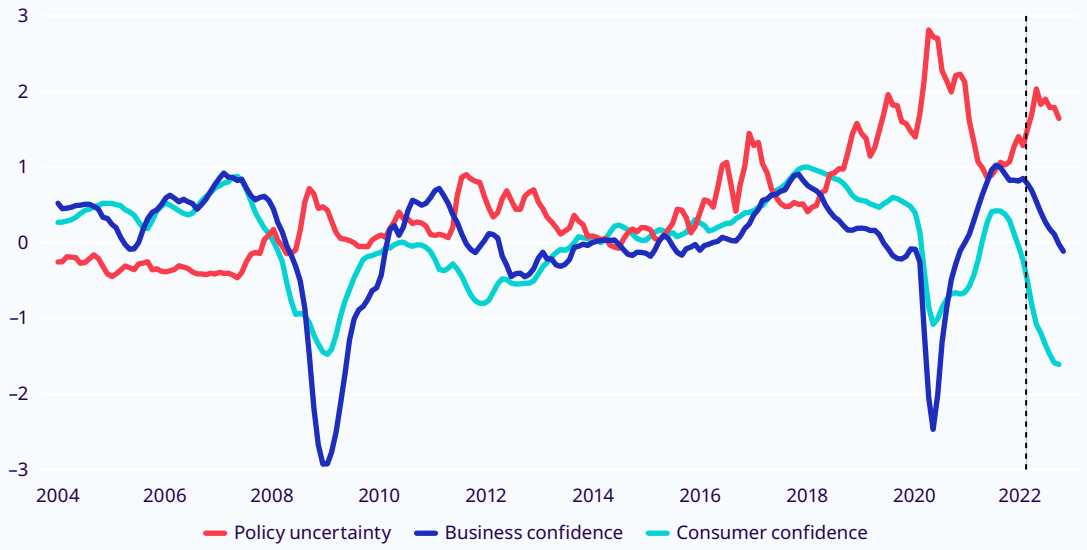
Short-term economic outlook

The multitude of challenges are causing a slump in confidence – accelerated by the Ukraine conflict – which will feed into economic contraction. GDP-weighted policy uncertainty across 21 countries has been found to have risen since 2021 and is at levels far above the long-term average, although not quite reaching the uncertainty experienced during the early phases of the pandemic (figure 1.3). Median consumer confidence has fallen to its lowest level in the past two decades in a sample of 44 countries (figure 1.3), highlighting the severe impact of the cost-of-living crisis on households. Median business confidence across

14 Untargeted or poorly targeted support can enable low-productivity enterprises to survive ("zombie firms"), thereby locking in resources and reducing potential for productivity growth (see Chapter 3). In developing countries, though, many micro, small and medium-sized enterprises would continue operations anyway but would likely fall into the informal sector.

15 Profit margins are generally procyclical (Macallan, Millard and Parker 2008).

▶ **Figure 1.3. Median consumer and business confidence indicators** (standard deviation from mean) **and policy uncertainty, February 2004 to September 2022**



Note: The figure shows the median of the standardized consumer confidence indicator across a sample of 44 countries, and the median of the standardized business confidence indicator across a sample of 14 countries. The policy uncertainty index is a GDP-weighted average across 21 countries. The original series has been rescaled for display in this figure by dividing the policy uncertainty index by 100 and subtracting 1. All series have been converted to show the three-month rolling average. The vertical line marks the start of the Ukraine conflict.

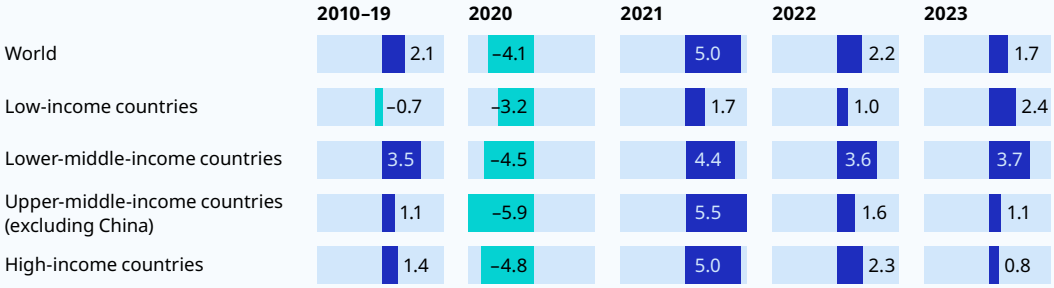
Source: Tradingeconomics; http://www.policyuncertainty.com.

14 countries is equally on a downward trend, but in September 2022 the median confidence level was just below the long-term average. The more positive feeling among businesses is good news for labour markets, since employers are less likely to lay off staff, at least for now.

The global economy is forecast to grow a mere 2.7 per cent in 2023, far below the 3.6 per cent average annual growth between 2000 and 2021 (IMF 2022). This prediction is down by 0.9 percentage points since April 2022, highlighting the marked deterioration of economic conditions. The slowdown means that, instead of a recuperation of the output losses incurred during the pandemic, the output gap relative to the pre-crisis trend is widening again. The significant slowdown in the world's three largest economies – China, the euro area and the United States of America – is a major contributor to the global downturn.

In low- and middle-income countries, excluding China, projected per capita growth is the same as or even larger than the average growth achieved from 2010 to 2019 (figure 1.4). Low-income countries in particular are projected to achieve significantly higher per capita growth than in the previous decade. Moreover, the projected global growth in 2023 still exceeds the rate recorded during the financial crisis of 2009. Thus, although the current slowdown in growth will seriously damage efforts to recuperate the output losses incurred through the pandemic, it does not imply that a major global recession is in store, especially outside the high-income countries. There is a risk, though, that the global economy will enter a recession if a number of risk factors materialize (Guénette, Kose and Sugawara 2022; IMF 2022). The labour market projections in this report are based on the baseline projection of *World Economic Outlook*, October 2022 (IMF 2022).

Figure 1.4. Growth of GDP per capita, 2010–23, world and country income groups
(percentages)



Source: ILO calculations based on IMF (2022) and UN population prospects, 2022 revision.

Long-term trends affecting labour market dynamics

Underneath these short-term developments run larger tectonic shifts that are increasingly being felt. Population ageing is exacerbating labour shortages in some countries, while countries with still rapidly expanding populations face challenges to provide the young generation with sufficient opportunities for productive decent work. Productivity growth faces severe headwinds, which threaten the prospects of eliminating working poverty, reducing global labour income inequality and allowing countries to cope with ageing populations while maintaining standards of living (see Chapter 3). A changing world of work – driven also by digitalization and the growing needs of the care economy – is altering enterprises' skills requirements and hence producing skills mismatch when skills needs are not properly addressed through the education system and lifelong learning (ILO 2021d; Carolina Feijao, van Stolk Flanagan and Gunashekar 2021).

Climate change and mitigation policies are likely to impact living standards. The past year has seen a series of climatic exceptions that have reminded the global community that climate change is accelerating, causing rising and sizeable costs even though the global temperature has not yet reached the threshold of a 1.5°C increase (IPCC 2018). Several climatic tipping points seem to be near. The crossing of these will significantly increase adaptation costs. Irreversible loss of biodiversity or melting of permafrost could accelerate the rise in temperature, causing large output and employment losses, especially in countries with already fragile ecosystems and high average temperatures. By 2030 an estimated 2.2 per cent of global working hours could be lost to heat stress, mostly in agriculture and construction (ILO 2019a).

The transition to net-zero carbon emissions may not come cheap but it will also create opportunities. The current energy price crisis may worsen as societies shift towards local green technologies. Moreover, as advanced economies move away from fossil fuels, the price of these fuels is likely to drop, creating an incentive for less developed countries to rely more rather than less on carbon-driven energy production. However, evidence abounds that a faster transition to a net-zero carbon emission economy will be beneficial not only from an ecological but also from an economic point of view (Way et al. 2022; IMF 2022). Such a transition could create a net 18 million jobs worldwide (ILO 2018a).

A just transition will involve a (moderate) reduction in living standards which will need to be shared equitably, internationally, within countries and across generations. Delaying the necessary adjustment will simply increase the costs without making the distributional consequences any less complicated. Social protection measures and targeted income support, alongside skills policies to support transitions from "brown" to green jobs, will need to be stepped up, in particular

in countries that have the financial means to do so.[16] To create more space, especially in low-income countries, new forms of international climate agreements need to be found that will channel part of the climate-related funds levied among high-income polluters to strengthen investment in carbon sinks in the Global South (Barga 2022). Such programmes need to be designed with a labour market angle in mind in order to facilitate decent work creation aligned with payment for ecosystem services, for instance (ILO 2018a).

▶ Labour supply, employment and shortage of jobs

In the coming years, employment growth will stall, workers will have a harder time finding quality employment and real incomes are likely to fall. The reasons for these developments are to be found in the dynamics of labour supply and demographic change, in the structure of labour markets and in the institutional context of employment creation and destruction. These determinants differ across countries; differences in the interplay of labour demand and supply and in worker remuneration will lead to differences in labour market outcomes.

Labour supply

The global LFPR is estimated to have recovered to close to 60 per cent in 2022, slightly below its level in 2019. It is projected to continue its long-term downward trend through 2023, declining by 0.2 percentage points till 2024. In total, around 3.6 billion people are estimated to have been part of the labour force in 2022, a figure that is projected to increase by around 35 million per year thanks to the growth of the working-age population. Economic inactivity, meaning not being in the labour force, can result from positive but also negative factors. The long-term decline in the LFPR is to some degree driven by the younger generation spending more time in education and the older generation enjoying longer periods of retirement – achievements made possible by economic development. However, economic inactivity also arises from a lack of labour market opportunities for certain groups, discouragement, gender discrimination and other factors that inhibit participation – meaning that lower participation rates are not a good thing per se.

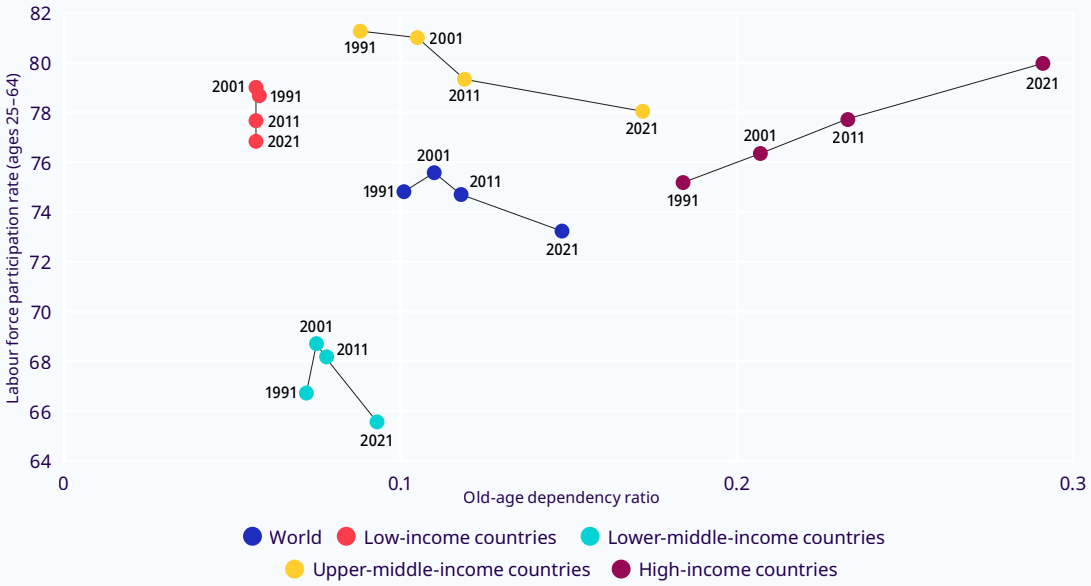
The working-age population has started to shrink in a number of high-income countries. Among emerging economies, China saw a first reduction in its working-age population in 2015, and this reduction is projected to accelerate. Demographically induced labour shortages have been compounded by health-related increases in inactivity rates. According to estimates by the World Health Organization (WHO), approximately 20 per cent of those infected by COVID-19 will suffer from some form of longer-term health consequence (Cox 2021; Stulpin 2022; Van Beusekom 2022). Estimates of the impact on labour supply vary; studies for the United States suggest that 300,000–600,000 workers (Sheiner and Salwati 2022) or even 2–4 million people (Bach 2022) have been out of work because of long COVID. These figures represent a range of between 0.2 and 2.2 per cent of the labour force.

Maintaining or raising standards of living in a context of rising old-age dependency ratios will require faster productivity growth, increased LFPR, or inward migration of young workers. This is because, on average, every worker will need to produce ever more output, since that output will need to be sufficient for ever more people who are not economically active.[17] Old-age dependency ratios – defined as the ratio of the population aged 65 and above to the population aged 15 to 64 –

16 "Brown" refers to tasks and activities that inhibit environmental protection, further unsustainable solutions or have a large negative impact on the environment (Bohnenberger 2022).

17 Rising labour productivity growth is only a necessary condition to maintain standards of living when there is an ageing population. Equally important is the redistribution of incomes – meaning the design of pension systems – to allow everyone to actually experience this standard of living.

Figure 1.5. Old-age dependency ratio and labour force participation rate (percentages) **of people aged 25–64, 1991–2021, world and by country income group**



Note: The old-age dependency ratio is the ratio of those aged 65 and above to those aged 25–64.

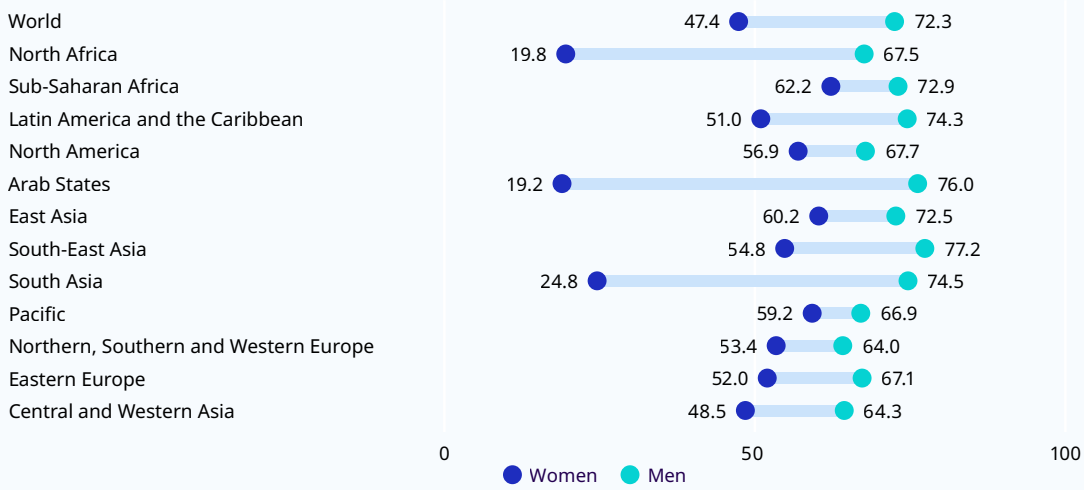
Source: World Population Prospects 2022 of UN Population Division; ILOSTAT, ILO modelled estimates, November 2022.

have risen significantly over the past decade in high-income countries and also in upper-middle-income countries (figure 1.5). Chapter 3 shows that labour productivity growth has in fact slowed down over the past decade, thereby threatening the ability to maintain the average standard of living.

Anticipating these trends, several countries have long undertaken measures to increase participation rates. In many high-income countries, retirement age limits have been raised and incentives for older workers to remain employed have been increased. In these countries, rising LFPRs among those aged 25 to 64, as well as increased participation by those aged 65 and above, have balanced to some degree the falling productivity growth, thereby maintaining the potential growth of GDP per capita (figure 1.5). However, there is a limit to how much such policies can contribute to overcoming structural shortages in labour supply. In simple terms of numbers, the old-age dependency ratio is rising too fast for a rise in LFPR to compensate. Moreover, despite being a long-standing policy objective, lifelong-learning policies have been introduced only sparingly, given the high opportunity costs of retraining for older workers. Experience acquired over one's working life is often not fully reflected when a worker transitions to a different occupation or sector, such that they may lose a significant portion of their seniority-linked wage premium (McKinsey 2022). Finally, more effort could be made to bring more women and marginalized groups into the labour market through appropriate policies.

Employers in countries with ageing populations will face a shrinking labour force – and hence a dwindling pool of talent – as raising participation rates further becomes ever more difficult. The LFPR of those aged 25 to 64 in high-income countries is already 7 percentage points above the global average, and further increases will face limits. The labour force is projected to shrink in 2024 in high-income countries. In 2022, three quarters of surveyed companies reported

Figure 1.6. Labour force participation rate, 2022, by sex, world and by subregion
(percentages)



Source: ILOSTAT, ILO modelled estimates, November 2022.

having difficulties finding the talent needed to fill positions (ManpowerGroup 2022).

Globally, in 2022, the number of working-age women outside the labour force surpassed that of men by 750 million – a consequence of women's LFPR being 24.9 percentage points below that of men (figure 1.6). Gender gaps in LFPR, though a global phenomenon, occur highly unequally across the world; in areas such as North Africa, the Arab States and South Asia, women are only a third as likely as men to be economically active. Deep structural barriers in these areas, often rooted in social norms, hinder women's participation in labour markets (ILO 2019b; 2017b).[18]

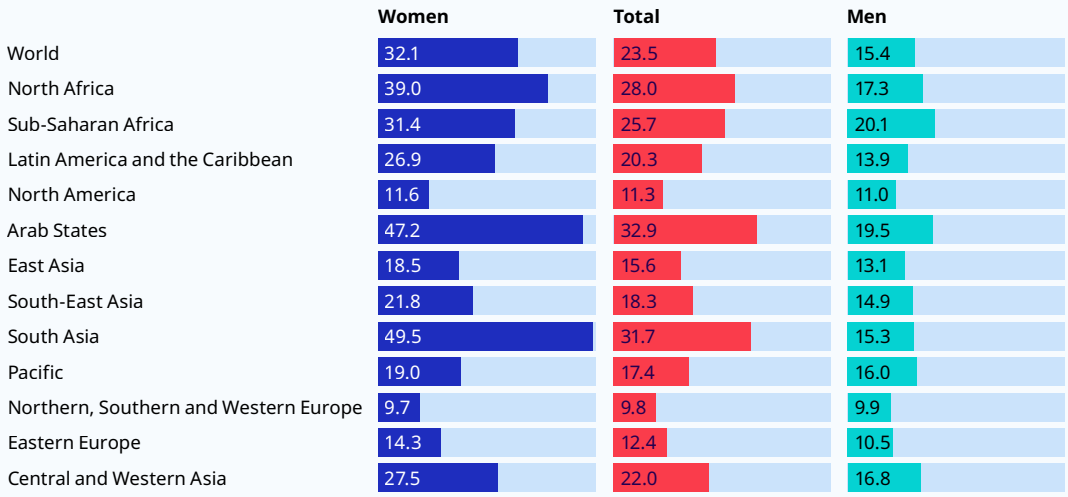
Low-income and lower-middle-income countries benefit from low old-age dependency ratios but face the challenge of integrating a large youth population into the labour market. Those two country income groups are projected to see their combined labour force increase by around 30 million per year until 2024, mostly as a result of young people entering the labour market. Africa is projected to account for almost half of the global labour force expansion (16 million workers per year) while accounting for only a fifth of the global labour force. The large number of young people projected to enter the labour market poses its own challenges, since young people face particular difficulties in this process.[19]

In 2022, more than one in five of young people aged 15 to 24 were NEET. This amounts to 289 million young people who were deprived of opportunity to obtain valuable skills through early work experience or some form of training or education (ILO 2022f). Young women are twice as likely as young men to be NEET, which means that gender gaps in terms of LFPR are likely to perpetuate. Indeed, regions with large gender participation gaps also show large gender gaps in NEET, which underlines the need for transformative policy approaches to resolve gender

18 These factors may include discrimination, fragmented and segregated labour markets, the unequal distribution of unpaid care work and care responsibilities between men and women and between families and the State, gender-based violence and harassment, prevailing gender stereotypes and socio-cultural norms, and the limited voice and representation of women in collective decision-making processes.

19 Many African youth entering the labour market are located in rural areas (ILO 2022a).

Figure 1.7. Youth aged 15–24 not in employment, education, or training, 2022, by sex, world and by subregion (percentages)



Source: ILOSTAT, ILO modelled estimates, November 2022.

inequalities and prevent their perpetuation across generations. It is encouraging, though, that gender gaps in NEET rates have fallen over the past 16 years: NEET rates of young women have fallen by 2 percentage points whereas NEET rates of young men have slightly increased. There are large variations in NEET rates across regions, which are partly explained by the gender gaps and partly by the difficulties young people face in entering the labour market. For instance, just over 10 per cent of young European men are NEET, versus almost 20 per cent of young men in the Arab States (figure 1.7). Aside from those NEET, many young people are economically inactive because they are pursuing an education (ILO 2022f). The LFPR of young people was around 40 per cent in 2022, much lower than that of adults. Thanks to the increasing ability of young people to pursue an extended education, particularly in middle-income countries, that figure has come down significantly, having stood at around 56 per cent three decades ago.

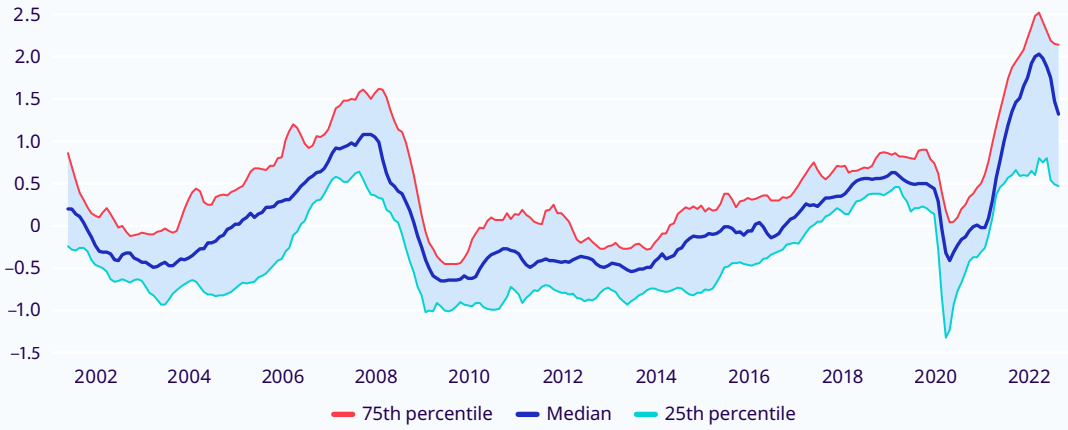
In 2022, around 268 million people were not in the labour force but were nevertheless interested in obtaining employment. This group includes workers who are discouraged because they don't see any possibility of obtaining profitable employment and also those who are not currently available to take up employment. (See "The jobs gap, beyond unemployment" below for an extensive analysis of this unmet demand for employment.) Unlocking this potential could raise labour supply and thereby alleviate labour shortages.

Quantity of work: Employment and working hours

Determinants of employment growth differ across country income groups. First, the macroeconomic outlook differs across countries; some countries are projected to enter a recession whereas others are likely to see a normalization of growth after the higher growth rates of 2021 and 2022. Second, institutions differ widely across countries, including in coverage of social protection systems, extent of social bargaining, employment protection legislation and government labour market policies. Third, countries are at different stages of demographic change.

In low-income and lower-middle-income countries, employment reacts only modestly to swings in economic activity, since most

▶ **Figure 1.8. Job vacancies** (standard deviations from mean)**, June 2001 to September 2022**



Note: The figure shows the median and the 25th and 75th percentiles of the three-month rolling average of standardized job vacancy postings across 18 (mostly advanced) economies. Countries covered: Austria, Cyprus, Czechia, Estonia, Finland, France, Germany, Japan, New Zealand, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, Thailand, United Kingdom of Great Britain and Northern Ireland, United States.

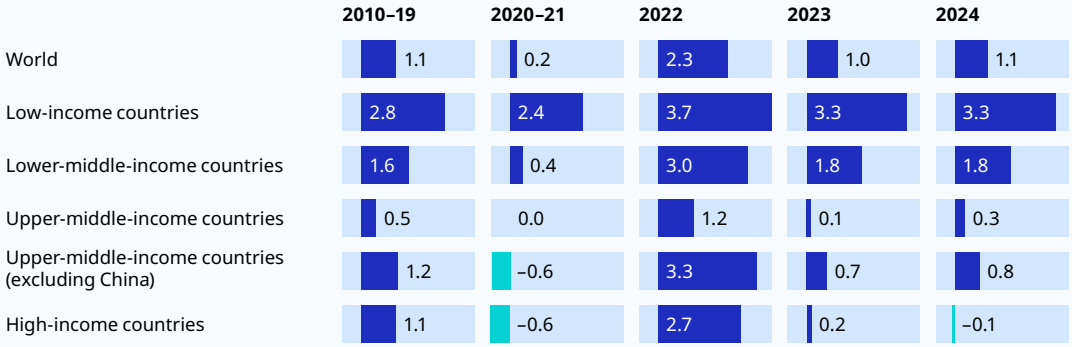
Source: Tradingeconomics.

workers are informal and/or self-employed. In the absence of social protection systems, workers in the informal economy continue with some type of – survival – economic activity. In these countries, employment growth is strongly driven by the number of people who reach working age. Equally, unemployment does not react very much. On the other hand, incomes will react to an economic downturn, as will, to some degree, hours worked, especially for employees without fixed jobs (for example, day labourers).

In upper-middle-income countries the situation is more complex. One of them, China, accounts for the majority of workers in this income group and will likely face much lower economic growth than in the past while its strategy to handle COVID-19 is reducing working hours and while investment excesses – in particular in the real estate sector – are being corrected (Pettis 2022). However, the government is determined to maintain growth and will likely apply many levers to avoid a large impact on the labour market. Quite a few other upper-middle-income countries are net commodity exporters that have benefited from a large terms-of-trade boost from the commodity price boom. This may bolster government finances and domestic consumption, thereby supporting employment growth. However, higher revenues arising from the terms-of-trade boost are likely to be concentrated among fewer households, whereas the rising cost of living affects everybody. In the absence of appropriate government intervention this state of affairs will increase inequality, which could have a depressing effect on employment growth and aggregate demand.

In high-income countries with ageing populations, employment evolution is also determined by more medium-term strategic decisions by firms that need to balance laying off workers during a downturn against the risk of labour shortages during the recovery. Job vacancies in a sample of 18 mostly high-income countries have seen a steep decline since June 2022, but in September 2022 were still at historically high levels (figure 1.8). Vacancies fluctuate with the business cycle and hence are expected to decline further as firms stop expanding their workforce. However, companies will need to balance the short-term need for profitability – and in some cases survival – with the medium-term challenge to obtain and maintain talented staff. This raises the likelihood that companies operating in countries with ageing populations will resort to labour hoarding

Figure 1.9. Average annual employment growth, 2010–24, world and by country income group (percentages)



Source: Author's calculations based on ILOSTAT, ILO modelled estimates, November 2022.

during an economic downturn, avoiding lay-offs of staff they fought so hard to attract throughout 2021 and 2022.

Many firms may lack the resources to maintain staff, especially ones already hit hard by the COVID-19 crisis and ones with higher financing costs. Small and medium-sized enterprises in particular may not be able to survive a large reduction in aggregate demand. Insolvencies may rise, especially given the fact that a substantial insolvency backlog probably exists after two years of exceptionally low numbers of insolvencies (Allianz Research 2022). Nevertheless, numbers of insolvencies are projected to remain moderate, and not surpass their pre-pandemic level, thanks to continued state support (Allianz Research 2022). Consequently, employment losses in high-income countries in the next two years will be limited relative to the extent of economic downturn.

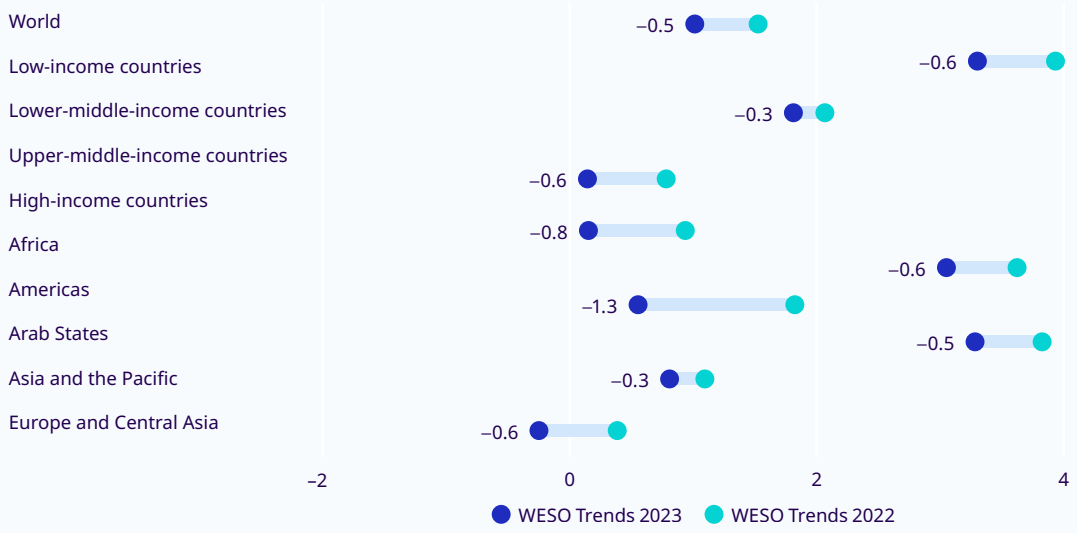
Global employment is projected to expand by 1.0 per cent in 2023, a marked deceleration following 2.3 per cent growth in 2022 (figure 1.9). There is a significant dichotomy between country income groups: employment in low-income and lower-middle-income countries is projected to expand at rates seen before 2020, but upper-middle-income and high-income countries will see much slower employment growth. Employment growth in high-income countries was positive in 2022 only because of strong employment growth in the first half of the year. The projected (unweighted) average employment growth in 2023 with respect to the third quarter of 2022 is essentially zero in those high-income countries with available quarterly data, and employment growth in high-income countries is projected to continue to be close to zero in 2024.[20] All other country income groups are projected to see employment growth in 2024 similar to that in 2023.

The multiple crises hitting the world of work have caused projected employment growth in 2023 to be 0.5 percentage points below what was projected in the previous edition of this report one year ago (figure 1.10). This slowdown will significantly delay the recovery of employment losses incurred during the COVID-19 crisis in those countries where gaps persist. The downward revision is relatively small in lower-middle-income countries; it is largest in the Americas. In the latter region, though, employment recovery in 2022 was very strong, capturing some of the recovery that was previously expected to occur in 2023.

Employment growth is hardly sufficient to match the growth of the working-age population, causing a stabilization of employment-to-population ratios (EPRs) across all country income groups. The global EPR reached 56.4 per cent

20 Quarterly employment data are available for 37 high-income countries.

Figure 1.10. Revision to employment growth projection in 2023, world, country income groups and regions (percentage points)



Source: ILOSTAT, ILO modelled estimates, November 2022; ILO modelled estimates, November 2021.

in 2022, a strong improvement on the low of 54.5 per cent in 2020, but still half a percentage point below the rate in 2019 (table 1.1). The EPR gap in 2022 relative to the pre-crisis level was 0.7 percentage points in low-income countries, whereas high-income countries managed to exceed the pre-crisis EPR, which highlights the large divergence in recovery that took place. The EPR is projected to fall slightly in 2023 and 2024.

Women experienced a much stronger employment recovery than men, their EPRs approaching the rates of 2019. This stronger recovery was mainly driven by informal employment, though; four out of five jobs created for women in 2022 were informal, versus only two out of three for men. In high-income countries, women's EPR was up by half a percentage point in 2022 compared with 2019, versus a *decline* of 0.3 percentage point for men. Lower-middle-income countries have had a similar experience, women's EPR having largely recovered while men's EPR has remained 0.9 percentage points below the 2019 level. Women in low-income and upper-middle-income countries have similar employment deficits relative to 2019 as men. Despite the improved labour market developments for women over the past three years, they nevertheless remain less likely than men to be in employment. Similarly to the LFPR, the gender gap in the global EPR stands at 23.5 percentage points, with a regional pattern similar to that shown in figure 1.7. The employment outlook for men and women is fairly similar: employment growth for both men and women is projected to slow down at roughly the same pace.

Youth employment has been hit particularly hard during the pandemic and its recovery remains far behind that of adults (ILO 2022f). In 2022 the global EPR of young people aged 15 to 24 was 34.5 per cent, 0.7 percentage points below the level of 2019. For adults, the gap was 0.5 percentage points. Since the EPR of young people is much lower than that of adults, the relative shortfall is also much larger for youth – almost 2 per cent, versus 0.7 per cent for adults. Gender gaps in employment rates are equally present among young people, highlighting the strong persistence of the factors that drive gender gaps (ILO 2017b, 2019b and 2022f). Young workers also have different types of jobs from older workers, including a higher likelihood of a temporary contract (ILO 2022g and 2022f).

Table 1.1. Employment and employment-to-population ratio, 2019–24, by sex, world and by country income group

Country group	Sex	EPR (percentages)						Employment (millions)					
		2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
World	**Total**	**56.9**	**54.5**	**55.7**	**56.4**	**56.3**	**56.1**	**3273**	**3176**	**3283**	**3359**	**3393**	**3430**
	Women	45.0	43.0	44.0	44.7	44.5	44.4	1299	1256	1301	1335	1347	1360
	Men	68.8	66.1	67.5	68.2	68.1	68.0	1974	1920	1982	2024	2046	2070
Low-income countries	**Total**	**62.0**	**60.7**	**61.0**	**61.3**	**61.4**	**61.4**	**242**	**245**	**254**	**263**	**272**	**281**
	Women	53.1	51.8	52.2	52.1	52.1	52.1	105	106	110	113	117	121
	Men	71.2	69.8	70.1	70.8	70.9	71.0	137	139	144	150	155	160
Lower-middle-income countries	**Total**	**52.0**	**49.8**	**50.6**	**51.4**	**51.5**	**51.6**	**1205**	**1174**	**1213**	**1249**	**1272**	**1296**
	Women	33.7	32.3	32.8	33.5	33.6	33.7	388	378	390	405	413	421
	Men	69.9	67.1	68.2	69.0	69.2	69.2	816	796	823	845	859	875
Upper-middle-income countries	**Total**	**61.0**	**58.0**	**60.1**	**60.4**	**60.0**	**59.8**	**1225**	**1173**	**1223**	**1237**	**1239**	**1243**
	Women	53.2	50.4	52.3	52.7	52.4	52.1	539	514	537	545	545	546
	Men	68.8	65.7	67.9	68.1	67.8	67.6	686	659	685	692	694	696
High-income countries	**Total**	**58.1**	**56.3**	**57.0**	**58.2**	**57.9**	**57.7**	**602**	**585**	**594**	**610**	**611**	**610**
	Women	51.0	49.3	50.2	51.4	51.1	50.9	267	259	264	272	273	272
	Men	65.4	63.3	63.9	65.1	64.8	64.6	335	326	329	338	338	338

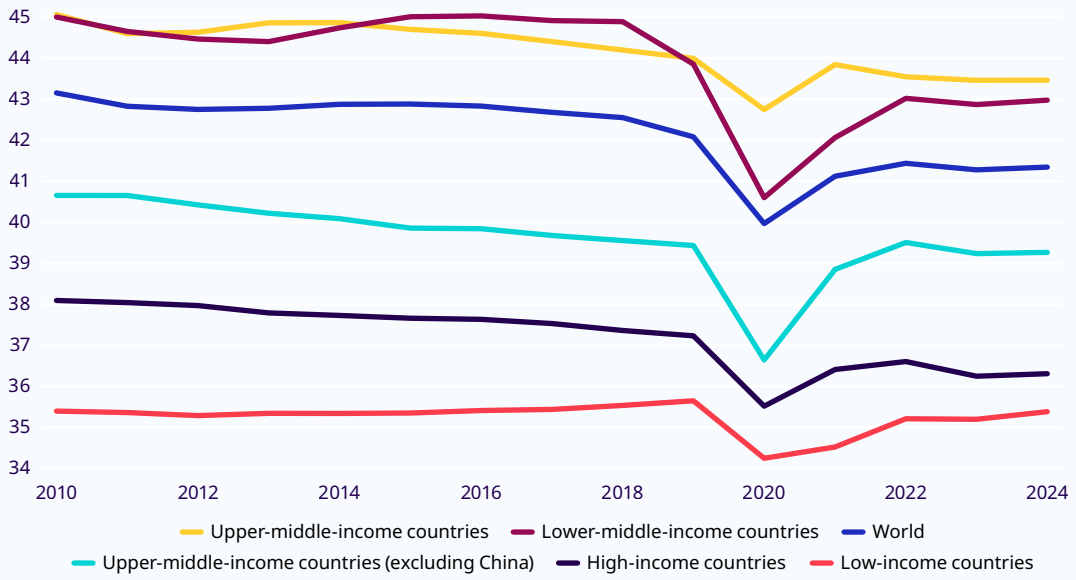
Source: ILOSTAT, ILO modelled estimates, November 2022.

Total hours worked recovered less well from the COVID-19 crisis than did employment: hours worked per worker have persistently declined. Whereas in 2019 the average weekly hours per worker, globally, was slightly above 42 hours, the figure was only 41.4 hours per week in 2022 (figure 1.11). The decline is most significant in lower-middle-income countries (minus 1 hour per week), but also sizeable in low-income and high-income countries (about minus 0.5 hours per week). This decline in hours will have reduced income per worker where workers have been unable to raise their hourly earnings. Weekly hours worked per worker are projected to decline in all country income groups, with the largest decline (of 0.4 hours per week) in high-income countries.

The low level of hours worked per worker in low-income countries is directly related to the lack of decent work opportunities. Although the EPR is the highest among all the country income groups, the low average number of hours worked indicates a high degree of time-related underemployment, which also depresses labour incomes and raises the risk of poverty. High labour productivity allows workers in high-income countries to work relatively few weekly hours while maintaining a good income. Contrastingly, workers in middle-income-countries worked more than 42 hours per week on average in 2022.

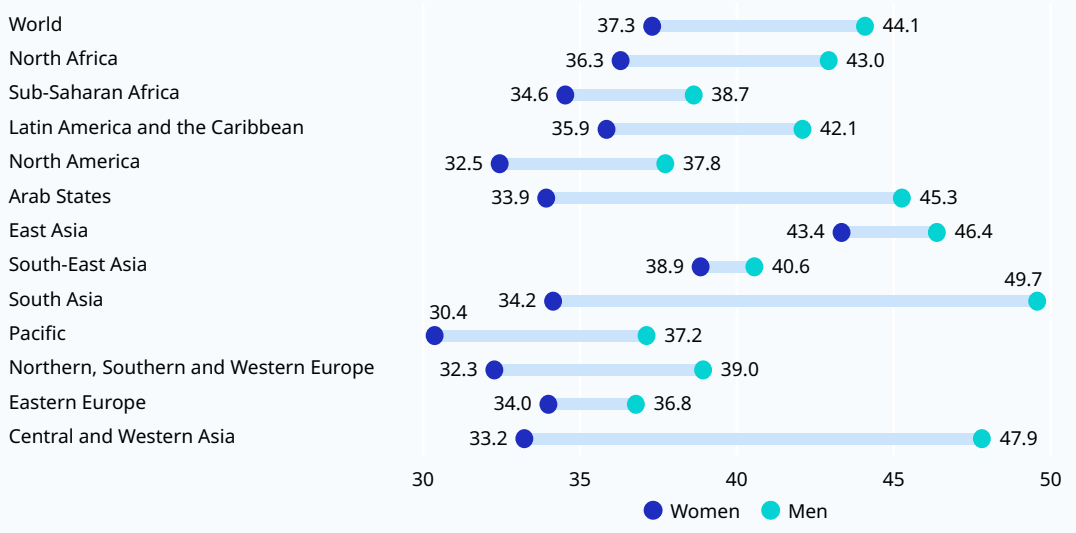
Globally, women in employment work around seven paid hours per week less than men, with large variations of that gender gap by region (figure 1.12). The fewer hours that women spend in paid employment compound the already large gender gaps in employment rates. The unequal burden of unpaid work that falls on women hence impacts not only their participation in the labour market but also their hours of work when they are employed. Interestingly, women in South Asia and Central and Western Asia – both subregions with large gender gaps in employment rates – do not work very low hours in global comparison.

▶ Figure 1.11. Weekly hours worked per employed person, 2010–24, world and by country income group



Source: ILOSTAT, ILO modelled estimates, November 2022.

▶ Figure 1.12. Weekly hours worked per employed person, 2022, by sex, world and by subregion



Source: ILOSTAT, ILO modelled estimates, November 2022.

Table 1.2. Weekly hours worked relative to the fourth quarter of 2019, percentages and FTE, 2020–24, world and by country income group

	Weekly hours worked (population adjusted) relative to Q4 2019 (percentages)					FTE (at 48 hours per week) of difference in weekly hours worked (population adjusted) relative to Q4 2019 (millions)				
Country group	**2020**	**2021**	**2022**	**2023**	**2024**	**2020**	**2021**	**2022**	**2023**	**2024**
World	**–8.7**	**–3.6**	**–1.4**	**–1.6**	**–1.3**	**–252.2**	**–106.3**	**–41.4**	**–47.2**	**–37.8**
Low-income countries	–5.9	–4.6	–2.1	–2.1	–1.4	–10.9	–8.8	–4.2	–4.2	–2.9
Lower-middle-income countries	–11.2	–6.4	–2.7	–2.6	–2.1	–125.3	–72.1	–30.6	–30.2	–24.3
Upper-middle-income countries	–7.1	–0.8	–0.3	–0.5	–0.4	–80.2	–8.5	–3.6	–5.4	–4.6
High-income countries	–7.6	–3.6	–0.6	–1.6	–1.3	–35.8	–16.9	–2.9	–7.4	–6.0

Note: Q4 2019 = fourth quarter of 2019.

Source: ILOSTAT, ILO modelled estimates, November 2022.

However, men in these two regions have the highest numbers of weekly hours, hence large gender gaps in terms of hours as well.

Hours worked per worker declined massively in 2020. One of the defining features of the COVID-19 crisis with its workplace closures was the relatively limited impact on employment despite the significant decline in work activity. Total hours worked, which track the level of work activity in an economy, declined by almost 9 per cent relative to the fourth quarter of 2019 when adjusted for population growth (table 1.2). In line with the incomplete employment recovery and lower hours worked per worker, total hours worked (adjusted for population) in 2022 were 1.4 per cent lower than their level in the fourth quarter of 2019; this gap corresponds to the equivalent of 41 million full-time jobs.[21] The recovery of losses in working hours is highly unequal across the world; low-income and lower-middle-income countries were still in 2022 experiencing much larger gaps relative to the fourth quarter of 2019 (ILO 2022c). The gaps are projected to widen further in 2023 at the global level, albeit only marginally, and then to narrow in 2024, to around 1.3 per cent globally.

Unemployment

Global unemployment declined significantly in 2022 to 205 million, down from 235 million in 2020 but still 13 million above the level of 2019. The unemployment rate, standing at 5.8 per cent in 2022, was still above its 2019 rate (table 1.3). High-income countries have experienced considerable progress in reducing unemployment, the rate having declined to 4.5 per cent in 2022, even lower than the 4.8 per cent of 2019. Whereas upper-middle-income countries have managed to recuperate to the unemployment rate of 2019, both low-income and lower-middle-income countries still face rates that exceed the pre-crisis levels by more than half a percentage point.

Global unemployment is projected to edge up slightly in 2023, by around 3 million. The relatively modest projected increase in unemployment despite the negative global economic outlook arises from the multiple country-specific factors presented above that also limit employment losses. Enterprises in high-income countries that face labour shortages amidst an ageing population will resort to labour hoarding where possible.[22] The economic outlook in low-income and

21 The tenth ILO *Monitor on the World of Work* (ILO 2022c) presents a shortfall in working hours equivalent to 40 million full-time jobs for the first three quarters of 2022.

22 Many high-income countries are likely to support enterprises to hold on to workers through employment retention schemes that have been used during the pandemic.

▶ Table 1.3. Unemployment and unemployment rate, 2019–24, by sex, world and by country income group

Country group	Sex	Unemployment rate (percentages)						Unemployment (millions)					
		2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
World	**Total**	**5.5**	**6.9**	**6.2**	**5.8**	**5.8**	**5.8**	**191.9**	**235.2**	**216.4**	**205.2**	**208.2**	**210.9**
	Women	5.6	6.7	6.2	5.8	5.8	5.9	77.3	90.3	86.5	81.9	83.5	84.7
	Men	5.5	7.0	6.1	5.7	5.7	5.7	114.7	144.9	129.9	123.3	124.7	126.3
Low-income countries	**Total**	**5.2**	**5.9**	**5.8**	**5.8**	**5.7**	**5.7**	**13.1**	**15.4**	**15.7**	**16.1**	**16.5**	**16.9**
	Women	5.4	6.1	6.1	6.0	6.0	6.0	6.0	6.9	7.2	7.3	7.5	7.7
	Men	5.0	5.7	5.6	5.5	5.5	5.4	7.2	8.4	8.6	8.8	9.0	9.2
Lower-middle-income countries	**Total**	**5.5**	**7.4**	**6.4**	**6.2**	**6.1**	**6.2**	**70.1**	**93.8**	**82.8**	**82.0**	**83.3**	**85.3**
	Women	5.6	6.8	6.3	6.2	6.2	6.2	22.9	27.7	26.2	26.7	27.3	28.0
	Men	5.5	7.7	6.4	6.2	6.1	6.1	47.2	66.1	56.5	55.4	56.1	57.3
Upper-middle-income countries	**Total**	**6.0**	**6.8**	**6.3**	**6.0**	**5.8**	**5.8**	**78.6**	**85.3**	**82.6**	**78.4**	**76.9**	**77.0**
	Women	6.0	6.6	6.4	5.9	5.8	5.8	34.3	36.5	36.7	34.3	33.8	33.9
	Men	6.1	6.9	6.3	6.0	5.9	5.8	44.3	48.8	46.0	44.1	43.1	43.1
High-income countries	**Total**	**4.8**	**6.5**	**5.6**	**4.5**	**4.9**	**5.0**	**30.1**	**40.7**	**35.2**	**28.7**	**31.5**	**31.8**
	Women	5.0	6.9	5.9	4.8	5.2	5.3	14.1	19.2	16.5	13.7	14.9	15.1
	Men	4.5	6.2	5.4	4.3	4.7	4.7	15.9	21.5	18.8	15.1	16.6	16.7

Source: ILOSTAT, ILO modelled estimates, November 2022.

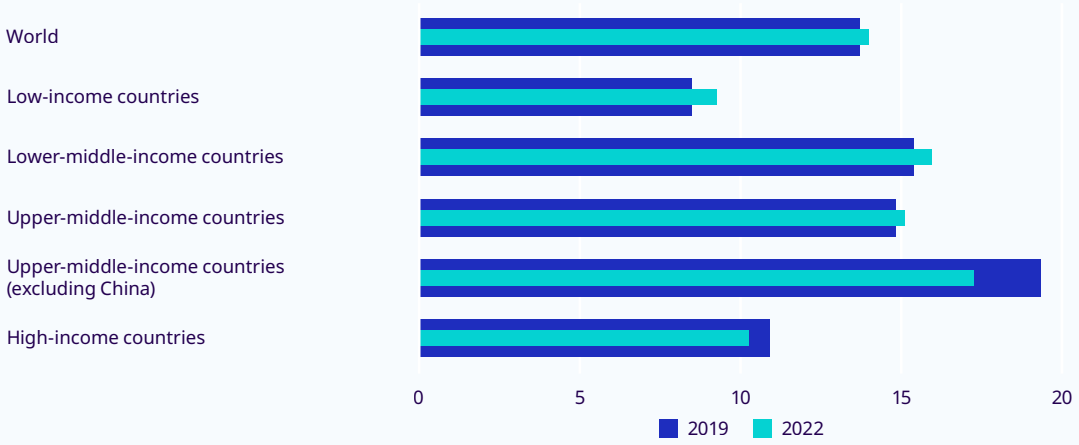
lower-middle-income countries is not very negative compared with pre-crisis trends. Moreover, these countries have historically had less elasticity of unemployment in response to economic growth. Unemployment rates are projected to remain relatively stable across country income groups except the high-income group.

Women in the labour market are marginally more likely than men to be unemployed; their unemployment rate was 5.8 per cent in 2022, 0.1 percentage points above that of men. Women also experience greater labour underutilization, globally and across all country income groups (see "The jobs gap, beyond unemployment" below). In 2020, women's unemployment rate increased much less than men's because they were much more likely to exit the labour market following job loss, partly because of increased burdens of unpaid care work. By 2022, the gender gap in the unemployment rate was close to its level in 2019, since stronger employment recovery among women came along with a recovery of women's labour force participation. Women and men are projected to experience similar changes in unemployment rates in 2023 and 2024.

Young people in the labour force are three times as likely as adults to be unemployed, the global youth unemployment rate being about 14 per cent in 2022. This translates into 69 million young people who were looking for a job but unable to find one.[23] Youth unemployment rates are highest in upper-middle-income countries

23 In addition to looking for a job, people also need to be available for employment if they are to be defined as unemployed.

Figure 1.13. Youth unemployment rates, 2019 and 2022, world and country income groups (percentages)



Note: "Youth" refers to ages 15–24.

Source: ILOSTAT, ILO modelled estimates, November 2022.

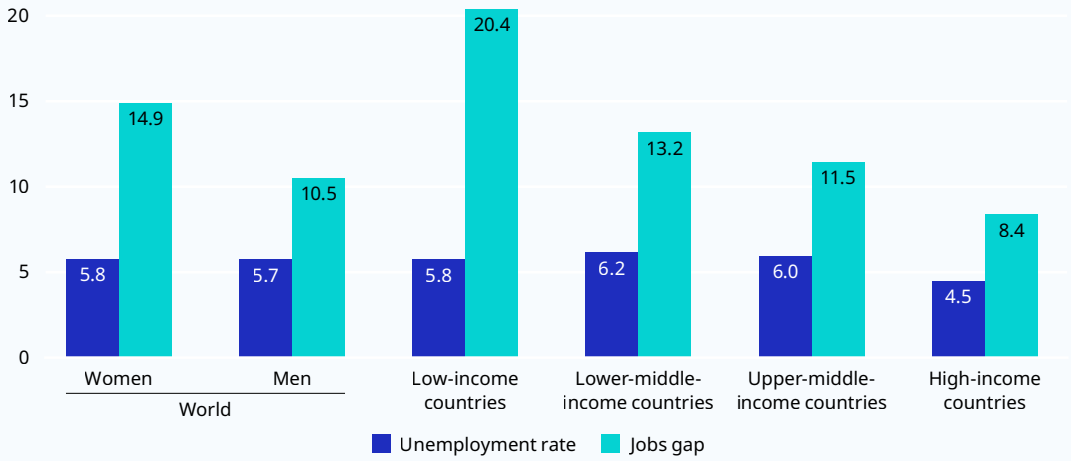
excluding China, at 17 per cent in 2022, and lowest in low-income countries, at 9 per cent (figure 1.13). Youth unemployment rates also exhibit great regional variation (ILO 2022f). Youth unemployment rates are still higher globally than in 2019 but have fallen in high-income and upper-middle-income countries excluding China. Global youth unemployment is projected to increase by 1 million between 2022 and 2023 and to remain roughly stable in 2024. The figure of 289 million young people who are NEET (see figure 1.7) highlights the fact that youth unemployment is only one of multiple problems faced by young people in the labour market.

The jobs gap, beyond unemployment

Unemployment is the best-known but also one of the most restrictive measures of labour underutilization. To be considered unemployed, people need to be available to take up employment at short notice and to have recently been searching for a job (ICLS 2018). Although this metric is a highly informative measure of labour underutilization, indicating those who are jobless and placing immediate pressure on the labour market, a vast number of people do not fulfil those conditions yet nevertheless have an interest in finding employment. The total unmet need for employment is far larger than what unemployment numbers alone can capture. A novel ILO data set shows the magnitude of this extended conception of labour underutilization.[24]

24 The new estimates follow guidance from the 19th ICLS. The resolution concerning statistics of work, employment and labour underutilization provides operational concepts, definitions and guidelines for measures of labour underutilization (ICLS 2018). The main measures of labour underutilization highlighted in the resolution are time-related underemployment, unemployment and the potential labour force. An additional group of interest in the measurement of labour underutilization whom the resolution identified are willing non-jobseekers. This group evinces a lower degree of labour market attachment than those in the potential labour force, but they are nonetheless relevant to social and gender analysis, as acknowledged in the resolution. The new ILO data set on the jobs gap complements the existing set of indicators in the ILO modelled estimates by providing combined estimates of the potential labour force and willing non-jobseekers. Hence, the estimates include those who have recently been searching for a job but are not available to work within a short reference period, those who have not recently searched for a job but are available to work within a short reference period, and those who fall into neither of the previous categories but do want employment.

Figure 1.14. Unemployment rate and jobs gap, 2022, by gender and country income group (percentages)



Source: ILOSTAT, ILO modelled estimates, November 2022.

In 2022, around 473 million people were interested in finding a job but did not have one. This unmet demand for jobs includes the 205 million unemployed people and an additional 268 million who wanted employment but did not qualify as unemployed. The latter group includes, for instance, workers who are discouraged from searching because they see no possibility of obtaining employment and also those currently unable to take up employment at short notice, such as those with family responsibilities and full-time students. The jobs gap is a new indicator that captures the entirety of unmet demand for employment – 473 million – and provides a much better representation of labour underutilization than does unemployment alone.

Globally, the jobs gap rate was 12.3 per cent in 2022, well above the global unemployment rate of 5.8 per cent.[25] This jobs gap is particularly large for women. Globally, men and women experienced a similar unemployment rate in 2022. However, the jobs gap rate for women is 15.0 per cent compared with 10.5 per cent for men (figure 1.14). In other words, an additional 153 million women are identified as having an unmet need for employment, when we apply this wider focus, compared with 115 million men. Personal and family responsibilities, including unpaid care work, can prevent many people from seeking employment or limit their availability to work at short notice. Such limiting factors disproportionately affect women and thus explain the large gap in this broader measure of labour underutilization. The difference between the broader jobs gap and unemployment is also disproportionately large in the developing world. Two factors are likely to be driving this. First, a high incidence of informality can reduce the prospects of finding employment, discouraging those who desire employment from searching. Second, availability to start a job at short notice can be more constrained in developing countries by a greater amount of time being spent on household tasks

25 The incidence rate of labour underutilization, including willing non-jobseekers, is defined as analogous to the combined rate of unemployment and potential labour force used in the 19th ICLS. The additional jobs gap is defined as the sum of the potential labour force and willing non-jobseekers divided by the sum of the extended labour force and willing non-jobseekers. Using the latest available estimates of the potential labour force (ILO modelled estimates, November 2021), it can be inferred that in 2019 the potential labour force accounted for approximately 40 per cent of the additional jobs gap; the remainder comprised those wanting employment but neither available nor seeking it.

that cannot be characterized as employment.[26] Regardless of the mechanism, the estimates point to a much higher jobs gap than unemployment rate in developing countries. Whereas there are no strong differences between country income groups in unemployment rates, striking differences arise in the jobs gap. Low-income and lower-middle income countries have very high jobs gaps, of 20 and 13 per cent, respectively, whereas upper-middle-income countries present a gap of 11 per cent and high-income countries register a gap of only 8 per cent (figure 1.14).

▸ Workers are likely to face deteriorating working conditions

Beyond the size of the jobs gap, job quality remains a key concern. Many people simply cannot afford to be without a job, owing to their poverty and lack of access to social protection. They will undertake any kind of activity, often at very low pay, sometimes with insufficient hours. A shortage of better job opportunities in the context of the projected slowdown will push workers into jobs of worse quality. Furthermore, as prices rise faster than nominal labour incomes, many workers will be unable to maintain their real income. Both factors imply deteriorating labour market conditions in dimensions other than employment.

Work incomes and inequality

Inflation, especially when driven by rising commodity prices, has a strong impact on income distribution. Rising prices of inputs and final goods and services stretch the budgets of enterprises and households needing to purchase them, but they also raise the revenues earned by sellers. Total real income is affected by the channels through which inflation affects real activity, and real GDP estimates show that real income continued to grow in most countries of the world in 2022. This, however, does not mean that inflation has no effect on households' real incomes. First, depending on the terms-of-trade effect of rising commodity prices, countries may experience a fall in national disposable income because they need to spend more on imports. Second, and more importantly, many workers and enterprises are unable to raise their income or revenue in line with the inflation of the cost of living or inputs, and hence experience real income losses. On the flip side, some workers and enterprises experience income gains (far) higher than the inflation rate, and their real incomes therefore increase. This causes a shift in real incomes in the economy.

Global labour incomes are distributed highly unequally across the world, the bottom 50 per cent earning only 7.8 per cent of global labour income in 2019, the last year with available estimates. A large part of this inequality is driven by differences in average standards of living across countries, rather than by inequality within countries (ILO 2020). The unweighted average share of labour income across all countries that went to the bottom 50 per cent in 2019 was 17.2 per cent. Low- and middle-income households are more vulnerable to inflation owing to the composition of their income, asset and consumption baskets (Gill and Nagle 2022).

Global labour income inequality has declined since 2005, mainly thanks to the economic convergence of middle-income countries (ILO 2020). The share of labour incomes earned by the top 20 per cent of workers declined from 76.6 per cent in 2010 to 67.3 per cent in 2019. Meanwhile, significant income growth has accrued among the lower strata of global income distribution (Milanovic 2022). However, the global labour income share declined from 54.1 per cent in 2004 to 52.6 per cent in 2019. The decline in this time period is part of a longer-term decline in those countries with available data (ILO 2020).

26 See, for instance, https://www.researchgate.net/publication/304636246_Time-Use_Surveys_in_Developing_Countries_An_Assessment.

▶ Box 1.1. Food price explosion causes rise in food insecurity

The world is facing the largest food crisis in modern history. Recent estimates from 79 countries where the World Food Programme (WFP) is present indicate that 349 million people faced acute food insecurity in 2022 – that is, these people's inability to consume adequate food was putting their life and/or livelihood in immediate danger (WFP 2022). Over the course of the COVID-19 crisis, and exacerbated by the Ukraine conflict, the number of people facing acute food insecurity has increased by 200 million. Global estimates show that in 2021 between 702 and 828 million people experienced hunger or the prevalence of undernourishment, an increase of 150 million from 2019 (FAO et al. 2022). Hunger and food insecurity are driven by high food prices arising from economic factors, active conflicts that directly hinder or prevent agricultural activity, and weather-related disruptions that are only going to become worse and more frequent with climate change (WFP 2022).

Average real wages fell in 2022, meaning that wage and salaried workers are unable to raise their incomes in line with inflation (ILO 2022e). This decline is reducing the purchasing power of the middle class and hitting low-income groups particularly hard and comes on top of substantial losses in the total wage receipts for workers and their families during the COVID-19 crisis. The decline in real wages in 2022 is estimated to have been most severe in advanced economies, at 2.2 per cent. Emerging economies, on the other hand, experienced reduced but positive wage growth of 0.8 per cent.

Falling real incomes are particularly devastating for poorer households, who risk slipping into poverty and food insecurity. The higher share of food and transportation in the budget of poorer households means that the cost-of-living increase among low-income households can be between 1 and 4 percentage points higher than that faced by high-income ones (ILO 2022e). The World Bank estimates that in a pessimistic scenario, in which the impact of high food prices falls mainly on the bottom 40 per cent of the income distribution, 20 million more people around the world were in extreme poverty in 2022 than in the baseline scenario of equal impact across the income distribution.[27]

The impact of current inflation on extreme working poverty is heterogeneous, since 65 per cent of the extremely poor work in agriculture (Castañeda et al. 2018) and hence may also benefit from rising incomes owing to higher food prices, which may even lift some of them out of poverty.[28] At the same time, millions of people live and work in rural areas where agricultural productivity is insufficient, and thus rely on purchased food; hence a significant increase in food insecurity in 2022 (box 1.1).

In 2022 an estimated 214 million workers were living in extreme poverty, corresponding to around 6.4 per cent of the world's employed (table 1.4). The substantial decline by 14 million workers since 2020 is a consequence of the lifting of workplace closures.[29] Worryingly, however, in 2022 low-income countries are estimated to have had the same rate of extreme working poverty as in 2019. This stagnation following some promising progress in the preceding decades does not bode well for the achievement of Sustainable Development Goal (SDG) 1: the eradication of poverty in all its forms. The number of working poor is even increasing in low-income countries, since too much of the expansion of employment is in subsistence agriculture and other informal activities with low pay.

27 Retrieved from https://www.worldbank.org/en/topic/poverty on 13 October 2022.

28 Among the working poor, a substantial part of food production is for one's own consumption, which would hence be "budget neutral" regardless of the world market price.

29 South Asian and South-East Asian countries in particular experienced significant workplace closures in 2021.

Table 1.4. Extreme working poverty, 2000–22, world and by country income group

Country group	Share of extreme working poverty (≤ US$1.90 PPP per day) (percentages)						Extreme working poverty (≤ US$1.90 PPP per day) (millions)					
	2000	2010	2019	2020	2021	2022	2000	2010	2019	2020	2021	2022
World	**25.8**	**13.7**	**6.7**	**7.2**	**6.7**	**6.4**	**666.9**	**405.9**	**218.8**	**228.3**	**220.6**	**214.3**
Low-income countries	56.9	45.6	38.3	38.8	38.5	38.6	81.3	86.2	92.7	95.0	97.7	101.6
Lower-middle-income countries	35.5	20.2	9.6	10.4	9.3	8.2	308.1	213.1	115.6	122.5	112.6	102.2
Upper-middle-income countries	25.9	9.1	0.8	0.9	0.8	0.8	277.2	106.5	10.4	10.6	10.1	10.3

Source: ILOSTAT, ILO modelled estimates, November 2022.

The changing composition of employment growth

Security in the workplace and social protection for all, better prospects for personal development and social integration, and the freedom of people to express their concerns, organize, and participate in the decisions that affect their lives are just as important to achieving social justice as are opportunities for productive work that delivers a fair income. Consequently, the type of employment that workers have is very important and will be investigated in this section.

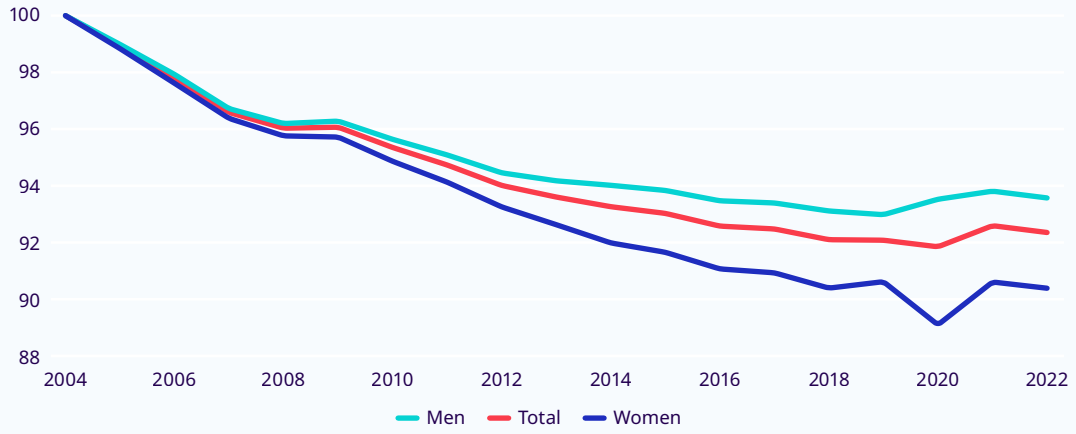
Informality lacks many characteristics of the formal employment relationship that are important to the advancing of social justice. Informal workers are engaged in economic activities that are either insufficiently covered or not covered at all by formal arrangements in law or in practice. These workers, and also businesses run by informal employers, tend to lack legal recognition, to fail to comply with fiscal obligations, and to face difficulties in entering into commercial contracts. Moreover, informal workers are much more likely to be living in conditions of poverty (ILO 2018b).

Globally, around 2 billion workers were in informal employment in 2022. Informality had been trending downwards over the last decade and a half, global rates falling by 5 percentage points between 2004 and 2019, with a slowdown in the pace of the decline towards the end of the period (figure 1.15). In 2020 informal workers were disproportionately affected by lockdowns and public health restrictions. This was mainly because informal workers were over-represented in microenterprises and small enterprises.[30] Moreover, informal workers had more limited access to support measures such as job retention programmes and flexible working arrangements. Informality trends have differed markedly by gender. Informally employed women experienced disproportionally large job losses, which drove down the incidence rate of informality among women during 2020, whereas in the same period the incidence of informality increased among men. This evidence strongly supports the view that care demands coupled with informal workers' lack of access to telework, flexible hours or leave resulted in a disproportionate job destruction rate for women in informal employment (ILO 2018b and 2018c; World Bank 2020; IMF 2020; UN Women 2020; İlkkaracan and Memiş 2021).

A recovery from the pandemic is driven by informal jobs. As countries lifted lockdowns and public health restrictions and economies recovered, informal jobs rebounded faster than formal ones. Hence the slow but steady reduction in informality, sustained for more than a decade, has come to a halt. Around two thirds of the job

30 See, for instance, ILO (2021e) for an analysis of the differential impact of the pandemic upon firms by firm size.

Figure 1.15. Index of informal employment incidence, 2004–22, by sex (2004 = 100)



Source: ILOSTAT, ILO modelled estimates, November 2022.

gains between 2020 and 2022 were in informal employment; thus the incidence of informality in 2022 was slightly higher than in 2019. The growth of informal employment has been particularly strong for women (ILO 2022c). The scarcity of data, particularly during the COVID-19 crisis and the recovery, means that such trends must be carefully interpreted; nonetheless, this development is particularly worrying, since it points to a deterioration in an area where progress was already modest. Moreover, if the economic environment were to deteriorate further than currently anticipated, the upward trend of informality could be prolonged over the medium term.

The projected economic slowdown in high-income countries is likely to have important spillovers for low- and middle-income countries through GSC linkages. Growth in imports by advanced economies is projected to decline from an average rate of 3.5 per cent in the period 2015–19 to only 2 per cent in 2023.[31] As a consequence, GSC activities linked to these economies could lose importance as a source of employment growth among developing and emerging economies. This trend could be reinforced by companies reorganizing their supply chains after observing vulnerabilities to supply disruption during the COVID-19 crisis and geopolitical shifts (Kearney 2021; Maihold 2022). These short-term adjustments of supply chains are underpinned by a longer-term trend of slowing globalization (see "Risks to the outlook" below).

GSCs linked to high-income countries are an important source of employment in middle-income countries. In a sample of 24 middle-income countries, the share of employment in activities, excluding agriculture and non-market services,[32] that are related to GSCs linked to high-income countries was 11.3 per cent in 2021, down from 13.7 per cent in 2000 (box 1.2). In 5 of the 24 middle-income countries, this share is greater than 20 per cent. The share of employment related to GSC linkages with other middle-income countries was 8.9 per cent. Whereas large economies have a large internal market, employment in smaller economies tends to be much more reliant on GSCs. The slowdown in high-income countries could therefore cause a shift of employment creation in middle-income countries towards activities that are not linked through GSCs to high-income countries. Those activities could include more involvement

31 Calculation based on IMF World Economic Outlook Databases, October 2022.

32 Non-market services include public administration, education, health services, and community, social and other services and activities. See https://ilostat.ilo.org/resources/concepts-and-definitions/description-labour-force-statistics/.

▶ Box 1.2. Accounting for GSC-related jobs

In this chapter the estimates characterizing jobs connected to GSCs are based on the input–output methodology (see Appendix D for details and country coverage). This methodology allows one to track with the help of inter-country input–output tables the shares of output produced by an economic activity which at some point in the supply chain cross international borders. Those shares are then translated into numbers of jobs, both the total for the economy and by certain characteristics. The analysis here presents only jobs in non-agricultural activities because GSC-related agricultural businesses likely exhibit very different employment characteristics from those of other agricultural businesses, and at the time of writing no robust estimates of these differences exist. In other economic activities the differences are likely to be smaller – for instance, the same companies are involved in GSCs linked to high-income countries and in other supply chains – and so the estimates are less sensitive to the underlying assumptions (see Appendix D). Non-market services have by nature very little exposure to GSCs and hence are excluded from the analysis.

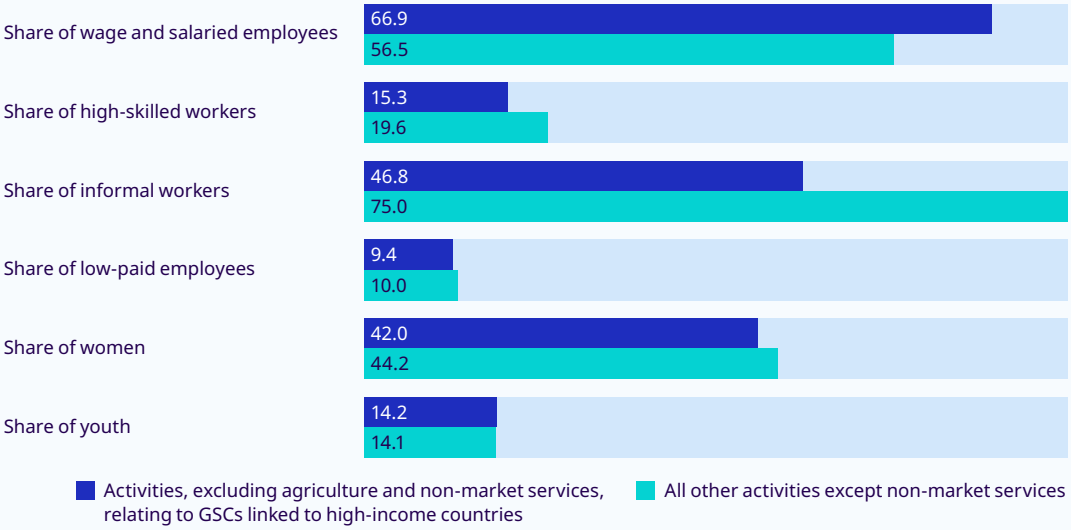
The analysis in figure 1.16 presents sectoral composition effects, showing the weighted incidence of employment characteristics – that is, whether sectors with higher GSC-related jobs shares have, on average, a higher or lower incidence of a certain employment characteristic than the rest of the economy. The figure can be interpreted as showing the incidence of a particular characteristic in GSC-related activities only if one makes the assumption that, within each sector, GSC-related activities have the same incidence of a characteristic as activities that are not GSC related. This assumption is unlikely to hold. For example, there is ample evidence that exporting firms tend to pay higher wages than non-exporting firms (Milner and Tandrayen 2007; Melitz and Redding 2014). Furthermore, rates of formality and wage employment are also likely to be higher among exporters than non-exporters. Consequently, the incidence of wage employment in GSC-related activities shown in figure 1.14 is likely to be underestimated and the incidence of informality and low pay to be overestimated.

of intra-regional supply chains, but also activities unrelated to GSCs. The following analysis assumes that intra-regional supply chains are not fully able to replace job creation in the short run, which results in jobs shifting towards activities unrelated to GSCs.[33] The analysis looks at the characteristics of employment outside non-market services, since these very often depend on allocated government budgets and hence will not be a viable alternative for overall job creation unless governments raise budget allocations. Shifts of employment out of GSC-related activities to other economic activities will have consequences for the composition of employment in terms of factors such as gender, age, status, formality and pay.

A shift of employment growth in middle-income countries from GSC activities linked to high-income countries towards alternatives other than non-market services would likely cause working conditions to deteriorate. The probability that a worker is informal or self-employed is significantly lower in sectors with a high share of GSC-related activities linked to high-income countries than is the probability in other activities (excluding non-market services) (figure 1.16). Contrastingly, in middle-income countries the share of high-skilled workers is lower in GSC-intensive sectors linked to high-income countries than in the remainder of the economy – a result of middle-income countries mainly playing the role of the world's manufacturing workshop, given that most occupations typically found in manufacturing are not classified as requiring high skill. Furthermore, the share of employees with low pay – defined as those earning less than two thirds of the median – is slightly lower in GSC-intensive

33 This assumption can be motivated on several grounds. For instance, consumers in high-income countries have a large spending power that is unlikely to be fully replaced by that of consumers in middle-income countries, especially during an economic slowdown.

Figure 1.16. Weighted incidence of employment characteristic in middle-income countries, activities relating to GSCs linked to high-income countries, and all activities, 2019 (percentages)



Note: Weights are given by that sector's employment share in total employment, or by that sector's share of GSC-related employment in total GSC-related employment. For both cases, "total" excludes non-market services; "total" also excludes agriculture for GSC-related employment. The data cover 24 middle-income countries, mostly in Asia. Non-market services excluded from the figure are public administration, health and social services, education, arts and recreation. "High-skilled" refers to occupations requiring high skill. "Youth" refers to ages 15–24. "Low-paid" is defined as earning less than two thirds of median monthly income.

Source: ILO estimates based on Asian Development Bank (ADB) multi-region input–output tables; see box 1.2.

activities. Importantly, though, "low pay" here only refers to *employees*; a shift to non-GSC-related activities greatly raises the chances of becoming an own-account or contributing family worker – and such individuals face a much higher risk of working poverty than do employees (Huynh and Kapsos 2013). The employment shares of women are slightly lower (and those of youth essentially the same) in sectors with a high share of GSC-related activities than in middle-income countries overall, indicating that a shift of employment growth from GSC-related activities to other activities would not place a disproportionate burden on either women or youth.[34] Further analysis conducted for South-East Asia that goes beyond simple comparison of averages demonstrates an important positive effect of forward and backward linkages in global value chains on reducing working poverty and increasing labour productivity (Blanas, Huynh and Viegelahn, forthcoming).

Reductions in spending and public employment in emerging and developing countries would diminish average employment quality. Countries might be forced into such a reduction in spending should their financing conditions worsen as a result of spillovers from monetary tightening; major spending cuts may arise in the case of a full-blown debt crisis. Workers in economic activities that depend rather strongly on public expenditure – public administration, education, health and social services – are much more likely to be employees, high skilled and formal and are much less likely to be low paid (figure 1.17). Consequently, average job quality would decline if countries were to engage in large public spending cuts.

34 In South-East Asia, women and youth are slightly over-represented in GSC-related activities relative to the rest of the economy (ADB and ILO, forthcoming).

Figure 1.17. Share of type of workers by economic activities, 2021, by country income group (percentages)

Note: "Low pay" refers to earning less than two thirds of the median monthly wage.

Source: ILO estimates.

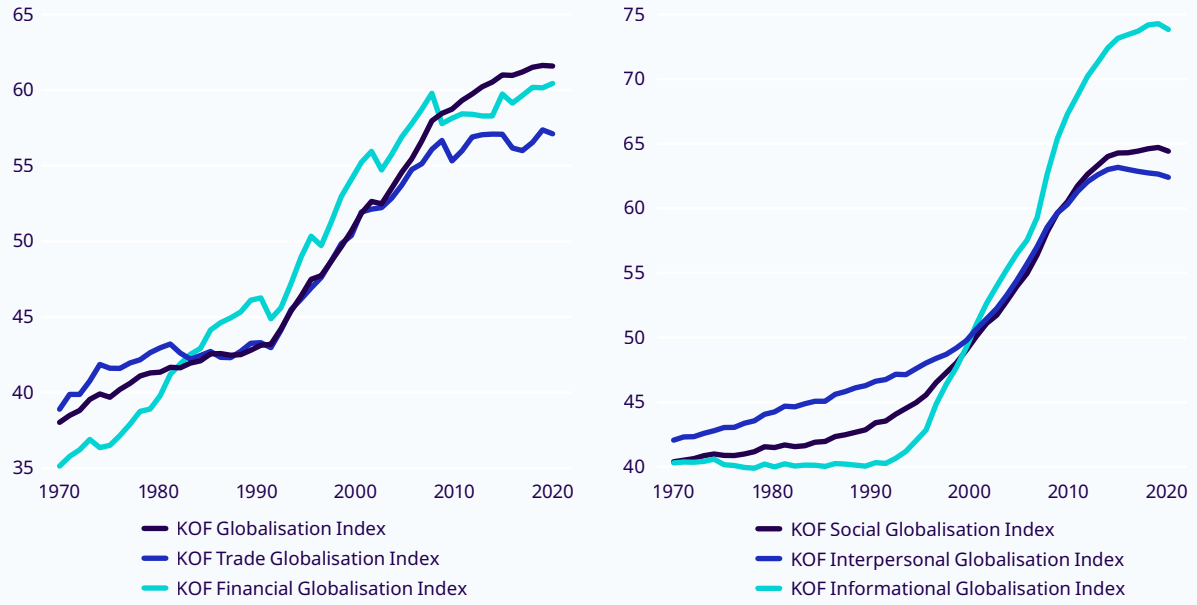
Risks to the outlook

The labour market outlook presented in this report has significant downside risks. For one thing, global economic growth has a significant risk of falling below 2 per cent for a multitude of reasons: policy mistakes in terms of monetary tightening, dollar strength, persisting inflationary forces, widespread debt distress in vulnerable emerging markets, a halting of gas supplies to Europe, a resurgence of global health scares and a further slowdown of China's economic growth (IMF 2022). Lower economic growth and aggregate demand will also affect employment creation negatively. However, labour market prospects could turn out more negative even without those threats materializing. Businesses may be unable to hold on to workers should financing conditions worsen significantly, causing a major rise in unemployment that will further depress growth. Sovereign bond interest rates may rise to levels that force governments into austerity measures to avoid further distortions,[35] thereby putting under threat the support measures that households and businesses require to navigate the crisis. In low- and middle-income countries, there is risk that economic growth may not be very inclusive and that this, coupled with rising food and energy prices, may leave a large proportion of households with lower disposable income. This in turn will reduce demand for many locally produced goods and services, likely causing a reduction in at least formal employment growth.

Slowing globalization is limiting decent work opportunities in low- and middle-income countries. The emergence of a global middle class and the notable reduction in working poverty over the last two decades were supported by a continued integration of international markets and the integration of frontier markets in GSCs. This dynamic was already slowing down, however, after the global financial crisis of 2009. As geopolitical

35 Debt sustainability is one problem. Pension funds as large holders of government bonds may face solvency problems if bond prices decline too much.

▶ Figure 1.18. Evolution of economic, financial and social globalization, 1970–2022



Source: KOF Globalisation Index: https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html.

tensions rise, there is a risk of retrenchment of supply chains and the possibility of a reversal in the progress of decent work creation (see figure 1.18). In addition to re- or near-shoring certain high-end activities in or closer to advanced economies, the quest for multiple suppliers to strengthen supply chain resilience is likely to increase costs and undo part of the benefits gained from globalization over previous decades. Although this may have only limited effects on employment, it will add to cost pressures, keeping inflation rates above levels observed previously. However, "friend-shoring" will provide opportunities for countries that manage to present themselves as a reliable partner.

Headwinds in productivity trends may further limit progress in living standards and real wages. Productivity growth remains disappointingly low, both in advanced economies and in major emerging countries. Part of the productivity slowdown in frontier markets was to be expected as further potential gains from structural adjustment diminished. However, even at the technological frontier, productivity growth has not experienced the expected acceleration. Despite the impressive growth and profitability of leading companies in the digital economy, their innovations have failed, so far, to lead to an acceleration in productivity more broadly, since diffusing them has proved to be challenging. The barriers to diffusion lie partly in the substantial role of intangible assets in the business model, so that benefits are reaped by only a few companies (Bessen 2022; Ernst 2022). Changes in the regulatory environment together with accelerated investment in people's skills will be necessary to enable a broader diffusion of the benefits of digital innovation across all sectors of the economy.

Global uncertainty remains elevated amidst a multitude of risks, depressing investment and job creation. A ratcheting of uncertainty has been observed over the last 15 years, starting with the global financial crisis and exacerbated by the COVID-19 pandemic and the Ukraine conflict. Major crises such as financial or health crises often trigger further disruptions because of the knock-on effect they have on the social fabric (Tooze 2022). In particular, unless supported

by strong policy action, economies often fail to recover the output lost and, worse, will settle on a less dynamic path of economic development (Cerra and Saxena 2008). Shattered expectations and heightened conflict about the distribution of incomes cause social unrest and political instability (Vlandas and Halikiopoulou 2022). Such socio-economic crises are self-reinforcing, creating long spells of economic and political instability that demand major overhaul and a new social contract.

Renewing the social contract and advancing social justice

The global economy has undergone no fewer than five major crises with global repercussions over the last 25 years. Geopolitical tensions, financial crises and a global pandemic have diminished confidence in the ability of national policymakers and the multilateral system to respond to societies' most pressing needs.

A more human-centred policy approach is required to strengthen the resilience of economies and societies – to advance social justice amidst the major economic shifts and shocks under way. This needs to include strengthening labour and social protection to insure workers and their families against various forms of risk as well as expanding education and vocational training to help workers to transition to alternative sectors or occupations. Large educational gaps exist, producing significant barriers to structural transformation and productivity upgrading (see Chapter 3). Stronger implementation of the human-centred approach framed by the ILO's 2019 Centenary Declaration and 2021 Global Call to Action is needed to strengthen national social contracts and advance global social justice at a time when they are under increased pressure.

The ILO's Constitution reminds us that **social justice is a precondition for lasting peace**. Its Preamble states that "conditions of labour exist involving such injustice, hardship and privation to large numbers of people as to produce unrest so great that the peace and harmony of the world are imperilled". Founded in 1919 in the aftermath of a world war, a global pandemic and pervasive industrial and social unrest, the ILO was given a mission to promote the improvement of those conditions of labour for the purpose of justice and humanity and to ensure permanent peace in the world. Although there is no single authoritative definition of social justice, a broad consensus exists among the ILO's constituents about the central importance of decent work, including respect for fundamental principles and rights at work, productive and freely chosen employment, universal social protection, and social dialogue as a means of shaping economic progress that benefits everyone. The labour market trends presented in this chapter underscore the ongoing critical importance of this agenda for all societies.

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2 Employment and social trends by region

Overview

Decent work deficits vary by region in magnitude, yet are widespread, undermining social justice across all regions. In the Arab States, North Africa and South Asia, gender gaps in labour market indicators, including the LFPR, continue to prevail; in Latin America and the Caribbean, and in sub-Saharan Africa, elevated rates of informality inhibit access to social protection and fundamental rights at work. Such circumstances are not limited to these or any particular regions, but affect all regions to different degrees, and global economic conditions are likely to reverse progress and worsen these problems. Rising costs of living and inflation, in particular, threaten to worsen working poverty and reduce the ability of workers and their households to earn enough to sustain themselves above the poverty line. In sub-Saharan Africa and South Asia, 60.8 per cent and 34.4 per cent, respectively, of the employed population in 2021 were considered to be working poor at the US$3.10 per day (2011 PPP per capita) level.[1]

1 In 2022, the World Bank revised the threshold for extreme poverty from US$1.90 per day in 2011 PPP to US$2.15 per day in 2015 PPP. This change could not yet be taken into account in the production of estimates for this report, but it will be taken into account in future editions.

Headline labour market indicators showed improvements in 2022 from a year earlier, despite a slowdown in GDP growth. Employment growth is estimated to have remained positive for the whole year, albeit at slower pace in the Americas, and in Asia and the Pacific than was seen in 2021 (see Chapter 1). In the Arab States, employment growth is expected to have grown faster than in 2021 owing to higher commodity prices in the first half of 2022. The global unemployment rate fell in 2022 by 0.4 percentage points to reach 5.8 per cent, and declines in the unemployment rate were experienced in all regions. Nonetheless, beneath the surface of these headline labour market indicators, there are signs that decent work deficits have worsened in many regions, including in relation to informality in Latin America and the Caribbean and poor-quality jobs in Asia and the Pacific.

The outlook for 2023 remains volatile and uncertain as inflation persists and the conflict in Ukraine continues. Inflation continues to wreak havoc across the globe and, with central banks raising interest rates to levels last seen before the global financial crisis, the risk of a global recession has heightened considerably. The risk is particularly acute in advanced economies, where growth is set to slow to 1.4 per cent (IMF 2022a). Moreover, the continuation of the conflict in Ukraine and the spillover effects from this mean that the outlook for 2023 remains highly volatile and uncertain. Elevated prices and cost of living are likely to impair livelihoods and aggregate demand, with implications for the labour market.

The labour market outlook for 2023 varies considerably by region. Employment growth for 2023 is expected to remain in positive territory despite slowing from a year earlier, with significant variations by region. Africa and the Arab States should see employment growth of the order of 3 per cent or more. However, both regions, with growing working-age populations, will see unemployment rates remain relatively unchanged (at around 7.1 per cent in Africa and 9.1 per cent in the Arab States). In Asia and the Pacific, and in Latin America and the Caribbean, annual employment growth will be less than 1 per cent. In North America, and in Europe and Central Asia, there will be slightly positive or negative employment growth in 2023, but unemployment rates should hold steady against the backdrop of limited growth in the working-age population. Indeed, in Europe and Central Asia, the labour force is set to decline in 2023. Despite these trends in headline labour market indicators, each region will continue to face a myriad of decent work deficits that are likely to worsen with global economic conditions and in the face of long-term challenges like climate change (see Chapter 1).

Africa

Africa saw a strong rebound in 2021, with 4.7 per cent annual GDP growth, after an annual contraction of 2.2 per cent in 2020. Annual growth for the region, however, slowed to around 3.5 per cent in 2022 and is expected to be 3.9 per cent in 2023 (IMF 2022b). Although growth has recovered to a rate in line with historical averages, the slowdown suggests that to get back to pre-pandemic output will take longer, with implications for productivity and standard of living, among other things. Any improvement in the global economic situation in 2023 would be expected to support higher growth in Africa in 2023 (World Bank 2022a). Yet, as elsewhere in the world, there are significant and increasing inflation-related risks as a result of ongoing supply chain constraints and the conflict in Ukraine (World Bank 2022b).

Several emerging factors pose risks to growth in the region; a number of countries are confronted with significant downward revision of growth projections. Severe effects of the COVID-19 pandemic are still impacting economic growth, particularly following a relatively slow vaccination roll-out. At least 30 million people in Africa were forced into extreme poverty as a result of the pandemic and this trend continues (AfDB 2022). In around half of Africa's economies, per capita incomes are expected to remain below pre-pandemic levels by the end of 2023 (World Bank 2022b). Underlying structural risks relating to policy uncertainty, social unrest and violence are also hampering a fuller economic recovery in some countries (IMF 2022c). The ILO's social unrest indicator identifies 22 countries (of 55 in the region) that saw an increase in social unrest between 2021 and 2022. The effects of climate change continue to affect sub-Saharan Africa disproportionately, reducing regional GDP by an estimated 5 to 15 per cent per year (AfDB 2022). This is a large and increasing barrier to sustainable growth and is increasing already high levels of food insecurity (World Bank 2022c).

Structural decent work deficits in the region continue to weigh on Africa's ability to achieve inclusive growth. Elevated rates of informal employment, underemployment and working poverty characterize the region's labour market, especially in rural areas. Comparably robust economic growth rates are failing to significantly reduce inequalities in the region, which worsened during the pandemic. The challenge is that the deterioration in growth at the end of 2022 has come on the tail end of the pandemic and at a time when fiscal space is already weakened by the pandemic's impact and when public debt is rising in many African economies (IMF 2022c). The lack of fiscal space is also likely in 2023 to become a pivotal factor that will undermine the ability of governments to respond to shocks and support those workers in poor-quality forms of employment. This raises the spectre that debt relief and other support measures may be required from the international community.

Population growth has underpinned employment gains in recent years but has intensified decent work deficits. Total employment in Africa is estimated to reach 511 million in 2023, having increased by 3.6 per cent per annum from 2021 to 2023. This follows 2.0 per cent employment growth per annum between 2019 and 2021. The strong employment gains in Africa have largely been driven by working-age population growth in the sub-Saharan Africa subregion but have tended to be associated with fewer hours worked per person and higher rates of informality and other poorer-quality forms of employment. Africa's total informal employment rate increased from 84.3 per cent in 2019 to 85.0 per cent in 2022.

In Africa, employment elasticities of growth vary across countries, with implications for the labour market recovery. In a number of African countries, there is a weak association between GDP growth and employment growth, in part owing to different degrees of reliance on resource exports (ILO 2022a). Alongside rapid population growth, this means that the economic recovery observed in the region is not necessarily associated with equivalent developments in employment growth, as can be observed in the following subsections.

Labour market trends in North Africa

The economic recovery from the pandemic has been particularly strong in the North African subregion. North Africa attained around 4.8 per cent growth in 2021 and 3.5 per cent in 2022 and is expected to attain 4.2 per cent in 2023 (IMF 2022b). There was a recuperation of total output to pre-pandemic levels by 2021. However, there are increasing risks to growth in the subregion. Several countries in North Africa, such as Egypt, are net importers of oil and food and they began 2022 with high levels of debt (Gatti et al. 2022). Morocco has become a net importer of food because of drought – an example of how Africa is becoming more vulnerable to climate change. Furthermore, spatial inequalities in the region remain a structural barrier to more inclusive growth patterns and risk perpetuating inequalities. Disadvantaged areas with limited connections to the centres of economic activity – particularly rural areas – are systematically excluded from work and economic opportunities (World Bank 2020).

Population-adjusted working hours are still behind the levels of 2019, but total working hours are up because of population growth. Following the initial drop in working hours at the height of the COVID-19 pandemic, total working hours in North Africa are expected to return to pre-pandemic levels. Total weekly working hours, denominated in full-time equivalent (FTE) jobs, were estimated to be around 59 million in 2022; the figure was 57 million in 2019, before the pandemic, and down to 52 million in 2020 (table 2.1). Although this increase in labour input marks a return to a pre-pandemic level of economic activity, once population growth is taken into account, the ratio of total weekly hours to the population aged 15 to 64 is still below pre-pandemic levels, at 17.6 weekly hours, compared with 17.9 weekly hours in 2019. This suggests that the labour market recovery in North Africa continues to be laggard.

The recovery exhibits a reduction in hours worked per person employed; this reduction may include people working fewer hours in a full-time job as well as an increasing incidence of part-time and temporary employment. Moreover, the EPR in 2022 remained below pre-pandemic levels, at 38.8 per cent, compared with 39.2 per cent in 2019. This is despite an increase of 4 million in total employment, from 65 million in 2019 to 69 million in 2022. Employment growth without equivalent growth in working hours could imply increases in temporary or part-time employment as well as in the numbers of those working fewer hours in full-time employment, for instance, because of greater care responsibilities. It may also represent an increase in participation of those on the margins of the labour market, many of whom are women. Increases in the incidence of temporary employment, in particular, are common in post-crisis periods (ILO 2022a).

Labour market trends in sub-Saharan Africa

Sub-Saharan Africa is experiencing very uneven growth, and this pattern is predicted to continue into 2023. The subregion saw 4.3 per cent growth in 2021 and 3.6 per cent in 2022, and 3.8 per cent is expected for 2023. Regional figures hide uneven existing and projected growth patterns. Positive growth in 2022 was supported by particularly strong performance of hydrocarbon exporters such as Nigeria and Angola, thanks to higher prices and increased output (World Bank 2022b). Regional growth was also supported by South Africa in 2021, but rising unemployment, power shortages and infrastructure damage from climate events have slowed growth in the region's largest economy (World Bank 2022b). Relaxation of pandemic restrictions in many countries throughout 2022 has also facilitated this relatively strong overall growth in the region (World Bank 2022b).

The conflict in Ukraine is placing many direct and indirect pressures on regional growth. Many African countries are reliant on wheat imports from the Russian Federation and Ukraine (IMF 2022d; World Bank 2022b). The conflict in Ukraine pushed millions more Africans into poverty in 2022, and many more are expected to fall into poverty in 2023 (AfDB 2022). There are widespread warnings that current monetary tightening to fight inflation could overshoot, potentially leading to high levels of unemployment (IMF 2022d). Sub-Saharan Africa is particularly vulnerable to food price inflation and shortages, which increase poverty and create a barrier to growth (World Bank 2022b). There has also been a recent increase in the proportion of countries in Africa at high risk of debt distress (from 53 per cent to 61 per cent) (World Bank 2022a).

Table 2.1. Estimates and projections of working hours, employment, unemployment and labour force, regional and subregional, Africa, 2019–24

Region/subregion	Ratio of total weekly hours worked to population aged 15–64						Total weekly working hours in FTE jobs (FTE = 48 hours/week) (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Africa	23.6	21.9	22.4	23.1	23.1	23.2	363	347	365	386	397	411
North Africa	17.9	16.1	16.8	17.6	17.5	17.7	57	52	55	59	60	62
Sub-Saharan Africa	25.0	23.4	23.8	24.5	24.5	24.6	306	295	309	327	337	349
	Employment-to-population ratio (percentages)						Employment (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Africa	58.5	57.2	57.6	58.1	58.3	58.4	459	462	478	496	511	527
North Africa	39.2	37.7	38.2	38.8	38.8	38.8	65	64	66	68	69	71
Sub-Saharan Africa	63.6	62.4	62.7	63.1	63.2	63.3	394	399	412	428	441	456
	Unemployment rate (percentages)						Unemployment (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Africa	6.5	7.1	7.2	7.1	7.1	7.0	32.0	35.3	37.0	37.9	39.1	39.8
North Africa	10.9	12.0	11.6	11.3	11.3	11.1	8.0	8.7	8.6	8.7	8.8	8.9
Sub-Saharan Africa	5.7	6.3	6.4	6.4	6.4	6.4	24.0	26.6	28.4	29.3	30.3	30.9
	Labour force participation rate (percentages)						Labour force (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Africa	62.5	61.6	62.1	62.6	62.7	62.8	491	498	515	534	550	566
North Africa	44.0	42.8	43.2	43.7	43.7	43.7	73	72	74	77	78	80
Sub-Saharan Africa	67.5	66.6	67.0	67.4	67.6	67.6	418	425	441	457	472	487

Source: ILOSTAT, ILO modelled estimates, November 2022.

Indicators of total working hours and employment suggest that a relatively quick labour market recovery took place in 2021. In sub-Saharan Africa, total working hours denominated in FTE terms showed a quick rebound in 2021, to 309 million FTE jobs, compared with 306 million in 2019. This increased to 327 million FTE jobs in 2022. These figures are consistent with an increase in total employment from 394 million in 2019 to 428 million in 2022. In fact, total employment did not decrease during the peak pandemic years of 2020 and 2021 in sub-Saharan Africa. Such trends relate also to high working poverty rates, informality and the lack of social protection available to much of the labour force in the region, especially those in rural areas. Despite lockdowns and other COVID-19 containment measures, as well as impacts on business from supply chain shocks, much of the informally employed population in sub-Saharan Africa were more likely to have to work than were their better-paid and formally employed counterparts.

Significant population growth has kept employment and average working hours depressed, partially undermining gains in decent work. For a start, the weekly hours per person aged 15 to 64, of 24.5 hours, in 2022 had not yet recovered to pre-pandemic levels. At the same time, the EPR in 2022 remained, at 63.1 per cent,

below the pre-pandemic level (63.6 per cent in 2019). This suggests that population growth continued to drive employment growth as well as total FTE growth in sub-Saharan Africa throughout 2020 and 2021 and that total working hours per person are not yet back to pre-pandemic levels. It appears that many people are employed but working fewer hours than they would like and that time-related underemployment has been amplified in the region.

The statistics of increasing informality and working poverty paint a more accurate picture of the labour market impact in sub-Saharan Africa than do the unemployment figures. The unemployment rate in the region did increase from 5.7 per cent in 2019 to 6.4 per cent in 2021 and then remained at 6.4 per cent in 2022. Although this trend is similar to that of the global unemployment rate over this period, it does not fully capture the lack of productive opportunities for much of the labour force. Indeed, many of those working find themselves among the ranks of the working poor, that is, living in households with per capita earnings that keep them below the moderate or extreme poverty line. Around 60.8 per cent of total employment, or 251 million employed people, were living below the moderate poverty line of US$3.10 a day (2011 PPP per capita) in 2021. Many of those in poor-quality employment in sub-Saharan Africa are in informal employment. New estimates suggest that 87.3 per cent of the employed population in sub-Saharan Africa were in informal employment in 2022, equating to 373 million employed people, up from 86.9 per cent in 2019.

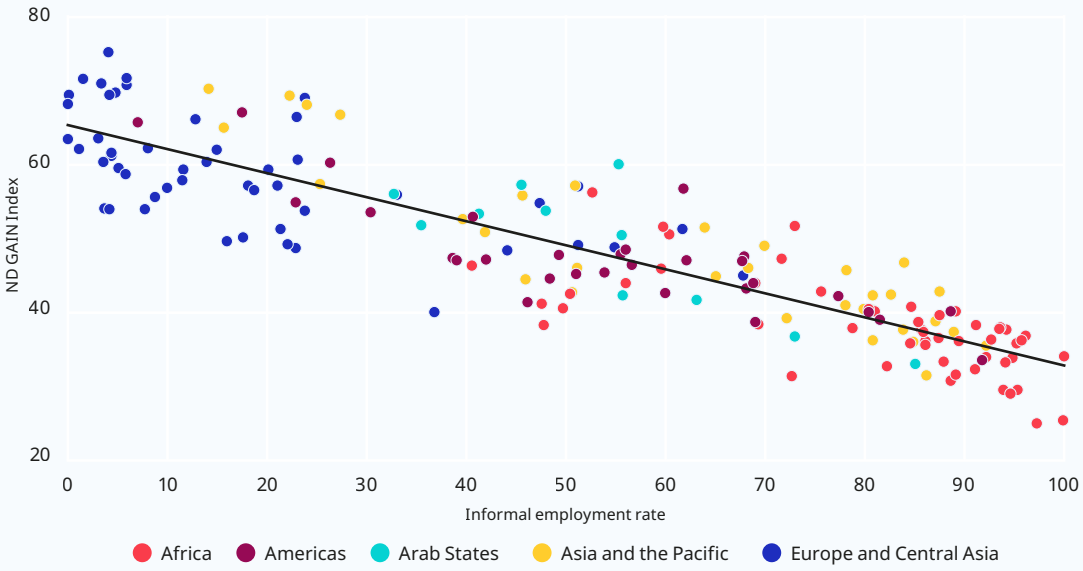
Job creation potential from climate change adaptation

Africa's share of global carbon emissions is around 3 per cent, despite the region accounting for 17.4 per cent of the world's population in 2021 (AfDB 2022; UNDESA 2022). The region also fares relatively well in terms of its renewable energy production; with appropriate policies, governance and action, indigenous clean renewable energy could account for up to 67 per cent of sub-Saharan Africa's energy needs by 2030 (IRENA 2020). At the same time, many of the minerals needed for technologies to facilitate a global just transition are found in Africa, including lithium, cobalt, copper and rare earth minerals.

The complexity of climate change and the breadth of its impacts will have major implications for the labour market in the region. Climate change, including increasing global temperature, is contributing to greater incidence of natural disasters and extreme weather events as well as slow-onset disasters. These include flooding, droughts, land degradation, soil erosion, heatwaves and unpredictable rainfall. In Africa, rising temperatures are negatively affecting ecosystems and the jobs and livelihoods closely linked to them, such as in agriculture, a sector upon which much of the employed population relies. In East Africa and the Horn, for example, where rain-fed agriculture and pastoralism are widespread, unpredictable rainfall and rising temperatures are leading to food insecurity and driving human displacement; pastoralists and farmers are forced to migrate in order to maintain their livelihoods (DTM 2021). In the absence of regular migration pathways, migrants are exposed to protection risks and decent work deficits. At the same time, many countries in Africa are experiencing heat-related problems that are damaging workers' health and having a negative impact on the economic activity of enterprises. It is estimated that up to 2.3 per cent of total working hours in Africa will be lost to heat stress in 2030 relative to a situation without heat stress; East Africa and West Africa are the most affected subregions (ILO 2019).

Africa has low levels of resilience to and readiness for climate change, so the population is highly exposed to climate change impacts. The degree to which climate change will impact a society or community depends, in part, on climate change resilience factors. The Notre Dame Global Adaptation Initiative (ND GAIN) Index uses a composite of different indicators to assess a country's vulnerability to climate change and its readiness to improves its resilience (Chen et al. 2015). Countries in Africa dominate the lowest rankings of vulnerability and readiness. Recognizing this, and also acknowledging the historical contribution of developed countries to climate change, the Glasgow Climate Pact, agreed upon at the UN Climate Change Conference of the Parties in 2021, reaffirmed the pledge to provide US$100 billion a year to developing countries to expand provisions for climate change adaptation. The African Development Bank calculates that climate change adaptation will cost the region US$50 billion a year by 2050.

Figure 2.1. Climate change resilience (ND GAIN scores) **and informal employment rate** (percentages)



Note: For the ND GAIN Index, a high score means low levels of vulnerability and high levels of readiness for climate change; a low score means high levels of vulnerability and low levels of readiness for climate change.

Source: Notre Dame Global Adaptability Index (ND GAIN) and ILOSTAT, ILO modelled estimates, November 2022.

A low level of climate change resilience in a country is closely related to decent work deficits. As figure 2.1 shows, an increasing vulnerability to climate change directly correlates with an increasing rate of informal employment (used as a proxy for decent work deficits). Many of those in poor-quality employment are most at risk of climate change impacts, and yet this kind of employment is often prevalent in climate-vulnerable situations. Many of these workers will not have access to social security and will have limited employment support in response to climate change impacts. This is particularly a concern in Africa, where there is a preponderance of countries with the poorest climate change resilience rankings and the highest rates of informal employment.

Climate change adaptation has the potential to contribute significantly to job creation and livelihoods. Although climate adaptation can take many forms, many of these will entail construction jobs, in particular in infrastructure development. Such efforts are typically labour-intensive projects that contribute to job creation and can furnish workers with skills that can be used in other projects (ILO 2018a). Investment in skills development – particularly skills development in areas of climate adaptation, such as activities relating to water and forestry – can be a suitable policy option to support new entrants into the labour market and to help offset labour market displacement arising from climate change. The enhancement of social protection policies, including eligibility and access, can help to sustain workers who are impacted by climate change in labour market transitions The adoption of sustainable practices, including in agriculture, and enhancement of resilience in rural areas are vital to climate change adaptation efforts (ILO 2022b). These are, however, just the tip of the iceberg of policy options available to facilitate climate change adaptation and contribute to job creation, better jobs and livelihood support.

▶ Americas

The macroeconomic situation and growth outlook of both Latin America and the Caribbean and North America has been dampened by the combination of geopolitical uncertainty in Ukraine and persistent inflation. Both factors have eroded consumer and business confidence and reduced overall aggregate demand and investment. In turn, job growth has weakened and, in some instances, turned negative.

Slowdowns in Brazil and Mexico weighed on the growth performance of Latin America and the Caribbean in 2022, and further decline is expected in 2023. In the case of Latin America and the Caribbean, GDP growth for 2022 at 3.4 per cent may be down from the initial rebound of 6.6 per cent in 2020 but is significantly higher than pre-pandemic rates (IMF 2022b). Despite this, significant decelerations in the growth rate of the subregion's major economies, notably Brazil and Mexico, have prevented more elevated rates (IMF 2022a). Following relatively strong growth in the first half of 2022, GDP has since slowed as commodity prices have weakened and global financial conditions have deteriorated. As a result, and against the backdrop of persistent inflation, growth is expected to decrease further in 2023, with estimates ranging from 1.4 to 1.8 per cent (ECLAC 2022; IMF 2022b)

In North America, GDP growth in Canada and the United States has similarly slowed. The two countries' growth is forecast to be 3.4 and 2.3 per cent, respectively, for 2022, but both economies have already witnessed weaker growth than originally anticipated (IMF 2022a). This slowdown has been driven by historically high and persistent inflation (in mid-2022, inflation stood at approximately 7 per cent in Canada and 8 per cent in the United States) and by global uncertainty and weakening global demand (IMF 2022a). In the United States, according to the US Bureau of Economic Analysis's updated release, GDP fell by 0.6 per cent in the second quarter of 2022, following a 1.6 per cent decline in the first three months of the year (BEA 2022). In Canada, the latest estimates show that growth is still positive but at an annualized rate of only 0.1 per cent.

Labour market trends in Latin America and the Caribbean

Weakening of external demand is affecting the region's outlook, especially among key exporters. Initial boosts of commodity exports in early 2022 began to erode in the second half of the year (UNCTAD 2022). This is driven in part by overall weakening of external demand as global economic growth slows and inflation remains sticky. It will make it difficult to sustain recent gains in formal employment in Latin America and the Caribbean and for wage growth in the region to keep pace with inflation. The IMF estimates that inflation was around 12.1 per cent in 2022 and will ease to 8.7 per cent in 2023; the highest rates on record for the past quarter-century (IMF 2022a).

Employment growth remained robust over 2022. Despite the slowdowns in economic activity that took place throughout 2022, overall employment growth for the region remained strong at 4.9 per cent, following 6.4 per cent in 2021. As a result, the unemployment rate dropped to 7.0 per cent in 2022, compared with 8.0 per cent in 2021 and well below the pandemic peak of 10.2 per cent (table 2.2).

With a reduction in the GDP growth rate, employment growth is expected to slow between 2023 and 2024 and will only suffice to offset the growth in the working-age population. Employment levels in the region are expected to grow moderately over the coming years. Following relatively strong job gains in 2022, employment growth will slow to 1.0 per cent and 1.5 per cent in 2023 and 2024, respectively. Given that GDP growth will remain relatively low, the continued growth in employment suggests a relatively high employment elasticity of growth. The employment gains will be in line with working-age population growth and, as a consequence, the EPR in the region will remain close to its current rate of 58.0 per cent – a considerable improvement on the low reached in 2020 (53.1 per cent), but still below pre-pandemic levels (58.5 per cent in 2019).

Table 2.2. Estimates and projections for working hours, employment, unemployment and labour force, regional and subregional, Americas, 2019–24

Region/subregion	Ratio of total weekly hours worked to population aged 15–64						Total weekly working hours in FTE jobs (FTE = 48 hours/week) (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Americas	26.0	22.6	25.0	26.3	26.0	26.0	368	321	358	378	375	379
Latin America and the Caribbean	25.6	21.5	24.6	26.1	25.8	25.9	231	196	226	241	241	244
North America	26.9	24.6	25.9	26.8	26.3	26.4	137	125	132	136	134	135
	Employment-to-population ratio (percentages)						Employment (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Americas	59.3	54.4	56.8	58.7	58.4	58.3	469	435	458	478	481	486
Latin America and the Caribbean	58.5	53.1	55.9	58.0	57.9	58.0	286	263	279	293	296	300
North America	60.5	56.5	58.2	59.9	59.3	58.8	183	173	179	186	185	185
	Unemployment rate (percentages)						Unemployment (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Americas	6.4	9.4	7.8	5.8	6.1	6.2	32.2	45.3	39.0	29.4	31.3	32.3
Latin America and the Caribbean	8.0	10.2	9.2	7.0	7.0	6.9	24.8	29.8	28.4	22.1	22.1	22.4
North America	3.9	8.2	5.6	3.8	4.7	5.1	7.4	15.4	10.6	7.3	9.2	9.9
	Labour force participation rate (percentages)						Labour force (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Americas	63.4	60.1	61.6	62.3	62.2	62.2	502	481	497	508	512	518
Latin America and the Caribbean	63.6	59.1	61.6	62.4	62.2	62.4	311	292	308	315	318	323
North America	62.9	61.6	61.6	62.2	62.2	61.9	191	188	190	193	195	195

Source: ILOSTAT, ILO modelled estimates, November 2022.

Unemployment levels and rates are expected to remain unchanged over the course of the next two years. As the participation rate stabilizes (relative to the peak of pandemic-induced disruption) and assuming that employment gains remain in line with working-age population growth, the unemployment rate for Latin America and the Caribbean is anticipated to remain at around 7.0 per cent through to 2024. Although this rate would be unchanged from 2022, it would remain 1.0 percentage point below the pre-pandemic level. It would be, however, partly a result of the fact that participation rates are expected to remain more than a full percentage point lower than in 2019.

The slower recovery of sectors predominantly employing women continues to put women at a disadvantage. Women's employment decreased to a greater degree than men's in the Latin America and the Caribbean subregion between 2019 and 2021 (by 1.8 per cent per annum for women versus 0.7 per cent per annum for men). The employment recovery in 2022 was quicker for women than for

men, but considerable heterogeneity is hidden within this recovery. Sectors employing disproportionately high numbers of women were adversely affected by the pandemic and these sectors have had a slower path to recovery (World Bank 2022d). Accommodation and food services as well as domestic services contracted the most sharply and before the pandemic at least 60 per cent of employees were female in both these sectors. Sectors with relatively high levels of male employment, such as construction and transportation, have recovered more quickly (ILO 2022c). Some sectors previously dominated by female workers – such as real estate and administrative services – have reported rises in the share of male employment in the course of pandemic recovery, placing more constraints on the employment prospects of women in the region. For both men and women, the EPR is expected not to recover to pre-pandemic levels even by 2023.

Quality of employment remains a concern in Latin America and the Caribbean

Elevated hours of work point to increased pressure on existing workers. Despite a slowdown in economic activity, employment growth is expected to remain muted in 2023 and 2024, yet total weekly hours remain marginally higher than pre-pandemic levels. In 2022, total weekly hours in FTE jobs per person employed reached 39.6 (compared with 38.7 in 2019) and are expected to remain at that level through 2023.

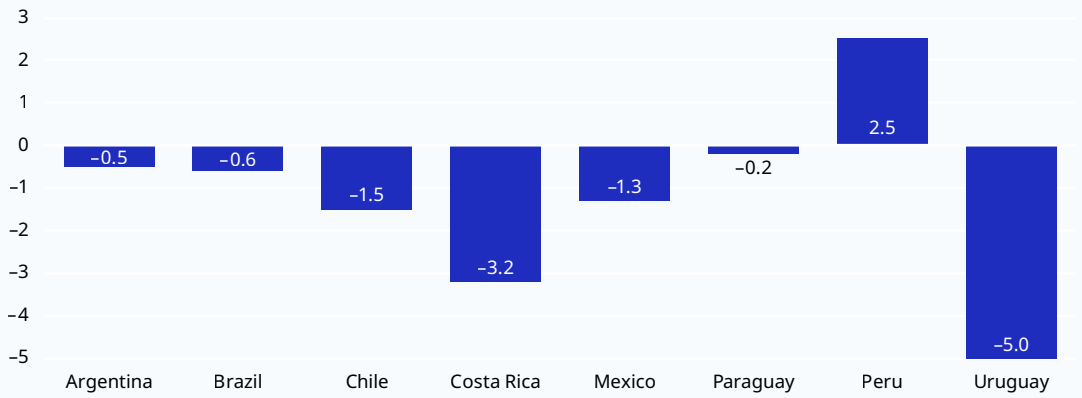
Formal job creation has fully recovered from the pandemic, but further gains have stalled. Bolstered by a combination of strong economic growth in 2021 and at the beginning of 2022, levels of formal private employment have fully recovered from the pandemic in the vast majority of countries in the region (ILO 2022c). As of June 2022, among countries with available data (Argentina, Brazil, Colombia, Costa Rica, El Salvador, Mexico, Paraguay, Peru and Uruguay), formal private employment levels were higher than those in June 2020. Over the two-year period, formal job growth was particularly strong in Brazil (8 per cent) and Colombia and Paraguay (7 per cent). The gains in formal employment since the height of the pandemic are also a result of a number of country-specific policies that were implemented to bolster formal job creation (ECLAC and ILO 2021). Throughout 2022, gains slowed and, given the increasing uncertainty of the outlook, businesses by and large adjusted their workforce complements in 2022 by adjusting hours rather than hiring more formal workers.

Informal employment as a share of total employment increased marginally between 2019 and 2021, to 53.7 per cent in 2022. The overall increase in employment in the region since late 2020 is also partly due to a recovery in informal employment. Between half and more than three quarters of the net gain in jobs over the past two years has been from informal job growth (ILO 2022c).[2] The recent increases in informal employment are largely due to the lifting of pandemic-related restrictions on own-account workers and the reopening of many small businesses, many of which are informal in nature. Yet, given that formal job growth has outpaced informal, the overall shares of informal employment have declined in a number of countries in the region (figure 2.2). The decline has been most pronounced in Uruguay and Costa Rica, where the share of informal employment has fallen by 5 and 3 percentage points, respectively. The other countries shown in the figure have also seen declines in the share of informal employment since late 2019, with the exception of Peru.

There is a growing risk that the declining trend in informal employment will reverse, with adverse effects on young women in particular. A number of factors could lead to increased informality in the coming years, including the removal or weakening of policies to support formal employment and the creation of new formal employment. Furthermore, the context of uncertainty poses a threat to the creation of formal work opportunities. As formal employment growth slows, there is a risk that in the absence of decent work opportunities informal jobs will become the default. There are already some early indications that such a situation could be taking hold. At the end of 2021, among 11 countries with available data, nearly one in every two jobs

2 Data refer to Argentina, Brazil, Costa Rica, Chile, Mexico, Paraguay and Peru. Figures refer to shares of net employment gains between Q3 2020 and Q3 2022 and range from a high of 83 per cent in Paraguay to a low of 47 per cent in Chile.

Figure 2.2. Change in the share of informal employment in total employment, 2019–22
(percentage points)



Note: Data refer to Q4 2019 and Q1 2022 (with the exception of Chile and Mexico, for which the data refer to Q2 2022).

Source: ILO (2022c).

created was informal. The challenge of creating enough decent work opportunities relates to the fact that 8 million individuals of working age are expected to join the labour force in the region over the next two years. This means that young workers are particularly vulnerable. Young women were already hit hard during the pandemic because they were disproportionately concentrated in sectors that were affected by lockdowns.

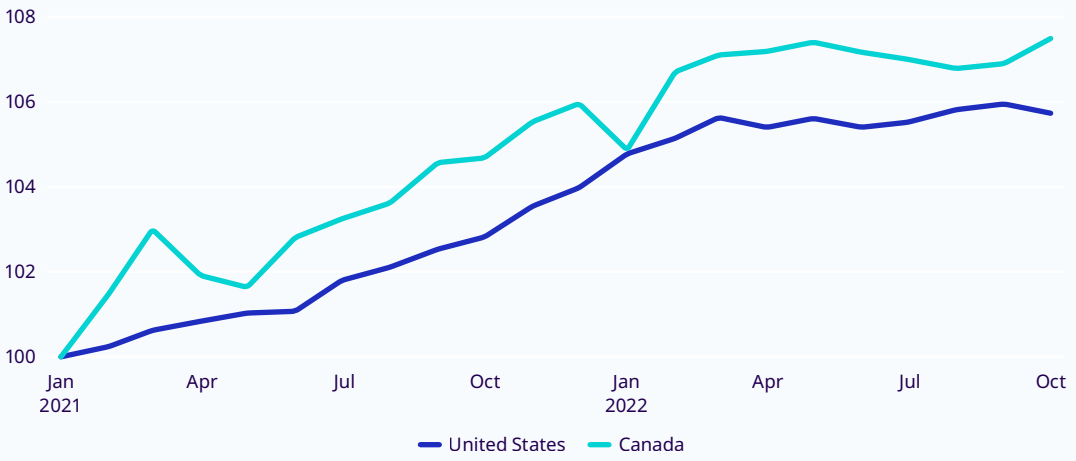
Labour market trends in North America

The onset of a recession seems inevitable. The US economy shrank for two consecutive quarters to the start of 2022. The third update on the second quarter reflected a downward revision on exports that were not captured in preliminary estimates. The decline in GDP of 0.6 per cent in the quarter was mainly a result of reductions in inventory investment, residential fixed investment and government spending (at the federal, state and local levels). In Canada, growth has remained positive (0.1 per cent in July 2022), driven by a modest rebound in the oil and gas sector as well as strong growth in agriculture. Persistent weakening of manufacturing and exports to the United States has posed a growing risk of a recession (IMF 2022a).

Employment growth has already begun to slow in Canada. Typically, the labour market is a lagging indicator, so weaknesses here are typically observed some time after economic growth slows. However, in the United States, despite negative GDP growth in the first half of 2022, employment has continued to grow, almost uninterrupted (figure 2.3). Over the first eight months of 2022, the US economy added 3 million jobs and the unemployment rate remained near historic lows. Somewhat contrastingly, despite the fact that GDP has all but remained in positive territory, employment in Canada was already beginning to fall in June 2022. As a result, in the latter half of 2022 the unemployment rate in Canada has increased from a historic low, whereas in the United States it has remained at or near an all-time low.

Economic growth is forecast to remain weak in 2023. Following robust growth in both countries in 2021, GDP growth is expected to decelerate and remain weak throughout 2023. GDP growth in 2023 in the United States should reach 1.0 per cent and in Canada 1.5 per cent (IMF 2022b). In both instances, the pace of growth will be considerably weaker than in 2022 (less than half). The fact that inflation has lasted longer and remained much higher than expected has translated into more severe and frequent increases in interest rates than previously anticipated. Although both the United

Figure 2.3. Employment levels in North America, seasonally adjusted (January 2021 = 100)



Source: ILOSTAT, Short-Term Labour Force Statistics.

States and Canada are net energy exporters and receive a boost to national income from higher energy prices, for households the cost of living is likely to increase. Over the next year, residential and private sector investment is expected to remain muted and consumer spending weak as household purchasing power continues to erode.

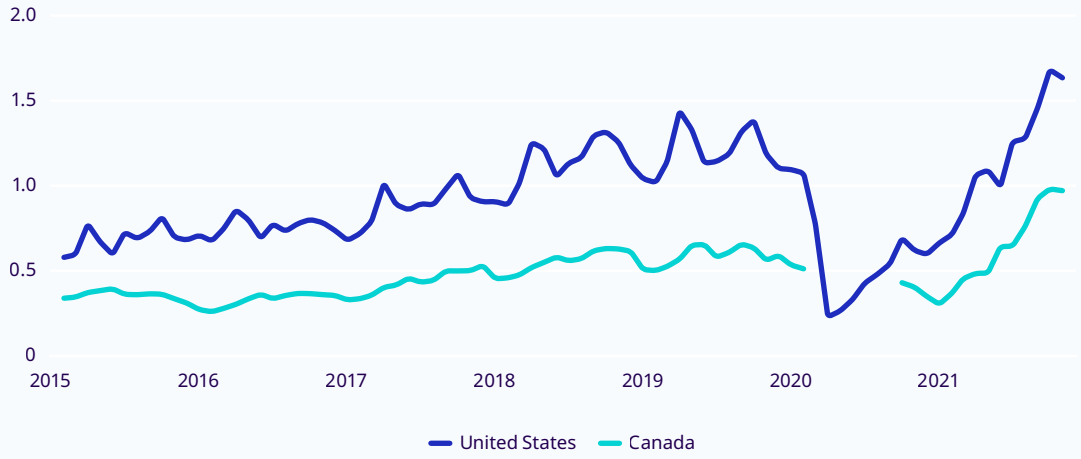
Labour markets will continue sluggishly along in 2023 and 2024. As GDP growth continues to weaken, employment growth will also slow considerably (table 2.2). After 3.6 per cent growth in employment in 2021 and 3.7 per cent growth in 2022, job gains will stall in the coming years, even contracting by 0.1 per cent in 2023. Amidst growing labour force growth, unemployment rates are expected to increase moderately over the forecast period.

Labour and skill shortages are widespread in North America

Labour market tightness reached all-time highs in 2022. Once the pandemic-induced restrictions were lifted (by and large) in early 2021, the demand for labour far exceeded the numbers of available of workers (figure 2.4). This issue in both the United States and Canada has intensified over the past two years. In the United States the number of vacancies per person unemployed reached more than two in mid-2022, with Canada not far behind. Employers across many sectors of the economy have been struggling to fill job openings. The situation has been particularly acute in certain sectors, such as healthcare and accommodation and food services. The post-pandemic labour market has been characterized by significant shifts in employment across and within sectors and occupations. Many of these shifts are supply-side driven, such as nurses leaving because of burnout or workers in the accommodation and food services sector changing jobs in search of more decent work. In the latter half of 2022, the number of vacancies started to decline as growth slowed (US Bureau of Labor Statistics 2022).

Skill shortages in North America have reached decade highs. The ManpowerGroup Surveys found that in the United States talent shortages were particularly elevated in 2022: 74 per cent of employers stated that they had difficulty in finding the talent they needed (compared with 46 per cent in 2018) (ManpowerGroup 2022a). In Canada the figure was 77 per cent (compared with 41 per cent in 2018) and employers cited challenges in finding the appropriate technical skills and personal strengths (ManpowerGroup 2022b). In both the United States and Canada talent shortages were elevated in construction, manufacturing and wholesale and retail trade, and in Canada such shortages were

Figure 2.4. Number of job vacancies per person unemployed



Source: ILO calculations based on Federal Reserve Economic Data (FRED), US Bureau of Labor Statistics and Statistics Canada.

also elevated in IT and technology and education, health and government.

Population ageing will continue to constrain labour force growth in the long run. Short-term pandemic-induced labour and skill shortages are underpinned – at least in part – by a structural slowdown in labour force growth as a result of population ageing. Large numbers of baby boomers, often in high-skilled occupations, have reached retirement age and left the workforce, placing downward pressure on labour force growth. Although this structural shift in the demographic composition of the labour force has been long in the making, it is exacerbating the current labour and skills shortage problem. Immigration, constrained during the pandemic, will play a key role in boosting labour force growth in the future, but efforts to retain older workers will be crucial, as will efforts to support greater labour market engagement among under-represented groups.

Arab States

The economies of the Arab States contracted significantly during the pandemic and are displaying a slower rebound from the immediate pandemic impact than many other regions, with only 2.5 per cent growth in 2021. The latter was one of the lowest regional growth rates in the world that year. The region is now catching up, with 6.6 per cent regional growth expected for 2022 and 3.9 per cent projected for 2023. Growth will be disproportionately weighted towards Gulf Cooperation Countries (GCC) that will benefit from higher government revenues thanks to higher hydrocarbon prices.

There are some positive indicators of growth for the region. High vaccination rates were achieved in 2022, meaning that pandemic restrictions could be lifted and hence a boost provided to GDP (World Bank 2022e). Growth in the region is also being supported by a particularly strong performance of Saudi Arabia, thanks to measures to attract private investment, increased female labour force participation, an expanded tourism sector and proactive public finance management (Mati and Rehman 2022). Ongoing economic diversification and more active development of the sovereign wealth fund should also strengthen the country's longer-term prospects.

There are likely to be very different pictures for the net resource exporters and the other countries in the region. Hydrocarbon-exporting countries such as those in the GCC are predicted to benefit from higher commodity prices resulting from the conflict in Ukraine, although this highlights the region's ongoing reliance on fossil fuel production and vulnerability to global prices (Gatti et al. 2022). Continuing political and economic turmoil in the region is also affecting the region's prospects; for example, the situation in Lebanon continues to limit inward investment. Countries that began 2022 with high levels of debt have been especially vulnerable to global changes, including via monetary policy spillovers. Currency devaluations in several countries are increasing inflation further. Low-income demographic groups are the most vulnerable to the spiralling food and energy prices and therefore face the greatest economic challenges.

Labour market trends in the Arab States

Trends in total weekly hours reflect an economic recovery but not yet a full labour market recovery. Total weekly working hours in FTE jobs in 2022 (51 million FTE) returned to pre-crisis (2019) levels (table 2.3). This was after a 9 per cent drop in 2020 and a steady increase since. Total working hours in FTE jobs reflect labour input in the economy and correlate with overall economic growth. The recovery in hours was driven by non-GCC countries, which tend to have lower per capita incomes and poorer quality of work. For instance, in 2021 around 36 per cent of the employed in non-GCC countries were in working poverty (according to a moderately poor threshold of US$3.10 per day per capita in 2011 PPP terms) compared with less than 1 per cent in GCC countries. This suggests, as was observed in many countries globally, that although those in informal employment and without social safety nets were heavily impacted by the pandemic, they often had little choice but to find ways of resuming employment. Total weekly hours in the GCC countries have yet to return to pre-crisis levels and are not forecast to do so till around 2024.

High youth unemployment rates in the region persist, but a spectrum of decent work opportunities for youth could be derived from the transition to a green economy. The total unemployment rate in non-GCC countries in 2022 was significantly higher, at 14.3 per cent, than the unemployment rate in GCC countries, at 4.0 per cent.[3] However, youth (aged 15–24) continue to be particularly affected by the pandemic in non-GCC countries, which had a youth unemployment rate of 29.8 per cent in 2022, down from a peak of 31.3 per cent in 2020, compared with an unemployment rate for adults (aged 25+) of 10.3 per cent in 2022 (after a peak of 10.5 per cent in 2020) (see Appendix C, table C11). NEET rates for the region are also particularly elevated (see Chapter 1). Given the region's dependence on hydrocarbons for economic growth, the potential for green investment to stimulate job creation for youth is significant, and simulations of the employment impacts of green policy measures suggest that more than 400,000 jobs could be created for youth in the Arab States (ILO 2022d). Notably, however, less than 10 per cent of these would be jobs for young women, to judge by the simulations, reflecting the persistent gender inequalities that hamper the region's progress.

Jobs in the just transition to a green economy in the Arab States

Although all countries and territories are affected by climate change, few are both major contributors to GHG emissions and also likely to be so heavily impacted as the GCC countries.[4] Hydrocarbons account for significant proportions of GDP in GCC countries (for example, 59 per cent in Kuwait, 38 per cent in Qatar and 27 per cent in Saudi Arabia) (World Bank 2022e). At the same time, a 2°C increase in global temperatures above pre-industrial levels would see a 4–5°C increase in surface temperatures in GCC countries (MacDonald 2022). Temperatures have already been increasing significantly, impacting the day-to-day life of thousands of people for several months of the year.

3 Unemployment rates in GCC countries are typically lower owing to the large number of international migrant workers in the labour force, whose stay (that is, their visa) is conditional on having a job.

4 It should be noted that non-GCC countries too are affected by climate change impacts and that for them also a just transition is highly relevant. Non-GCC countries face many of the same and also some different challenges (including green financing and lack of green technologies) with regard to a just transition.

Table 2.3. Estimates and projections of working hours, employment, unemployment and labour force, regional and subregional, Arab States, 2019–24

Region/subregion	Ratio of total weekly hours worked to population aged 15–64						Total weekly working hours in FTE jobs (FTE = 48 hours/week) (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Arab States	22 .0	19.6	20.2	20.9	21.0	21.2	51	46	48	51	53	54
Non-GCC	15.7	14.3	14.8	15.3	15.5	15.7	22	21	22	23	24	26
GCC	31.6	28.2	29.2	30.5	30.7	31.0	29	26	26	28	28	29
	Employment-to-population ratio (percentages)						Employment (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Arab States	46.8	45.4	45.1	45.6	45.9	46.0	54	54	54	56	58	60
Non-GCC	35.9	34.6	34.5	35.2	35.6	35.9	26	25	26	27	29	30
GCC	64.0	63.2	63.0	63.8	64.0	64.1	29	28	28	29	29	30
	Unemployment rate (percentages)						Unemployment (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Arab States	8.7	10.1	9.8	9.3	9.3	9.5	5.2	6.1	5.9	5.8	6.0	6.3
Non-GCC	13.7	14.8	14.8	14.3	14.2	14.2	4.1	4.4	4.5	4.6	4.8	4.9
GCC	3.8	5.4	4.7	4.0	4.0	4.3	1.1	1.6	1.4	1.2	1.2	1.3
	Labour force participation rate (percentages)						Labour force (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Arab States	51.3	50.5	50.0	50.4	50.6	50.8	60	60	60	62	64	66
Non-GCC	41.6	40.6	40.5	41.0	41.5	41.8	30	30	31	32	34	35
GCC	66.6	66.8	66.1	66.5	66.7	67.0	30	30	29	30	31	31

Source: ILOSTAT, ILO modelled estimates, November 2022.

Furthermore, the United Arab Emirates and Saudi Arabia are among the most water-stressed countries in the world (World Bank 2022e). The region is also subject to rising sea levels and increasing climate-change-related shocks, including environmental and ecological degradation. All of which has major implications for workers and enterprises in these countries.

GCC countries are, however, committing to the notion of transitioning to a green economy (World Bank 2022e). This is a necessity from the perspectives of diversifying away from dependence on hydrocarbons and also of reducing the countries' contribution to climate change. Such a transition to a green economy will entail significant labour market transformation, including a demand for workers and skills, and job displacement from traditional sectors. An important consideration is that the Arab States are a major destination for international migrant workers. Around 74 per cent of the employed population in Saudi Arabia were international migrant workers in Q2 2022 (GASTAT 2022), 94 per cent of total employment in Qatar in 2020 (PSA 2020) and 85 per cent of the labour force in Kuwait in 2018 (de Bel Air 2019). Climate change impacts, including heat stress for many migrant workers who work outdoors in these countries, are already a factor driving workers to leave, but the shifting labour market structure will have implications for the demand for these workers, particularly in filling skill gaps.

There will be inevitable job losses as a result of the transition to a green economy, but there will also be growth in demand for certain occupations and skill sets. With a shift away from traditional industries, some workers will lose their jobs and have either to find alternative work that demands a similar skill profile or to reskill for newly created jobs arising from the transition (ILO 2018b). The skills required for many jobs in carbon-intensive industries can be applicable to jobs in low-carbon industries such as construction, renewable energy generation, urban planning, food production and water management. Such jobs are likely to include both low- and high-skilled occupations and to provide opportunities such as high-income jobs for youth, including young women. To realize these gains and mitigate downside risks and costs of adjustment, a comprehensive and coordinated strategy that encompasses investment, skills and social protection should be established and implemented as soon as possible (World Bank 2022e; ILO 2022d). Even where limited resources exist for governments to invest in green sectors, there is a need to incentivize and encourage entrepreneurs to implement green technologies and processes and participate in the circular economy.

Moreover, the notion of a just transition requires that governments and other stakeholders work together to support those who will lose out from the consequences of green transition. This is particularly important for the many workers in vulnerable situations who are likely to be disproportionately affected by the transition; these include informal workers, low-skilled workers and migrant workers. Social protection is key, and there is a need to ensure that workers who lose their jobs as a result of the transition are provided with some sort of support to facilitate their re-employment. In GCC countries, around 10 per cent of all employment is in low-skilled jobs and, as mentioned earlier, many of these countries are heavily reliant on migrant workers, particularly in the private sector.

▶ Asia and the Pacific

Growth projections for the region as a whole have been revised downwards. The region saw 3.9 per cent growth in 2022 and is expected to see 4.3 per cent in 2023, but these figures mask great variance in subregional trends (IMF 2022b). Growth in 2022 was slower than previously projected, mostly because of downward revisions for East and South Asia (ADB 2022a). As with other regions, the dampened growth projections are put down to the global economic slowdown, rising debt levels and policy over-reliance on commodity subsidies (World Bank 2022f). An anticipated decline in global demand weighs on the region despite the recovery in exports since the onset of the COVID-19 pandemic. The appreciation of the US dollar over 2022 also exacerbated this (IMF 2022d). As in other regions, inflation is increasing, particularly owing to high energy and food prices (ADB 2022a).

A slowdown in China is stalling growth prospects in the rest of East Asia. Growth in this subregion in 2022 was revised down to 2.9 per cent – considerably lower than the 6.7 per cent estimated in 2021, with 3.8 per cent projected for 2023 (IMF 2022b). The subregion was unusual in that throughout the pandemic it did not see negative annual growth. A sharp slowdown in China's growth worsened by very strict COVID-19 management policies in 2022 has set the context for the rest of the region (IMF 2022d). Large capital outflow and depreciation in some countries owing to interest rate rises in other regions have increased debt burdens, which is a problem in the region, since many countries began the pandemic with high levels of debt (World Bank 2022f). Energy and food subsidies are reducing governments' ability to spend on core, growth-enabling services such as health, infrastructure and education (World Bank 2022f).

South-East Asia and the Pacific are highly dependent on trade with China, such that economic slowdown in China poses a threat to growth prospects for 2023 (World Bank 2022f). Dramatic increases in commodity prices will tend to hit commodity importers the hardest, whereas net exporters such as Indonesia and Malaysia will be more protected (World Bank 2022f). Myanmar continues to be impacted by the ongoing difficult economic conditions relating to commodity price inflation as well as the political crisis and conflict

(ILO 2022e). The strongest growth in 2022 was observed in the Philippines, Malaysia and Viet Nam. Thailand's crucial tourism economy is struggling to recover for a combination of reasons (including the impact of the "zero COVID" policies in China and the conflict in Ukraine) on its biggest markets, as well as COVID-19-related immigration restrictions (World Bank 2022f). In the Pacific, a revival of tourist numbers is likely to bolster growth for tourist-dependent nations, such as Fiji, the Cook Islands and Palau (ADB 2022b).

South Asia has seen the strongest growth in the region and some of the highest regional figures in the world: 6.0 per cent in 2022 and 5.3 per cent projected for 2023 (IMF 2022b). Exports of services from the subregion are increasing and are expected to have contributed positively to growth in 2022 and to do so again in 2023 (World Bank 2022g). The digital services sector has performed particularly strongly, whereas sectors like tourism and construction have not recovered to pre-pandemic levels in most of the subregion (World Bank 2022h). Originally high growth projections for India have been revised downwards and may be so revised further, given deteriorating global conditions and faster than anticipated monetary tightening (IMF 2022d). Household consumption will be held back by slow recovery of the labour market and by high inflation (World Bank 2022g).

South Asia has few direct links with the Russian Federation and Ukraine but is very vulnerable to the higher global commodity prices that have resulted from the conflict (World Bank 2022h). GDP growth in 2022 was revised down by around 2 percentage points as a result of the conflict, owing to inflation and worsened public finances. Growth prospects were already "uneven and fragile" and now all figures have been revised downwards. Global economic pressures resulting from the conflict in Ukraine are expected to worsen public finances and domestic inflation in the subregion. One extreme example is Sri Lanka, which is already unable to pay import bills (World Bank 2022h). Several countries, such as Bangladesh, rely heavily on exports to Europe; weaker demand for these goods is reducing growth prospects in the subregion. Inequality both between and within countries is growing and the recovery from the pandemic has been deeply uneven. The highest-paid workers are much more likely to have returned to work than are lower-skilled migrant workers (World Bank 2022h). Recent high and volatile energy prices have shown how vulnerable the region is with respect to energy imports; there is a clear need to become less dependent on these imports (ILO 2022f). The region remains highly vulnerable to natural disasters, for example on the flood plains of Pakistan and Bangladesh. Countries such as Pakistan are also increasingly held back by very high levels of energy subsidies, which weigh heavily on public finances and are failing to reduce poverty effectively (World Bank 2022g).

Labour market trends in Asia and the Pacific

East Asia's lagging labour market recovery weighs on the overall recovery across the region.[5] Total employment in Asia and the Pacific increased by 30 million from 2021 to 2022 (table 2.4). The EPR of 56.2 per cent in 2022 remained below the 2019 level of 56.9 per cent. The slow employment recovery can be partly attributed to developments in East Asia. China's restrictive COVID-19 containment policies, despite maintaining positive economic growth throughout the pandemic, have had major implications for the subregion's labour market and for that of the whole region. East Asia accounts for a negligible share of the region's total employment growth between 2021 and 2022, despite accounting for 46 per cent of the region's total employment in 2022. South Asia accounted for the majority (74 per cent) of the resurgence in total employment in 2022; this was mainly among adults, the recovery being slower for youth (see Chapter 1 and Appendix C, table C15).

Total working hours per person are still below pre-pandemic levels. In Asia and the Pacific, total working hours in FTE terms are estimated to have been 1,764 million FTE in 2022. This marks a return to 2019 levels and reflects the economic recovery. At the same time, weekly hours per person aged 15 to 64 remain, at 28.6, below the pre-pandemic level of 29.1. It thus appears, as in many other regions, that employment growth as part of the labour market recovery has been driven by people working fewer hours, a circumstance

5 Please see ILO (2022f) for more extensive analysis of the labour market situation and outlook.

▶ Table 2.4. Estimates and projections for working hours, employment, unemployment and labour force, regional and subregional, Asia and the Pacific, 2019–24

Region/subregion	Ratio of total weekly hours worked to population aged 15–64						Total weekly working hours in FTE jobs (FTE = 48 hours/week) (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Asia and the Pacific	29.1	26.8	28.2	28.6	28.6	28.6	1761	1630	1725	1764	1773	1790
East Asia	34.9	33.6	35.2	34.8	34.8	34.8	834	800	836	825	823	823
South-East Asia	29.4	27.1	27.3	28.6	28.5	28.7	274	256	260	274	276	280
South Asia	23.9	20.7	22.4	23.4	23.4	23.5	638	561	615	651	660	672
Pacific Islands	24.8	23.9	24.2	24.8	24.4	24.5	14	14	14	15	15	15
	Employment-to-population ratio (percentages)						**Employment (millions)**					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Asia and the Pacific	56 .9	54.5	55.8	56.2	56.0	55.9	1874	1817	1880	1910	1925	1940
East Asia	63.9	61.6	63.6	63.3	63.0	62.6	875	847	879	878	877	877
South-East Asia	65.6	63.8	63.4	64.2	64.4	64.4	325	320	323	330	335	339
South Asia	46.8	44.3	45.6	46.5	46.5	46.5	655	630	659	681	692	703
Pacific Islands	60.0	58.6	59.8	60.8	60.3	60.0	20	20	20	21	21	21
	Unemployment rate (percentages)						**Unemployment (millions)**					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Asia and the Pacific	4.7	6.1	5.2	5.2	5.1	5.1	93.1	117.7	104.0	104.8	103.7	104.5
East Asia	4.3	4.8	4.4	4.6	4.4	4.3	39.5	42.3	40.1	42.5	40.4	39.7
South-East Asia	2.4	3.0	2.9	2.6	2.4	2.6	8.0	9.9	9.5	8.7	8.4	8.9
South Asia	6.4	9.3	7.5	7.2	7.2	7.3	44.6	64.4	53.4	52.8	54.1	55.1
Pacific Islands	4.6	5.6	4.6	3.6	3.4	3.4	1.0	1.2	1.0	0.8	0.8	0.7
	Labour force participation rate (percentages)						**Labour force (millions)**					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Asia and the Pacific	59.7	58.0	58.9	59.2	59.1	58.9	1967	1934	1984	2015	2029	2045
East Asia	66.8	64.7	66.5	66.4	65.9	65.5	914	889	919	921	917	916
South-East Asia	67.2	65.7	65.3	65.9	66.0	66.1	333	330	332	339	343	348
South Asia	50.0	48.8	49.3	50.1	50.2	50.2	699	694	712	734	747	758
Pacific Islands	62.9	62.1	62.7	63.0	62.4	62.1	21	21	21	22	22	22

Source: ILOSTAT, ILO modelled estimates, November 2022.

that may correspond to more time-related underemployment, temporary employment and part-time employment. Growth in poor-quality employment is likely in a region where unemployment is relatively low – at 5.2 per cent in 2022 – while around 15.7 per cent of the total employed population in 2021, equivalent to 294 million people, were in working poverty as defined by a moderately poor threshold of US$3.10 per day (2011 PPP per capita).

A greater policy focus on expanding social protection is critical for informal workers and the ability to sustain future economic shocks. Decent work deficits characterize employment in the region, since economic growth has not been accompanied by corresponding improvements in decent work (ILO 2022f). Nearly two thirds (65.6 per cent) of the region's total employment was in informal employment in 2022. As in other regions, those in informal employment were particularly vulnerable during the pandemic years of 2020 and 2021, given their lack of access to social protection. Thus, many governments in the region sought to expand social assistance during this period, with a view to addressing shortcomings for the long term (ILO 2020a). Such measures have included extending social protection to informal workers (ILO 2020a). Nevertheless, limited fiscal space may compromise progress in this regard over the medium term (ILO 2022f).

Ongoing shortages of migrant workers in Association of Southeast Asian Nations (ASEAN) countries of destination

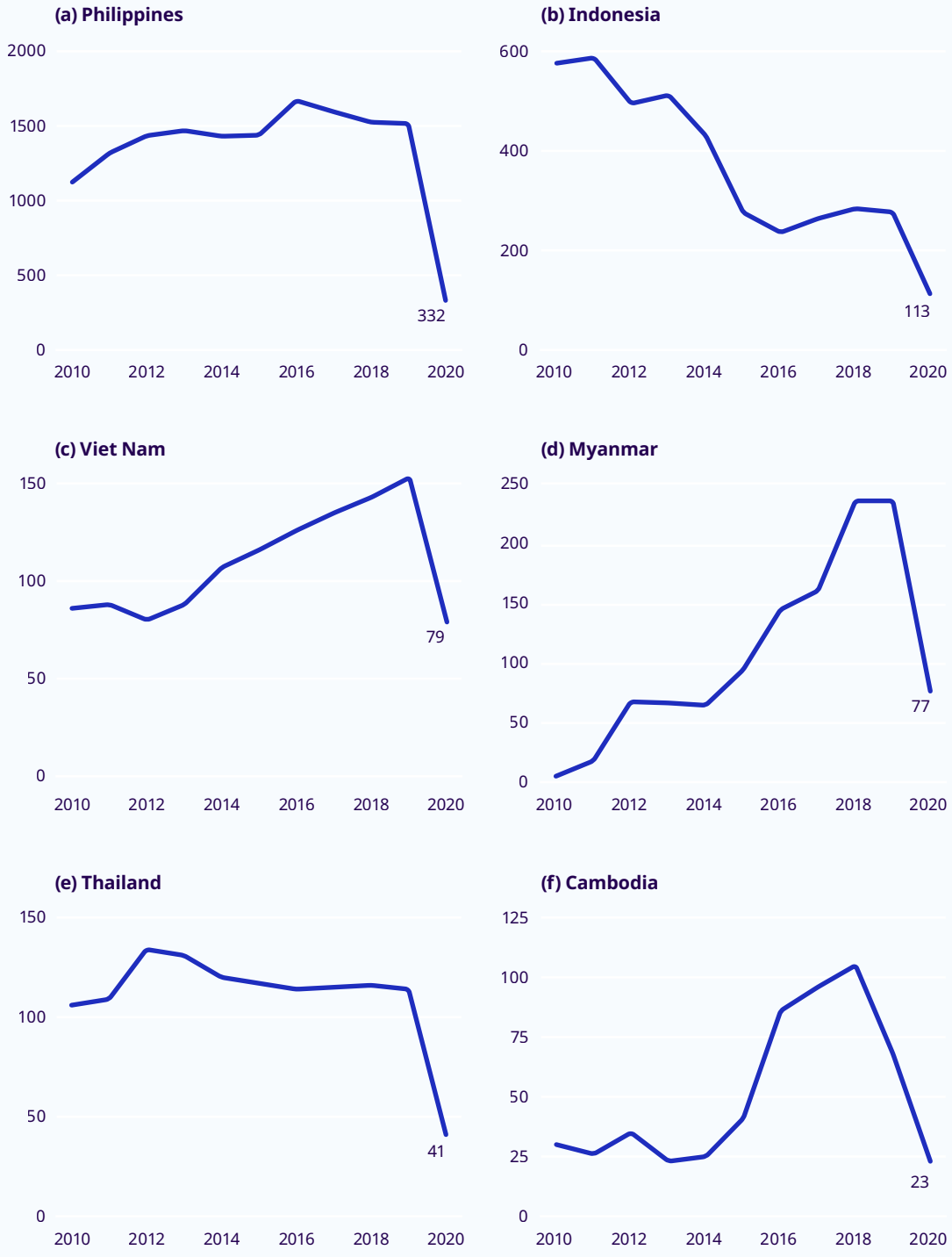
The COVID-19 pandemic has resulted in major disruption of labour migration in the region, impacting livelihoods in countries of origin and destination (ILO, forthcoming). For net countries of origin, employment abroad is a major source of livelihood for the workers themselves and for their families and dependents back in their countries of origin, particularly through remittances. The pandemic saw a significant drop in deployments of international migrant workers (figure 2.5) as well as an increase in migrants returning home (ADBI, OECD and ILO 2022). This resulted in the stock of international migrant workers decreasing significantly in a number of countries (ILO, forthcoming). For many migrant workers, the lack of access to social protection or other support measures (including financial ones) – most of which were available to nationals only – left little choice but to return home.[6] Many of these workers are low paid and have low levels of savings and economic resilience to sustain themselves and their dependents through extended periods of disruption.

In countries of destination, such as Brunei Darussalam, Malaysia, Thailand and Singapore, which rely heavily on migrant workers, enterprises are still struggling to meet their labour demand needs. Before the onset of the pandemic (in 2019), international migrant workers accounted for nearly 40 per cent of the employed population in Singapore, 37 per cent in Brunei Darussalam, 14 per cent in Malaysia and 7 per cent in Thailand (ILO, forthcoming). Despite the reopening of borders and an end to COVID-19 travel restrictions, governments have not fully opened labour migration pathways to pre-pandemic levels. The resulting labour shortages in industries that rely heavily on migrant workers have prompted industry bodies and the private sector to lobby the government to address the issue by facilitating the entry of migrant workers, regularizing the irregular status of migrant workers (for example in Thailand) and establishing memoranda of understanding with other countries to promote the inflow of migrant workers (ILO, forthcoming). Despite these efforts, in late 2022 many industry groups were still citing major labour shortages as a consequence of the lack of migrant workers, including in rubber plantations in Malaysia and in multiple sectors in Thailand such as construction and manufacturing.

Governments perceive labour migration as necessary for a recovery in economic output in migrant-dependent sectors. Recovery of economic growth, meanwhile, is a critical factor shaping the characteristics and magnitude of labour migration in South-East Asia. In Malaysia, for instance, more than 30 per cent of total employment in the agriculture sector is accounted for by migrant workers; in Singapore, more than 60 per cent of workers in the industry sector are migrant workers; and in Brunei Darussalam 56 per cent (ILO, forthcoming). Sectors with high density of migrant workers include manufacturing, construction, accommodation and food services, and domestic work. In Malaysia, in mid-2022, manufacturers were claiming to be short of around 600,000 workers, construction required 550,000 more workers, the palm oil industry reported a

6 These were just some of the challenges faced by migrant workers which affected their decisions and abilities to stay in a country. Other challenges related to testing and health access, housing constraints and payment of wages (ILO 2020b; ADBI, OECD and ILO 2022).

▶ **Figure 2.5. Outflows of documented migrant workers, selected ASEAN Member States, 2010–20** (thousands)



Source: ILO (forthcoming).

shortage of 120,000 workers, and chipmakers were lacking 15,000 workers (Lee, Latiff and Chu 2022). In Thailand, enterprises took to lobbying the government – noting the labour shortages in sectors such as agriculture, construction, hospitality and garment-making (Charoensuthipan 2022). In Singapore, the construction and processing sectors were among those cited as particularly in need of migrant labour (Heijmans 2022). It should be noted that the labour and human rights of migrants cannot be neglected, not only for the sake of the workers involved but also to ensure there is a level playing field in which the labour market can function more efficiently.

Europe and Central Asia

After a strong recovery from the pandemic in 2021, with growth of 5.9 per cent, the region's economy grew at 1.9 per cent in 2022 and is expected to slow to 0.7 per cent in 2023. Very modest annual growth is expected over the medium term. This is a rapidly evolving situation and some estimates suggest that the contraction in the region in 2022 has been even larger (World Bank 2022i).

Growth in 2022 and 2023 has been and will be significantly less than previous projections, owing to the conflict in Ukraine and the resulting economic and political fallout (World Bank 2022i). Geopolitical strife continues to wreak havoc on the region. The conflict in Ukraine and tighter monetary policy to attempt to curb inflation have led to a significant deterioration in economic conditions, with a considerable number of important spillover effects (for example, increasing migration flows and weakening manufacturing output stemming from disruptions in supply chains and record high energy prices that have been exacerbated by restrictions on European trade with the Russian Federation as well as supply cuts by the Russian Federation). Inflation in Europe remains elevated and poses considerable risks to household purchasing power; in Central Asia, most economies are confronted with double-digit price increases. Some countries have put in place electricity consumption restrictions.

There is considerable heterogeneity of GDP growth in Europe and Central Asia. The impacts of conflict, the global slowdown, and rising prices are impacting countries in the region to different degrees. Growth in 2022 is estimated to have been of the order of 3.1 per cent in Northern, Eastern and Western Europe (IMF 2022b), whereas in Eastern Europe GDP is expected to have contracted, largely because GDP growth in the Russian Federation is thought to have fallen more than 3 per cent in 2022 (IMF 2022b). The economic prospects of some economies in Central Asia were expected to improve in the latter half of 2022 (EBRD 2022). Several countries in the subregion are benefiting from the relocation of private businesses from the Russian Federation and Ukraine. Currencies have largely settled to pre-conflict levels, real estate in major cities is booming and some countries' roles as re-exporters of goods from China are expanding. Oil-exporting countries such as Kazakhstan and Turkmenistan are benefiting from higher oil prices.

Major increases in energy prices are placing significant pressure on energy-intensive industries in Europe. With energy prices elevated in the European Union (EU), energy-intensive industries are disproportionately affected (Hollinger et al. 2022). Manufacturing industry in Spain, for example, which employs around 2.5 million people and accounts for 11 per cent of GDP, consumes around a quarter of the gas and electricity used in the country (INE 2022). The situation forces businesses to try to reduce energy consumption where possible, for example by adjusting operations, but levers to adjust operations can be limited – as observed in efforts to adapt to the pandemic (Stemmler 2022). Some EU countries are intervening to provide financial support to energy-intensive industries. For example, in July 2022 Germany launched a €5 billion fund to support its most exposed industries, such as chemicals, glass and metals (BMWK 2022); however, the level of support needed to cushion the full impact is not sustainable.

The impact of the energy price crisis on employment in Europe is not yet known. Though

energy-intensive industries directly employ only a small percentage of workers in the EU (around 3.2 million people in total, or 1.6 per cent of the employed EU-27 workforce), around 15 per cent of the region's workers are employed in the industry sector as a whole (Bruyn et al. 2020). Any decline in competitiveness and industrial employment will also likely have knock-on effects in the region, whether through weakened macroeconomic positions, falling investor confidence or input price inflation. In theory, the rising energy prices should work to accelerate the low-carbon transition in Europe, increasing the urgency to move away from fossil fuels and improving the relative viability of low-carbon energy sources and technologies. At the same time, there are other dimensions, such as the suppression of demand by higher household spending on energy, with subsequent implications for the shape of the impact on employment in different sectors.

In the long term the energy price shock may result in more opportunities for job creation in the emerging low-carbon sectors. In the meantime, the impacts of uncertainty and macroeconomic weakening may reduce investment in the green economy, at least in the short term. Given the weakened state of public finances in Europe, governments will be under pressure to make savings and to redirect budgets to other sectors, which may include clean energy providers. Several countries, such as Germany, have also resorted to reviving the use of coal in industry and power generation, although the intention is that this move will be temporary and small-scale (European Commission 2022). Any reversal or watering down of previous commitments to the green economy represents a risk to employment in Europe, though opportunities to focus on a green recovery will still be present. The net impacts of energy prices on employment in Europe are a live topic that should be monitored over the coming year.

Labour market trends in Europe and Central Asia

Divergent employment growth in 2022 mirrors the economic situation. Except in Eastern Europe, the region witnessed relatively strong job growth in 2021 as it emerged from the pandemic (table 2.5). The pattern of job growth continued in 2022, the region as a whole seeing employment grow by 1.6 per cent. This masks considerable intraregional differences: Central and Western Asia lead the charge with 3.4 per cent employment growth, compared with a decline in Eastern Europe of around 0.7 per cent and a gain of 2.4 per cent in Northern, Southern and Western Europe. Meanwhile, unemployment across the region is expected to fall substantially, by more than 3 million – equivalent to a 0.7 percentage point drop in the unemployment rate.

The fallout from the Russian Federation's aggression in Ukraine is already stark and the full effects on the region's labour market are not yet known. In October 2022, the ILO estimated that 2.4 million jobs had been lost in Ukraine alone (ILO 2022g). The United Nations High Commissioner for Refugees (UNHCR) reports more than 7 million refugees from Ukraine in Europe as of October 2022, including 1.4 million in Poland and 800,000 in Germany (UNHCR 2022). The impact of these inflows of refugees on domestic labour markets, social insurance systems and public services – including in neighbouring countries such as Hungary, the Republic of Moldova, Poland, Romania and Slovakia – are not yet clearly established (ILO 2022h). For youth, the labour underutilization caused by the pandemic and the fallout from the Ukraine conflict are exacerbating the risk that many young people will be scarred by multiple periods of inactivity and uncertainty; gaps in experience and expiring skills will increase the chances of long-term unemployment and underemployment (World Bank 2022j).

Complex and conflicting economic factors in Central Asia will determine the subregion's labour market prospects in 2023. Several countries in Central Asia have seen paradoxical short-term benefits from the turmoil in Ukraine, for example through a boom in hydrocarbon export revenue. Remittances from the Russian Federation also increased in the first half of 2022, up 96 per cent on the same period in 2021 in Uzbekistan, as a result of surging demand for migrant workers and a 30 per cent appreciation of the rouble (Warren 2022). A significant number of business owners in the Russian Federation and Belarus have sought to relocate operations to countries such as Kazakhstan and Uzbekistan, promoting strong private sector growth there (Warren 2022). However, the economic prospects of the Russian Federation seem weak and highly

Table 2.5. Estimates and projections for working hours, employment, unemployment and labour force, regional and subregional, Europe and Central Asia, 2019–24

Region/subregion	Ratio of total weekly hours worked to population aged 15–64						Total weekly working hours in FTE jobs (FTE = 48 hours/week) (millions)					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Europe and Central Asia	25.8	23.8	25.1	25.4	25.4	25.5	327	301	317	320	320	320
Northern, Southern and Western Europe	26.1	23.9	25.3	26.2	26.0	26.1	158	145	153	158	156	156
Eastern Europe	26.9	25.5	26.3	25.1	25.5	25.6	110	103	106	100	101	101
Central and Western Asia	23.5	20.8	22.6	24.0	23.9	24.0	59	53	58	62	63	63
	Employment-to-population ratio (percentages)						**Employment (millions)**					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Europe and Central Asia	54.5	53.4	53.9	54.7	54.5	54.2	416	408	412	419	418	417
Northern, Southern and Western Europe	54.4	53.4	53.7	54.9	54.6	54.4	208	205	206	211	211	211
Eastern Europe	56.6	55.7	56.1	56.0	55.8	55.3	139	136	136	135	134	133
Central and Western Asia	51.2	49.5	50.8	51.9	51.8	51.6	69	67	70	72	73	73
	Unemployment rate (percentages)						**Unemployment (millions)**					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Europe and Central Asia	6.6	7.0	6.9	6.1	6.3	6.3	29.4	30.9	30.4	27.3	28.2	28.2
Northern, Southern and Western Europe	6.9	7.3	7.3	6.3	6.6	6.6	15.5	16.2	16.3	14.2	14.9	14.8
Eastern Europe	4.7	5.6	5.2	5.0	5.1	5.1	6.9	8.0	7.5	7.1	7.1	7.2
Central and Western Asia	9.2	9.0	8.7	7.7	7.8	7.8	7.0	6.7	6.6	6.0	6.1	6.2
	Labour force participation rate (percentages)						**Labour force (millions)**					
	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Europe and Central Asia	58.4	57.5	57.9	58.3	58.1	57.8	445	439	443	446	446	445
Northern, Southern and Western Europe	58.5	57.6	57.9	58.6	58.5	58.3	224	221	223	226	226	225
Eastern Europe	59.4	59.0	59.2	59.0	58.8	58.3	145	144	144	142	141	140
Central and Western Asia	56.4	54.4	55.6	56.2	56.1	56.0	76	74	76	78	79	80

Source: ILOSTAT, ILO modelled estimates, November 2022.

volatile. This is likely to translate into weakened employment prospects in Central Asia, given the subregion's strong trade and migrant worker ties to the Russian Federation.

Considerable uncertainty regarding the economic outlook for the region is likely to persist. The dynamic, evolving and volatile situation of the conflict in Ukraine and its consequences make the forecast for the region highly uncertain. There also remain important questions about the impact of sanctions on the Russian Federation, and the effect on neighbouring countries. Already, energy rationing is negatively affecting major sectors and will be, all else equal, a significant drag on growth in 2023. Although it is too early to determine whether inflationary pressures will recede in early 2023, significant disparities within the region will continue. Modest improvements of the GDP forecast are expected in Eastern Europe and Central and Western Asia. In 2023, the Russian Federation's GDP is set to decline by 3.5 per cent – not as badly as in 2022. Growth in the euro area will barely surpass 1 per cent, being hampered by higher energy costs and reductions in external demand, which are expected to be particularly acute among major economies such as Germany and Italy.

Unemployment is expected to continue to increase marginally. In the face of widespread uncertainty and a deterioration in economic growth, the levels and rates of unemployment are expected to trend upwards over 2023 and 2024. In Northern, Southern and Western Europe the unemployment rate is set to increase slightly to 6.6 per cent in 2023 and remain at that level in 2024. In other subregions the unemployment rate will increase to different degrees. In Eastern Europe it is expected to increase marginally to 5.0 per cent by 2024 – higher than its pre-pandemic level of 4.7 per cent. In Central and Western Asia also, unemployment is expected to increase marginally in both 2023 and 2024, to reach 7.8 per cent – still significantly lower than its pre-pandemic rate of 9.2 per cent in 2019.

Labour force growth is a significant challenge in the region

Falling participation rates explain, in part, improvements in the unemployment rate.[7] The fact that the unemployment situation in the region continues to fare reasonably well in contrast to the economic situation may be partly explained by falling participation rates in a context of an ageing population. Between 2019 and 2024, the participation rate in Europe and Central Asia is expected to have declined by 0.5 percentage points; in the subregions of Eastern Europe and Central and Western Asia participation will fall by as much as 1.1 and 0.5 percentage points, respectively. The situation is relevant to enterprises in particular, since falling headline unemployment rates can sometimes suggest that jobs are being created and economic activity is expanding, but the combination of falling unemployment and a diminishing labour force means there is likely to be more mismatch of skills as enterprises struggle to find the labour and skills they need for their operations, and can result in labour hoarding (Colijn and Biehl 2022).[8]

Participation rates are already among the lowest in the world. Several regions have witnessed declines in participation rates over the past several years. This phenomenon was commonplace during the height of the pandemic when many workers stopped seeking employment.[9] However, in Europe and Central Asia, participation rates are projected to be particularly low in 2024 (figure 2.6). Only the Arab States have lower participation rates, which are driven by low female participation, whereas in Europe and Central Asia the male labour force participation rate is the lowest in the world (see Chapter 1).

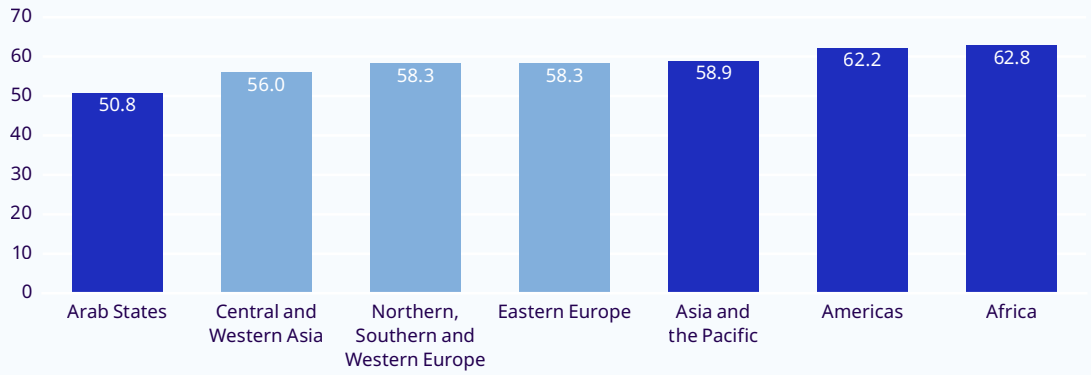
The challenge is exacerbated by a declining labour force. All ILO regions (except Africa and the Arab States) saw a decline in their labour force at the height of the pandemic in 2020. Since then, however, most regions have returned to positive labour force growth. The exception is Europe and

7 The unemployment rate is the total unemployed population as a proportion of the total labour force.

8 See Chapter 1 for further analysis of global labour force shortages and hoarding.

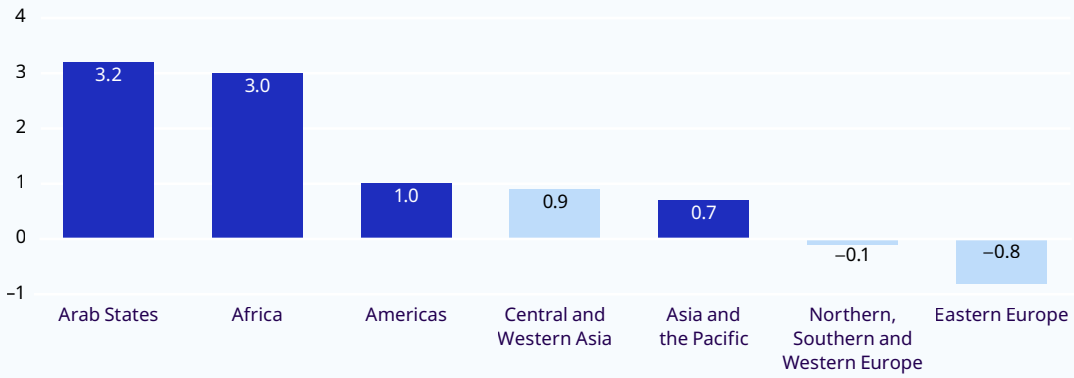
9 Declining participation rates are also a function of a number of structural factors such as population ageing and declining participation rates among men in their prime.

Figure 2.6. Projected labour force participation rates by ILO region and subregion, 2024 (percentages)



Source: ILOSTAT, ILO modelled estimates, November 2022. See also Table 2.2.

Figure 2.7. Projected labour force growth between 2022 and 2024 by ILO region and subregion (percentages)



Source: ILOSTAT, ILO modelled estimates, November 2022.

Central Asia. Over the course of 2023 and 2024, the region's labour force is expected to decline. This prediction masks considerable variation within the region. For instance, in Central and Western Asia the workforce will grow over the coming two years (albeit more slowly than in other regions). However, Northern, Southern and Western Europe and Eastern Europe will see significant declines in the labour force (figure 2.7). Taken together, these two subregions will see a reduction of nearly 2.4 million in their labour forces between 2022 and 2024. Labour force contraction will mean that the region will need to prioritize boosting productivity and investment in order to sustain economic growth over the medium term. Many rural areas across Europe could be affected by demographic ageing and depopulation. Such trends will affect the composition of the rural workforce, agricultural production and rural economic performance, as well as the socio-economic organization of rural communities and even the environment. Therefore, they may have major implications for livelihoods and food security, and also for the vitality and attractiveness of rural economies (ILO 2022b).

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3 Global productivity trends: Reviving growth through the digital economy?

Macroeconomic challenges in a global environment of low productivity growth

Sustained productivity growth is essential to raising incomes and sustaining well-being, constituting the linchpin of a just transition. Provided the right labour market institutions are in place, rising output per worker and per hour worked translates into higher wages and generally leads to higher employment growth in the long run.[1] Steady productivity growth provides governments with the necessary policy space to implement social and economic policies that can reduce inequalities, open opportunities for their citizens and improve many other non-monetary aspects of people's well-being, such as shorter working time, occupational safety and health and universal social protection. Higher productivity levels can also support a just transition to a net-zero economy, providing resources

1 See, among others, Semmler and Chen (2018), Autor and Salomons (2017), Benigno, Ricci and Surico (2015), Nordhaus (2005) and Walsh (2004).

for environmental protection and decarbonization.[2] Policymakers and social partners therefore have a shared interest in establishing a macroeconomic and institutional environment in which productivity growth is facilitated and such productivity gains are shared in a socially just manner.

Productivity growth is not an end in itself. Higher productivity only means that, on average, more economic output is provided per worker.[3] Many other aspects of well-being, including environmental sustainability, are not captured by labour productivity measures; institutional mechanisms such as adherence to international labour standards and social dialogue, among others, are needed to enable a fair and wide distribution of productivity gains across society. A lack of or a sluggish increase in productivity gains will limit the possibilities of sharing such gains. Low-productivity growth is therefore an obstacle to social justice (see Chapter 1).

The current long-term trend of falling productivity growth rates observed across large parts of the world is posing challenges for policymakers. This productivity growth slowdown – initially a phenomenon of the developed world, starting after the second oil price shock in the early 1980s – has become a widespread concern across all regions and country income levels (see figures 3.2 and 3.3). The factors behind this secular decline have been debated, and the widespread decrease in growth rates has been dubbed a paradox, since it is occurring despite the rapid development and availability of new technologies. Globally, the trajectory of labour productivity growth did accelerate slightly from 1990 until the global financial and economic crisis (GFEC) of 2009, allowing several emerging and developing economies (EMDEs) to narrow the gap vis-à-vis advanced economies in terms of material living standards (see OECD 2015; figures 3.1, 3.2 and 3.3). And yet today virtually all major economies find themselves confronted with a productivity slowdown (Goldin et al., forthcoming).

Raising labour productivity growth is an important factor in a country's development path. EMDEs with historically higher productivity growth rates have demonstrated greater success in reducing poverty and improving other social indicators. Evidence in this chapter indicates declining productivity growth rates in EMDEs, at least since 2010, rendering the past decade disappointing in terms of raising and equalizing living standards globally (Dieppe 2021; figures 3.3 and 3.4). Clearly, higher productivity growth rates by themselves do not automatically improve social well-being. High labour productivity per se is neither equivalent to nor a sufficient condition for social justice or sustainable development, since other factors that are not the main focus of this chapter play important roles, such as the UN Sustainable Development Goals (SDGs) on health, gender equality and sustainable consumption, among others.[4]

The macroeconomic environment fundamentally changed during 2022 and the outlook for 2023 is rather bleak. Declining labour productivity growth rates now exist in a global macroeconomic environment that is drastically and rapidly changing. Another decade of persistently low productivity growth on a global scale could exacerbate the already challenging macroeconomic situation (ILO 2022a). While most countries are still struggling with the economic and social consequences of the COVID-19 pandemic and the countermeasures implemented, several macroeconomic key indicators have changed course.

First, a toxic mix of factors has triggered persistent inflationary pressures (OECD 2022). COVID-19 measures have limited the movement of people and goods, thereby disrupting supply chains and imposing additional compliance costs on enterprises. China's "zero COVID" policy has led

2 Economic development and environmental pollution follow an environmental Kuznets curve, where pollution increases at low levels of economic development and falls after a certain threshold has been reached. Sustained productivity growth is essential to reach this threshold and to continue the delinking of economic growth from environmental damage, including decarbonization of the economy. For in-depth discussions on these issues, see Chen, Ma and Valdmanis (2021), Wang, Zhu and Zhang (2021), Wang, Assenova and Hertwich (2021) and Badulescu et al. (2020).

3 "Labour productivity" in this chapter generally refers to GDP per worker, unless otherwise noted. Box 3.1 offers a detailed discussion of different productivity measures, their respective interpretations and their limitations.

4 https://www.ilo.org/global/topics/sdg-2030/targets/lang--en/index.htm. Target 8.2 of the UN's SDGs explicitly mentions productivity as a goal: "achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors". Productivity also features under SDG 2, on zero hunger (target 2.3), where there is a goal to double by 2030 the agricultural productivity and incomes of vulnerable small-scale food producers.

to repeated regional lockdowns, which have ramifications not only for China but also for the rest of the world, since China is an important supplier of finished and unfinished goods and components. Second, the conflict in Ukraine and related geopolitical tensions and economic sanctions have led to a spike in energy and food prices, and shortages of certain commodities. The latter have already led to production delays in various sectors, for example in construction. Third, in response to inflationary pressures, central banks around the world have started tightening their monetary policies and raising short-term interest rates. Central banks find themselves in a dilemma: the need to tighten monetary policies to bring down inflation at the price of higher financing costs for enterprises, households and governments could potentially lead to a severe recession. Higher financing costs through higher interest rates also mean that opportunity costs of investments for enterprises are rising, rendering some investments unprofitable. Fourth, in advanced economies, several sectors have started seeing labour shortages. Examples are the healthcare sector, tourism, air transport and logistics. In some of these services sectors a combination of low wages, a lack of decent working conditions, and an ageing population have made it increasingly difficult to attract and find workers. Such shortages restrict countries' capacity to expand their aggregate supply of goods and services, possibly fuelling inflation.

Finally, governments and enterprises have committed themselves to drastic reductions in greenhouse gas emissions in a relatively short time span. Achieving these targets will require massive investments in new production processes and new infrastructure, without many visible economic returns in the short and medium run. There is little consensus on the expected near-term macroeconomic consequences of climate change mitigation policies (IMF 2022). Some estimations predict massive macroeconomic benefits after 2050, while others estimate that global GDP growth will first decline by at least 0.15 to 0.25 percentage points annually (IMF 2022).[5] Whatever the future macroeconomic benefits or costs of the green transition may prove to be, large investments are needed,[6] and the allocation of funds of this order of magnitude is likely to become increasingly difficult in a low-productivity growth environment. Another striking fact is that international economic crises appear to have become more frequent over the last 30 years. It remains an open question whether the economic system has become more vulnerable to repeated negative shocks that flatten the world's growth trajectory and impede labour productivity growth.

As a consequence, **economic growth has already slowed down and is expected to remain sluggish throughout 2023** (IMF 2022; OECD 2022). Sovereign debt financing, corporate credit, and mortgages have become more costly. It is possible that the historic low-interest environment has come to an end. Together with rising inflation and demands for higher wages, which may at least compensate workers for real wage losses, these new conditions create significant challenges for enterprises, households and workers, and governments alike. Steep increases in the price of energy and food are likely to cause hardship, especially for low-income households, and to raise serious food security risks in the world's poorest economies (OECD 2022). Higher labour productivity growth could facilitate wage increases and alleviate the inflationary pressures facing enterprises and workers.

These developments draw renewed attention to the fact that productivity growth rates in many economies are low and in many cases have been declining for decades. It will become increasingly difficult for enterprises with low productivity growth to survive in the current market environment. Low productivity growth will limit workers' opportunities to earn higher wages and improve the material well-being of their households. It may become impossible for governments to facilitate large-scale economic transformation if only small productivity gains can be harvested.

This chapter reviews and discusses long-term trends in labour productivity growth across the world. Empirical evidence presented here shows that many countries and regions are struggling to foster and maintain high labour productivity growth rates. The productivity slowdown that started decades ago as a phenomenon of advanced economies is now affecting virtually all countries.

5 See, for example, https://www.oxfordmartin.ox.ac.uk/news/decarbonise-energy-to-save-trillions/.

6 For example, the IMF estimates that US$3–6 trillion per year are needed until 2050 (Georgieva and Adrian 2022).

The availability and fast advances of digital technologies, on the one hand, and the productivity slowdown, on the other, have been perceived by many as a paradox. Does the problem lie at the frontier – in that digital technologies are failing to deliver the scale of economic benefits that other technologies were able to deliver in the past – or do other barriers exist that prevent the generation and wide distribution of productivity gains? In this regard, the chapter emphasizes the importance of **labour market factors as key drivers of labour productivity growth, in both advanced and developing economies**. Labour market institutions and labour market policies are essential not only for increasing productivity growth, but also for ensuring a just distribution of productivity gains once they are obtained. Such labour market factors are often underemphasized in debates about productivity and merit greater attention.

Technology and investments in technology can only deliver higher productivity growth if they are accompanied by investments in people. Combined efforts to substantially strengthen investments in the right technology *and* in people could be a way to lift productivity growth back to levels that were achieved in the past. The analysis of labour market factors also relates to policies that are at the core of the ILO's mission, which, among other things, includes safeguarding labour market institutions' fundamental role of creating not only more equitable but also more efficient labour markets.

▶ Productivity trends across the globe and structural shifts

Productivity is the ratio of economic output to economic input (see box 3.1). Rising output per worker at the country level is an important driver of living standards. In 2021, an average worker in a high-income country produced US$104,295 (PPP), compared with US$5,705 for an average worker in a low-income country. This means that workers in high-income countries were about 18 times more productive than those in low-income countries. In 1991, the ratio stood at 14, but between 1991 and 2021 labour productivity increased by around US$33,000 (PPP) in the high-income group and by only around US$800 in low-income countries. Thus, labour productivity grew by 46 per cent in high-income countries and by a mere 16 per cent in low-income countries in that 30-year period. Middle-income countries were, on average, more successful in closing this productivity gap. In 1991, a worker in a high-income country was five to six times more productive than a worker in an upper-middle-income country (down to two and a half times in 2021) and seven to eight times more productive than a worker in a lower-middle-income country (down to five times in 2021).

Under similar conditions and over the long run, countries at lower levels of economic development are expected to catch up with advanced economies via higher productivity growth.[7] Empirically, however, this is not what the data show. Looking at longer time horizons and comparing the ratios of output per worker across different regions between 1970 and 2020 reveals that many developing countries have failed to catch up with more advanced regions. In other words, developing countries are not converging with advanced countries, at least not on a large scale and not with sufficient pace. Patel, Sandefur and Subramanian (2021) find evidence that per capita growth of lower-income countries slightly accelerated after 1995 vis-à-vis countries with higher incomes (beta convergence), but they also estimate that it would take a typical developing country approximately 175 years to close half the productivity gap with a typical advanced economy. Use of the United States' GDP per capita as a benchmark confirms the lack of convergence across regions (see figure 3.1).

7 Economic growth literature makes use of the concepts of beta- and sigma-convergence. The first analyses whether poor countries or regions will catch up with rich ones and describes the rate at which countries are converging. The second concept looks at income inequalities or differences among countries or regions and analyses whether the dispersion of income distribution is shrinking or not (for example, Furceri 2005).

▶ Box 3.1. Productivity: Measurement and key concepts

Productivity indicates the amount of output produced from a certain amount of inputs. Paul Krugman (1992) famously asserted that "productivity is not everything, but in the long run, it's almost everything". The enhancement of productivity is essential for there to be sustainable enterprises and decent jobs – both core elements of any development strategy whose main objective is the improvement of people's lives (ILO 2020a).

Labour productivity is one of the most widely used indicators, together with total factor productivity (TFP).[1] Its level and evolution over time depend on the availability of other inputs – such as different forms of capital – and the technology used to combine labour and capital to produce output. Labour productivity can be directly measured using widely available national accounts and labour market variables.

However, the working definition of "labour productivity" used in this chapter is not without limitations. We employ the most standard characterization of labour productivity, based on a definition of output in which the potential negative externalities inherent to production processes, such as impacts on the environment, are not accounted for. There is a need for better valuing the contribution of unpaid household and other work for which no market value is available or for which these values need to be estimated, as is the case in many (public) services sectors. Moreover, many economic activities would not be feasible without the essential inputs provided by the natural world. These "ecosystem services" are typically under- or unvalued, creating incentives for overuse (the so-called "tragedy of the commons"). Valuing such "natural capital" has become the subject of active research and international standard-setting; the UN is leading the effort to establish a fully integrated economic and environmental account system.[2]

These issues affect both the output and input sides of productivity measurement, and we acknowledge their importance. In fact, mismeasurement has even been proposed as a major explanation of the slowdown. This hypothesis stresses that productivity gains are not captured properly in available economic statistics.[3] However, Byrne, Fernald and Reinsdorff (2016) and Syverson (2017) conclude that this phenomenon would only be large enough to explain a relatively small proportion of the post-GFEC slowdown in overall productivity growth. The current consensus seems to be that mismeasurement alone cannot explain the full extent of the productivity puzzle (European Commission 2020).

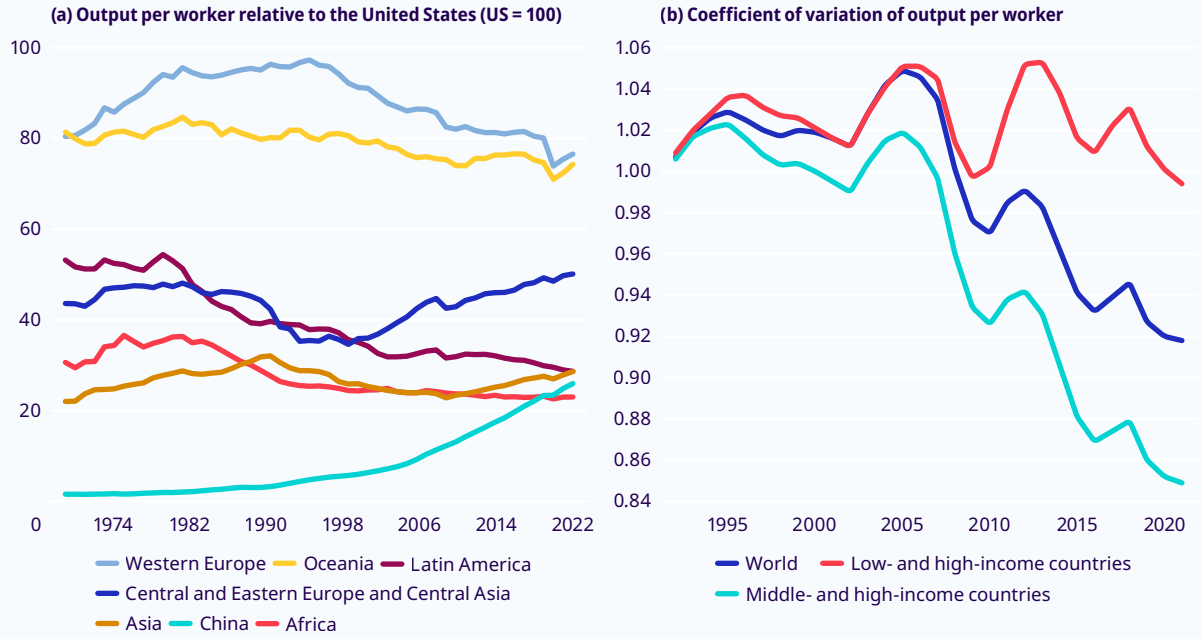
The international community is making gradually more efforts to collect and estimate data that will permit more robust analyses in future.

1. For an extended discussion, including technical aspects, of the different measurements used and the caveats around them, please see Appendix E. 2. See https://seea.un.org/. 3. See Syverson (2017) and Feldstein (2017) for in-depth explorations of the issue of mismeasurement, including prices and value added in services sectors, which are especially difficult to measure (for example, free online services).

The developing world has not been able to close the productivity gap with advanced economies. Figure 3.1(a) reveals that over more than half a century only a few regions have managed to move closer to the level of productivity in the United States.[8] It shows that significant improvements have been made by China since the 1980s, as well as by Central and Eastern Europe and Central Asia since the early 2000s. On the other hand, Latin America has continuously diverged from the productivity levels of the United States since the early 1980s. Western Europe had almost caught up with living standards in the United States by the 1990s but has been diverging since then; its labour

8 These regions do not coincide with the ILO regions and subregions used elsewhere in this chapter.

▶ Figure 3.1. Labour productivity convergence across geographic regions, China and country income groups



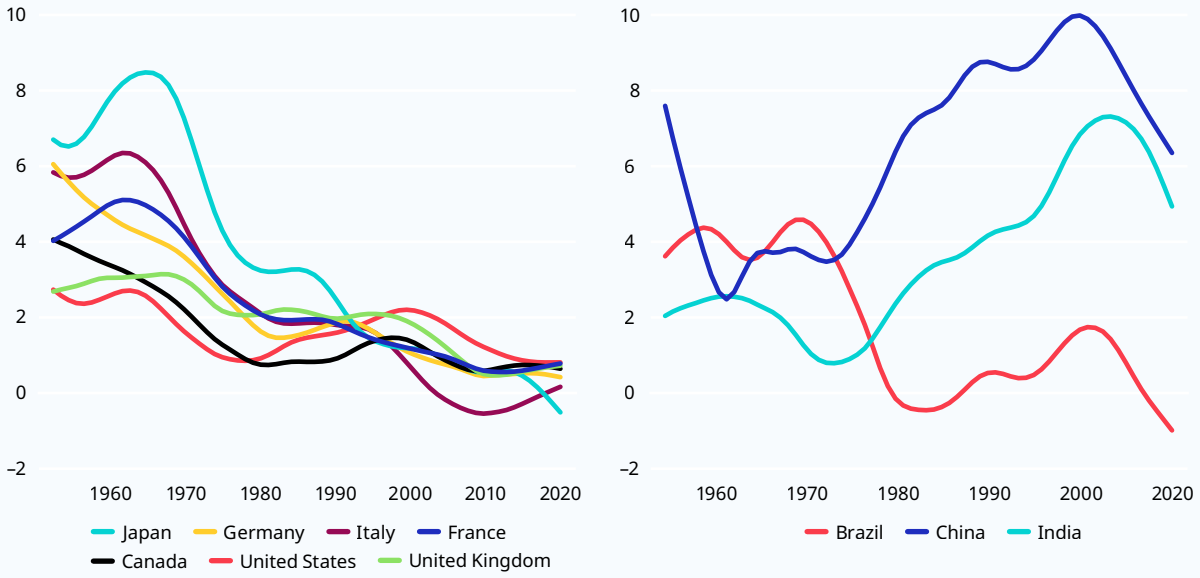
Note: Output per worker is measured as GDP per worker in PPP terms. The data for each geographical and country income group are obtained by computing the weighted average output per worker across countries in each group. The country weights used are the real GDP shares of each country in each group. The coefficient of variation is a measure of the relative dispersion of labour productivity among the countries in each of the three country income groups shown. The figure shows the three-year rolling average of the coefficient of variation. A decline over time indicates that the respective labour productivity levels of all countries in the sample are approaching each other (sigma convergence). For the world as a whole, such a decline can be observed over the last years of the period but is largely driven by developments in middle-income countries.

Source: The Conference Board (figure 3.1(a)) and ILOSTAT, ILO modelled estimates, November 2022 (figure 3.1(b)). The Conference Board regions do not coincide with ILO regions. For the list of countries in each region in the Conference Board dataset, see https://www.conference-board.org/data/economydatabase/total-economy-database-methodology.

productivity level is currently around 25 per cent lower than that of the United States. To illustrate the magnitude of the challenges: even China, which successfully raised its labour productivity closer to advanced economies' levels, would require another 24 years to surpass the United States' labour productivity levels (measured in 2021 PPP international dollars) if both economies were to grow at the same average growth rate they achieved in the period from 2012 to 2021.

This lack of convergence is even more surprising in that productivity growth rates in advanced economies have been stagnating or even falling for decades. Thus the failure of many developing countries to catch up, or at least to reduce the productivity gap, cannot be explained by such strongly accelerating productivity growth in advanced economies (figure 3.2; OECD 2015 and 2019a; Dieppe 2021). The sustained productivity gap between high- and low-income countries exists in an environment in which productivity growth rates are generally low relative to the past. In fact, the slowdown in aggregate productivity growth is evident for G7 countries between 1953 and 2021. Despite a short period of revival during the 1990s, productivity growth has trended downwards, even approaching zero in some cases. For the period between the mid-1990s and 2019, Patel, Sandefur and Subramanian (2021) point to evidence of a slow convergence on a global

Figure 3.2. Long-term labour productivity growth: G7 countries versus Brazil, China and India
(percentages)



Note: The growth rates shown have been smoothed using a Hodrick–Prescott filter. This detrending technique is sensitive to the end points of the series. This, however, does not influence the overall direction of the trend. The period 2020–22 is excluded because of the strong interference of the COVID crisis in the trend dynamics.

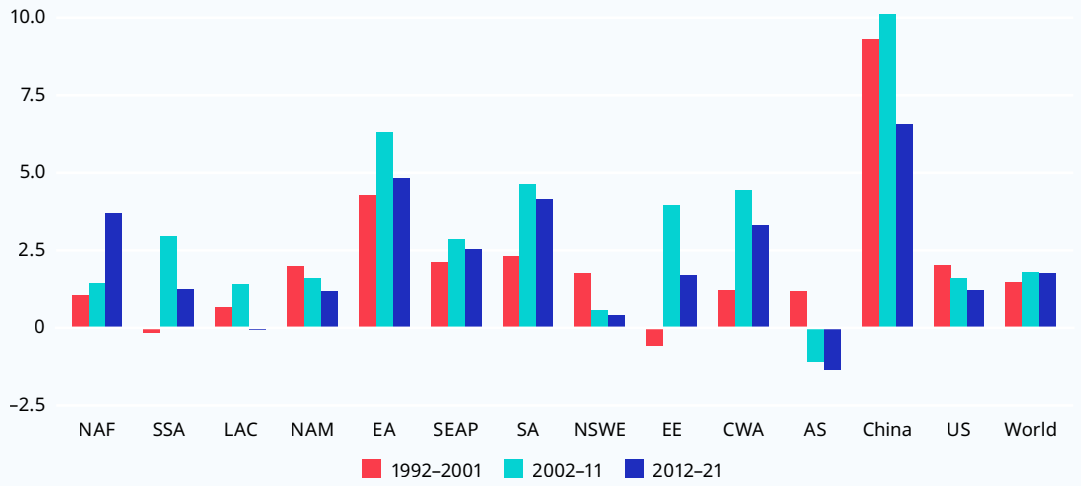
Source: The Conference Board.

level. But, as shown in figure 3.1 and discussed below, this development is strongly influenced by a number of successful middle-income countries and does not change the fact that nearly all countries are now experiencing a very low scale of labour productivity growth.

At the global level, the picture is a bit more nuanced. Global labour productivity growth accelerated from 1990 until the onset of the GFEC in 2009. This development reflected strong productivity growth in several emerging market economies, which more than offset the slowdown in the G7 and Organisation for Economic Co-operation and Development (OECD) countries. Nevertheless, even these EMDEs that enjoyed higher labour productivity growth rates in the past are now also subject to stagnating or even slowing productivity growth. This stagnation began shortly after the GFEC, as illustrated by the experiences of China and India. Although China's labour productivity growth used to be significantly higher than that of the G7 countries, it has sharply slowed down in recent times and has done so even faster than in the latter countries. Furthermore, the significant increase in productivity growth between 1990 and 2010 did not occur in all EMDEs. For example, Brazil has followed a downward path similar to that of advanced economies, with only a temporary upswing around the GFEC. Labour productivity growth in EMDEs has also been more volatile and heterogeneous since the 1980s than in advanced economies, where the decline has been relatively homogeneous (Dieppe 2021).

As can be seen in figures 3.2 and 3.3, the slowdown in labour productivity growth became ubiquitous in the past decade and is by now afflicting the entire globe. One reason for this might be that the stagnation in advanced economies exerts a negative effect on the productivity outlook in less developed economies, especially at a time when the latter are running out of policy space as a consequence of international fiscal and monetary shocks.

Figure 3.3. Average labour productivity growth in different ILO regions and countries, selected periods (percentages)



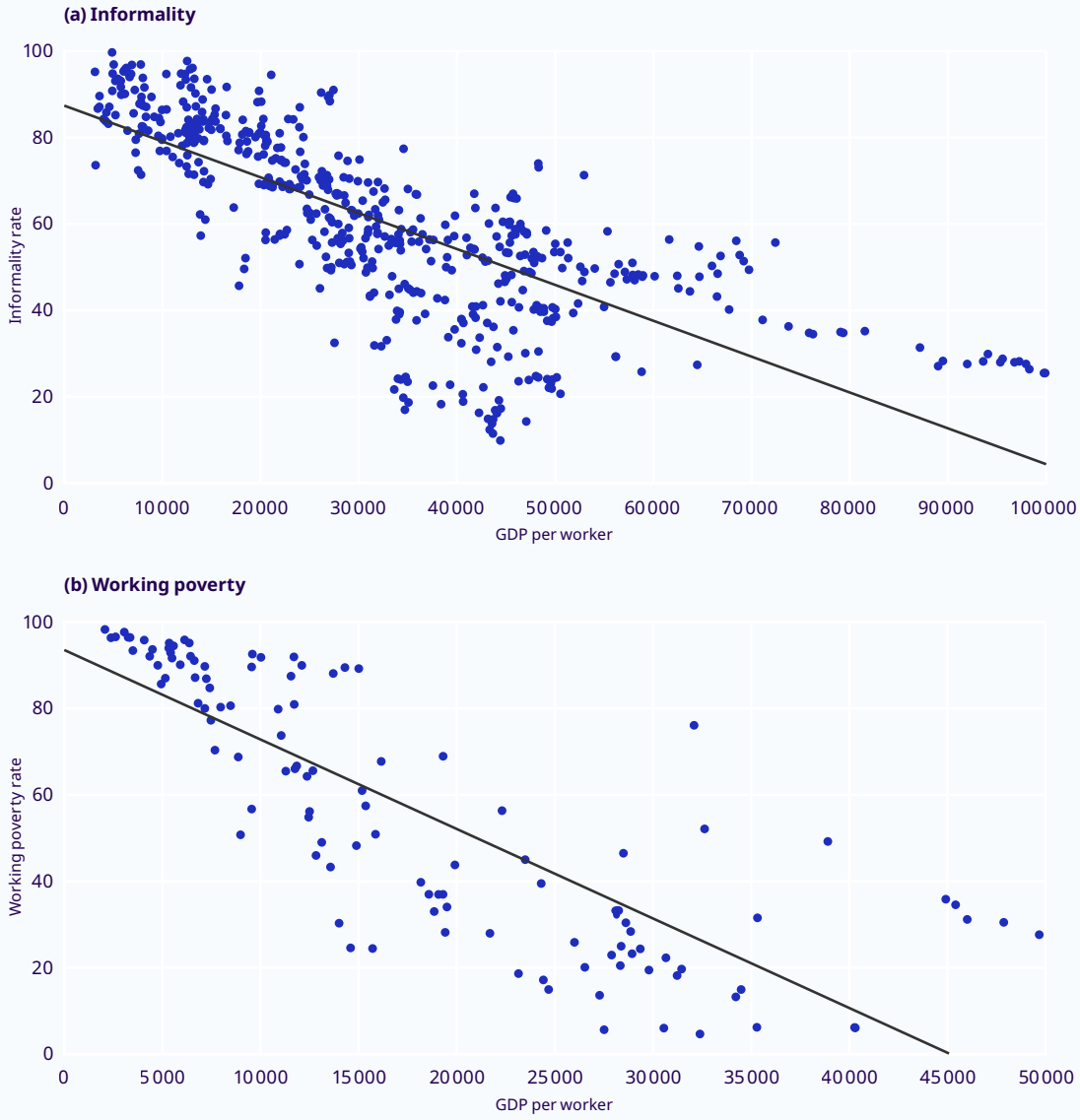
Note: Growth rates for each geographical group are the weighted average of the growth rates of the countries in each group. NAF: North Africa; SSA: sub-Saharan Africa; LAC: Latin America and the Caribbean; NAM: North America; EA: East Asia; SEAP: South-East Asia and the Pacific; SA: South Asia; NSWE: Northern, Southern and Western Europe; EE: Eastern Europe; CWA: Central and Western Asia; AS: Arab States.

Source: Authors' calculations based on ILOSTAT, ILO modelled estimates, November 2022.

Labour productivity growth in most regions fared relatively well in the first decade of this century, followed by a substantial decline over the past ten years. The only region in which labour productivity growth in the past decade was higher than in the previous two decades was North Africa, although its performance during the previous two decades was rather poor, with growth rates well below 2 per cent. All other ILO regions experienced a large setback in productivity growth over the past decade. The persistent slowdown in advanced economies, with progressively declining growth rates in Northern, Southern and Western Europe and the United States, is clearly visible in figure 3.3. Only a few countries have managed to catch up with the latter; China, South Asia and East Asia have had sustained periods of higher productivity growth, whereas Eastern Europe and Central and Western Asia had only partial success in this respect.

Productivity growth is one of the most important drivers of economic and social well-being. Sharpe and Mobasher Fard (2022) offer an analysis of the two-way linkages between productivity and well-being, concluding that productivity growth – and the higher incomes and government revenues arising from it – contributes to higher levels of objective measures of material well-being, especially in developing countries. The most important channel through which productivity growth enhances well-being is by generating real income gains, both for workers in the form of real wages and for owners of capital through higher profits. Real income growth, in turn, boosts tax revenue, which can be spent on public infrastructure and services and on transfer payments. The link between productivity growth and well-being has, however, been weakening in recent decades, owing to both the slowdown in productivity growth and the decoupling of productivity from median wages (Sharpe and Mobasher Fard 2022). The same study finds that well-being is also a driver of productivity. For instance, heightened levels of well-being are associated with higher social capital, which promotes trust in society. Trust has been shown to correlate positively with productivity. Wellness programmes can also contribute to productivity by improving workers' well-being.

Figure 3.4. Labour productivity, informality, and working poverty



Note: Labour productivity expressed in 2017 PPP international dollars. Informality and working poverty rates expressed in percentages of total employment. Scatterplots obtained using pooled year–country data for both indicators and labour productivity. The two samples include different countries and time periods, owing to limited data availability. Outliers beyond the 99th and 1st percentiles of the distribution of labour productivity have been excluded.

Source: Authors' calculations based on ILOSTAT.

As specific examples of the link between productivity and different facets of well-being, figure 3.4 displays the negative correlation between labour productivity and the incidence of informality and working poverty. Causality between productivity and informality may run in both directions. However, low firm-level productivity limits the potential – by implying higher unit costs – for improved pay and working conditions, thereby perpetuating informality. Moreover, firms in the informal sector may see low net benefits from complying with the requirements of formalization (OECD and ILO 2019). Raising productivity therefore plays a central role in any strategy to promote formal work, through actions in key domains such as education, innovation, business climate and urban planning.

That productivity growth is a key element in reducing overall poverty rates is a well-established fact.[9] As figure 3.4(b) shows, working poverty declines as labour productivity increases. Among small and medium-sized enterprises in developing countries, Vandenberg (2004) finds that lower productivity often results in lower income for entrepreneurs and workers and thus contributes to working poverty. Aside from policies to scale up firm size, the bolstering of workers' rights and conditions – including through cooperative work practices – can be a cost-efficient way to increase productivity.[10] Productivity growth is essential to fight poverty in low-income countries. Oseni, McGee and Dabalen (2014) show that increases in agricultural productivity in Nigeria dramatically reduce the likelihood of being a poor worker, corroborating the important links between productivity, development and social justice goals.

Labour productivity growth at the macroeconomic level is the outcome of the interplay of economic factors within enterprises and industrial sectors. The explanatory factors behind productivity growth in an economy can be roughly summarized as: (i) capital deepening, that is, more investment in machinery and equipment per worker; (ii) technological innovations, that is, more sophisticated production methods, including process innovations that may, for example, consist of better management techniques; and (iii) labour composition, that is, a better-skilled workforce (Dieppe 2021). The sectoral composition of the economy also plays an important role in determining aggregate productivity growth in a particular country or region: the reallocation of workers to sectors or industries that are more productive raises labour productivity growth for the economy as a whole. In contrast, if many workers flow into low-productivity activities, economy-wide labour productivity growth declines. In other words, the structural composition of an economy explains to a certain degree the labour productivity growth of the economy as a whole, and structural transformation can therefore be one of the reasons explaining the slowdown.

It is especially important to monitor such sectoral shifts in employment in developing countries, where structural transformation plays a significant role (ILO 2022b). Industrialization, in the form of the expansion of a country's manufacturing, mining and construction sectors, is the most commonly observed development path. This typically entails the reallocation of workers from low-productivity activities, like subsistence farming or craftwork at home, to sectors with higher productivity, such as industrialized manufacturing. Sectors with higher productivity usually pay higher wages and can also offer better working conditions. In addition, this process often brings about a transition from informal to formal jobs.

Growth accounting techniques in economics take the overall labour productivity growth of a country (or other economic unit) and attempt to account for the contribution of (i) capital deepening (by subtracting the amount of growth that can be attributed to the increase in capital), (ii) labour composition (changes in the workforce in terms of age, sex and education) and (iii) a growth "residual" that is typically associated with technological change and innovation.[11] Growth accounting requires data about a country's capital formation and its labour

9 See, for instance, Landmann (2004), who claims that "where poverty persists, it invariably does so because societies fail to deal effectively with unemployment, low productivity and income inequality".

10 See Betcherman (2015) for a discussion on productive employment and decent jobs as well as policies to achieve these objectives.

11 Solow (1957) laid out the theoretical foundations of growth accounting. For extended discussions of the application of this methodology, see Barro (1999) and O'Mahony and Timmer (2009). This decomposition technique for labour productivity growth depends on certain assumptions about the aggregate production function, and the practice of attributing the contribution of "technological progress" to residual growth is subject to criticism.

force composition over long periods of time. This method is often used to gain insights regarding the contributions of the three main components (capital deepening, labour force composition and technological progress) to labour productivity growth. Growth accounting helps us identify the historical sources of growth in an *ex post* manner.

Gordon and Sayed (2019) show that, in the period 1950–2015 in the United States about 20 to 40 per cent of labour productivity growth can be attributed to technological progress, about 50 to 60 per cent to capital deepening, and 7 to 21 per cent to workforce composition (the size of the contributions of each component varying within this time period). For the EU10, the estimated numbers are comparable, with slightly higher estimates for technological progress (more than 60 per cent) during the period 1950–70.[12] The contributions of technological progress are estimated to be significantly higher in the earlier decades (1950–70) and very small during the 2000s.

Global investment has been weak in the aftermath of global shocks. Originating in the aftermath of major recessions in OECD economies, slow investment growth has become a concern for many other regions in the world and is most pronounced in the largest emerging markets and in commodity exporters (OECD 2019a; Kose et al. 2017). Figure 3.5 shows that investment in the stock of physical capital is highly correlated with labour productivity growth. The dots in figure 3.5(a) depict the corresponding average productivity growth and average investment levels for each of the regions and time spans shown in figure 3.5(b). Figure 3.5(b) compares investment intensity, measured as gross fixed capital formation as a share of GDP, over each period for each region. In advanced economies (Western Europe and United States), the productivity slowdown is clearly accompanied by lower investment activity. In other regions, the picture is more nuanced, with investment intensity stagnating or declining in some regions and showing increases in others.

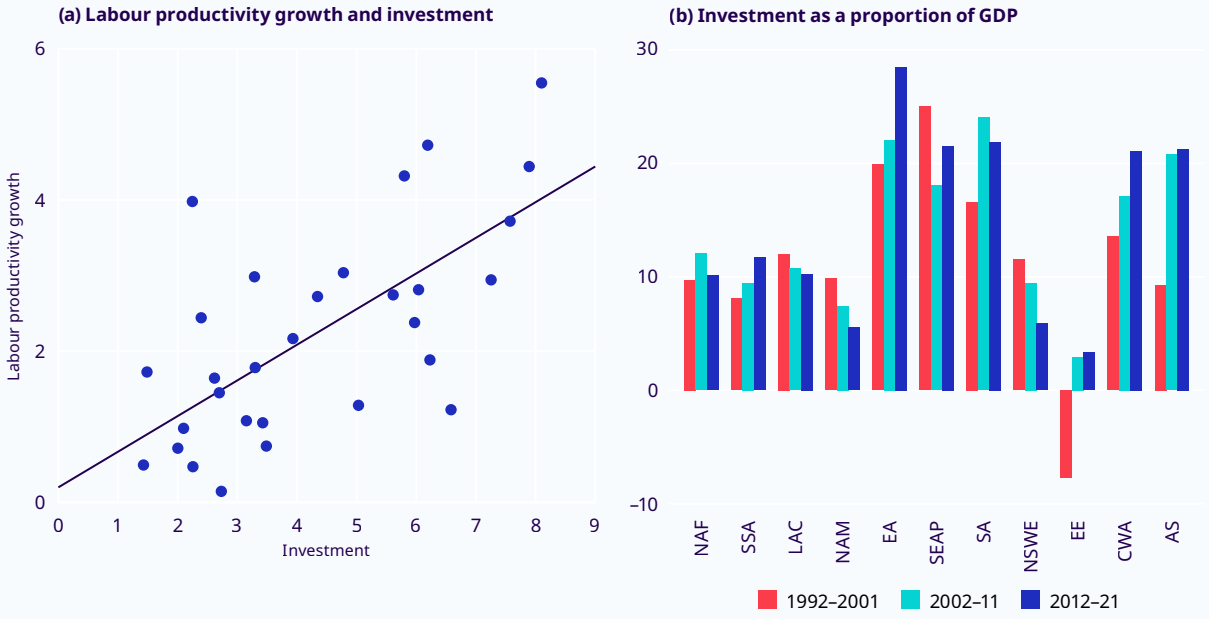
Persistently weak investment may partly owe to the hysteresis effects stemming from the frequent crises that have occurred over the past two decades (see box 3.2 on the impacts from the COVID-19 crisis), and also partly reflect growing economic uncertainty. Various factors have been discussed as contributing to greater uncertainty, including declining global trade and foreign direct investment inflows, heightened political risk and adverse macroeconomic spillovers from major economies.

The structural composition of the economy has an impact on productivity growth. Labour productivity growth evolves differently across sectors (Baumol and Bowen 1966). If cross-sectoral differences in labour productivity growth persist over longer periods of time, an increasing share of employment will be concentrated in low-productivity sectors, ultimately dragging down aggregate productivity growth. Such a development has been dubbed "Baumol's cost disease" (Baumol 1967) and is partly responsible for the gradual slowdown in productivity growth observed in advanced economies. Nordhaus (2008) analyses different variants and mechanisms of Baumol's cost disease for the United States and calculates the extent to which sectoral shifts have tended to reduce overall productivity growth. Hartwig (2011) undertakes an identical exercise for the case of the EU, again finding a negative impact of structural change on labour productivity growth. Duernecker and Sanchez-Martinez (2022) confirm Hartwig's results while also providing a model-based examination of the negative impact of structural change on future productivity performance in the EU.

Most countries are primarily agriculture-based in their initial stages of development. A gradual structural shift – at different speeds for different countries and periods – then ensues, entailing first a shift from agriculture to manufacturing and then a shift from manufacturing to services. Some analysts, however, have questioned this traditional development path, noting that some countries are bypassing the traditional shift from the primary to the secondary sector and rapidly becoming service-based economies instead (Hallward-Driemeier and Nayyar 2018). This process may not be to the

12 The EU10 includes all the EU Member States that joined before 2004. These numbers are meant to provide a rough idea of the magnitudes of the three components generally used in growth accounting. Different studies in the literature obtain slightly different estimates of these magnitudes, chiefly depending on the exact definition of labour productivity used, the growth account factors considered and the underlying data sets used in the estimations. The numbers we provide are also in line with those of Fernald and Inklaar (2020), who analyse in depth the different results for labour productivity growth stemming from dissimilar growth-accounting approaches using different data sets.

▶ **Figure 3.5. Labour productivity and investment** (percentages)



Note: (a) present a scatterplot of the average labour productivity and the physical capital stock growth rates across the same regions and same subperiods depicted in figure 3.3. The bars in (b) show the average levels of investment intensity (investment over GDP, both in real terms) in the same subperiods and regions. Investment intensities by region are obtained after computing the weighted sum of the investment intensities of the countries in each region. NAF: North Africa; SSA: sub-Saharan Africa; LAC: Latin America and the Caribbean; NAM: North America; EA: East Asia; SEAP: South-East Asia and the Pacific; SA: South Asia; NSWE: Northern, Southern and Western Europe; EE: Eastern Europe; CWA: Central and Western Asia; AS: Arab States.

Source: Authors' calculations based on Penn World Tables 10.0.

detriment of labour productivity growth, since, it is argued, fast-growing services sectors, can, like manufacturing, also lead to economic convergence between countries (Hallward-Driemeier and Nayyar 2018). The progressively larger share of the services sector in emerging and advanced economies is therefore a key issue to analyse in relation to the productivity growth slowdown. A decomposition of aggregate productivity growth into the contributions of sectoral growth rates, with an emphasis on the productivity performance of services sectors – distinguishing between private and public, business-to-business and business-to-consumer services – is helpful to understanding the role that structural change plays in determining economy-wide productivity growth.

A comparative decomposition analysis across different countries reveals that the most important contributor to growth in real output per worker in the period 1992–2018 was intrinsic productivity growth at the sectoral level.[13] This means that the bulk of labour productivity growth can be attributed to factors unrelated to shifts in the sectoral composition of economies and linked instead to the engines of productivity growth at the sectoral level, such as technological advancements and skills development. There is a degree of heterogeneity across countries; some EMDEs evince a greater positive contribution to productivity growth from sectoral shifts towards industries with higher levels of productivity, and some low-income economies exhibit a negative contribution from shifts towards sectors with lower productivity growth profiles.

13 See Appendix F for graphical representations and an extended discussion of these decompositions.

▶ Box 3.2. The impact of the COVID-19 pandemic

Besides having caused a large number of countries to enter into recession, **the pandemic may also have entailed a further reduction in labour productivity growth in many countries**. The various policy measures implemented to curb the spread of the virus also had negative side effects on the economy. Although some evidence suggests that the recession led in the short term to productivity-enhancing reallocations of workers (Stewart 2022), concerns exist about the recession's potential negative impact over the medium to long term. Hanushek and Woessmann (2020) stress that students affected by school closures during the pandemic may obtain a 3 per cent lower lifetime income unless catch-up measures are put in place. These authors estimate that this could translate into a lower long-term level of output, through productivity losses, in nations where education closures were most stringent. This could compound the problems observed in the developing world in terms of global universal skills as well as increasing schooling gaps with respect to advanced economies (Gust, Hanushek and Woessmann 2022; Dieppe 2021).

The OECD (2021) underlines that "policy measures during the pandemic may have protected viable and productive firms and avoided the systemic risks posed by a wave of bankruptcies, but at the risk of potentially keeping non-viable (*zombie*) firms afloat".[1] An excessively late exit of these firms may hamper aggregate productivity growth in the longer run by preventing the channelling of capital and labour towards new business opportunities.[2] Finally, the potential scarring effects of the crisis on the economic fabric is a widely debated issue that may impact the future prospects of labour productivity growth.[3] A report by the European Central Bank (2021) estimates that the level of global potential output declined during the pandemic, while the Bank of Finland (2021) claims that the crisis may leave longer-lasting scars than anticipated in such areas as employment, capital stocks and productivity. De Vries, Erumban and Van Ark (2021) show that post-crisis productivity growth does not exhibit a clear deviation from the slowing pre-pandemic trend; they add that its future hinges on the relative strength of the productivity gains made in digitally intensive sectors relative to the potential scarring effects of the crisis on labour markets and business dynamism. All in all, hysteresis effects could take the form of persistently lower labour force participation, low levels of investment and a slowdown in the reallocation of resources (Sanchez-Martinez and Christensen 2022), which would amplify the already weak performance on these fronts observed before the crisis. This could be especially the case in low-income and lower-middle-income countries whose GDP growth rates remain below pre-crisis levels.

1. For a working definition and taxonomy of "zombie firms", see Banerjee and Hofmann (2020). 2. Most analysts believe there will be a surge in the number of bankruptcy filings once the financial support measures are finally lifted. Recent evidence for the United States shows that the largest ever weekly increase in small-business bankruptcy filings was recorded in March 2022 (Chutchian 2022). The consequences in terms of employment losses and other effects could be non-negligible. 3. Hysteresis effects are closely linked with protracted low aggregate demand during crisis periods that leave permanent scars on the supply side of the economy. Summers (2015) was one of the first to suggest that insufficient aggregate demand for long periods of time, especially in advanced economies, is another possible main driver of the stagnation of labour productivity growth.

▶ Technology and labour market linkages

Growth in TFP, often interpreted as technological progress, is frequently identified as one of the main drivers of productivity growth in long run. The expansion of capital ("capital deepening"), that is, investment in physical assets that make workers more productive, is also a major driver of productivity. Importantly, both technological progress and the expansion of capital seem to be playing a role in the slowdown (Gordon and Sayed 2019; OECD 2015). The contributions of labour market composition are found to be smaller than those of these other two components. This latter finding is partly by construction, since many studies interpret the contribution of the labour force narrowly, by defining it in terms of primary, secondary and tertiary educational attainment, thereby ignoring many other important aspects of workforce composition such as training, learning on the job, and experience.

The three components of investment, technological progress and workforce composition – broadly viewed as "human capital" – cannot be separated. Investment needs to be made into "something", some physical form of capital, and capital needs to be operated or managed by workers who are skilled in doing that. It is questionable whether there can really be economy-wide technological progress without significant accompanying changes in the workforce and in organizations. Investments in new technologies and in people must therefore be seen as two sides of the same coin. Innovations do not often stem from physical assets alone.

New digital technologies such as artificial intelligence (AI) could play an important role in reviving productivity growth (ILO 2022c). AI in combination with other digital technologies is expected to have an enormous potential in labour-saving automation, thereby increasing productivity (see box 3.3). The OECD (2020) recognizes the strong potential of enhanced productivity through digitalization but acknowledges that productivity gains through digitalization at the aggregate level have not materialized. Some voices have raised concern that digitalization in combination with AI could lead to accelerated automation and hence the replacement of labour; see, for example, Arntz, Gregory and Zierahn (2016), Brynjolfsson and McAfee (2014), Frey and Osborne (2017) and Brynjolfsson and Mitchell (2017). It is widely believed that such replacement should lead to faster labour productivity growth. However, despite the availability of digital technologies and recent advances in AI, productivity growth has slowed down, resulting in the modern "productivity puzzle" (see, among others, Brynjolfsson, Rock and Syverson 2019; European Commission 2020).

Digital technologies have the potential to reinforce the links between people and technology. Many AI innovations are organizational, based on the broad idea of "knowing how to do things differently", or "better", or "more efficiently".[14] Some of these ideas may be reflected in measured economic value, in the form of intangible assets such as patents or software. But often such know-how exists off the balance sheet, in the form of non-patentable algorithms, or research expenses not considered assets because they mainly comprise investments in people or people's capabilities. There is a growing literature in economics that attributes a significant role to intangible assets, patents and other types of know-how, such as firms' training and management competencies, in the explanation of productivity growth.

Investment in know-how – whether such investment is made in machines or in intangibles – can have positive effects on productivity only if workers have the education and the skills to utilize these assets. Even if labour-saving investment in a new machine is made, firm-level productivity can increase only if the firm has or finds workers with the skills to operate this machine. On an economy-wide level, material well-being will not increase through higher productivity growth if replaced workers remain idle or unemployed for long periods of time and cannot work in any other productive way in the economy. Hence, technological change as a driver of productivity

14 For a wide spectrum of innovation types and their implications for the labour market, including in relation to gender, see Chapters 2 and 4 of ILO (2017).

▶ Box 3.3. Productivity growth and automation

One important mechanism through which digital technologies can drive productivity growth is the replacement of work activities that have previously been carried out by workers. It has long been argued that computers are primarily able to automate routine tasks (Autor, Levy and Murnane 2003). The same idea is typically extended to the analysis of AI as a form of capital that can be either a complement to or a substitute for (different types of) labour. Following the "task approach to labour markets" propagated by Acemoglu and Autor (2011), Autor (2013) and others, economic output at the micro level is generated by "tasks" and the boundary between "labour tasks" and "capital tasks" is dynamically changing as technological capabilities evolve. Workers' occupations and their actual jobs can be seen as bundles of tasks. Which task is carried out by which production factor (capital or labour) depends, at each particular point in time, on the relative economic cost of the two factors. Based on the machine–task substitution framework in Autor, Levy and Murnane (2003), Autor (2013) suggests that the set of tasks most subject to machine displacement are those that are routinary or codifiable. This is echoed by Frey and Osborne (2013), who claim that the replacement of cognitive and manual routine tasks through capital is evident, but that this potential for replacement needs to be extended to non-routine cognitive tasks in the context of AI. The authors predict that any (even non-routine) task can be carried out by capital so long as it is not subject to "engineering bottlenecks", which they roughly group into three categories: perception and manipulation tasks (or unstructured problems), creative intelligence tasks and social intelligence tasks. What clearly emerges from this literature is that routine tasks are most suitable for automation and the replacement of workers by machines. On the basis of the task model, two empirical implications can be derived. First, industries and occupations that make intensive use of labour in routine tasks will make relatively larger investments in computer capital (Autor, Levy and Murnane 2003; Autor 2013). Hence capital investment and the adoption of computers should be greater in these industries than in others. Second, the reassignment of tasks from labour to capital should result in higher labour productivity.

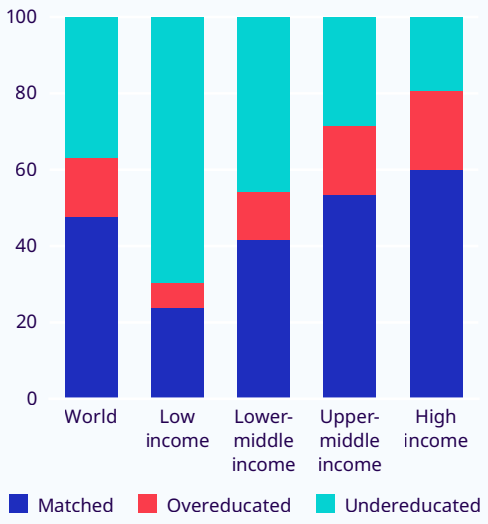
is intrinsically connected to investments in human capital (in particular, skills and education), as discussed in the previous subsection.

Workforce skills and the need to make them more suited to the current and future context of technological transformation is critical to enhance the quality and quantity of output. ILO estimates on skill mismatches – the inadequacy of workforce skills with respect to the demands of the labour market – suggest that undereducation is a significant challenge for low- and middle-income countries, thereby explaining in large part their difficulties in catching up with the productivity levels in high-income countries (see ILO 2019; figure 3.6). Closing this skill gap could yield substantial gains in productivity. Gust, Hanushek and Woessmann (2022), for instance, estimate that the present value of worldwide economic output lost to a lack of universal basic skills amounts to over US$700 trillion, the equivalent of 11 per cent of global GDP in net present value terms. This loss can be attributed to the key role that upgrading the skills of the population plays in ensuring productivity improvements. In OECD economies, a positive correlation between the effective use of skills and aggregate productivity has been solidly established.[15]

The upgrading of workers' skills (upskilling) and/or adaptation of them to new processes and tools (reskilling) is essential to the implementation and diffusion of new technologies as well as the realization of productivity gains. Together with education, skills development is the most important pillar in the creation and preservation of human capital. It includes traditional areas such as management practices, organizational behaviour, and work experience, as well as other skills that have gained more prominence lately, such as

15 https://www.oecd-ilibrary.org/sites/5ac9bb58-en/index.html?itemId=/content/component/5ac9bb58-en.

Figure 3.6. Skills mismatches by country income group (percentages)



Source: Data from Stoevska (2021).

cognitive, socio-emotional and manual skills (ILO 2022d). It is not only the general availability of skills in an economy that matters, but also the efficiency of their allocation. Skill mismatches can severely weigh on productivity growth (Adalet McGowan and Andrews 2015). Both over- and underqualification are found to be associated with lower aggregate productivity growth. (Scarce) high-skilled labour can be inefficiently employed within a firm or be *trapped* in a low-productivity firm. This latter point brings out the importance of the ease with which workers can make transitions between firms, industries and occupations with a view to improving their career as well as their employers' prospects. The ILO (2021a) has analysed the extent to which workers can flow within and across occupational groups in reaction to the COVID-19 shock and technology shocks.

New technologies raise economy-wide productivity only gradually, since they require complementary organizational changes. Brynjolfsson, Rock and Syverson (2019) explain that technologies that have broad potential applications and therefore qualify as general-purpose technologies need considerable time before their full impact on the economy and society will become visible.[16] The more profound and far-reaching the potential restructuring, the longer the time lag between the invention of the technology and its effects. It takes time to innovate and to test innovations, to find business opportunities, to make sufficient investment and, eventually, to restructure processes to make efficient use of the new technology.

Van Ark (2016) and Van Ark and Fleming (2022) make a similar argument for digital technologies more broadly. They distinguish an "installation phase" from a "deployment phase". During the first phase, a handful of firms develop and implement the technologies; this often gives rise to winner-takes-all dynamics while the technologies have yet to diffuse through the whole economic system. In the second phase, these new technologies develop general-purpose characteristics, become available at a lower cost and hence cause breakthrough economic and social transformation. This is the phase when productivity gains may materialize. Analysing the period from 1999 to 2014 in industrialized economies, Van Ark (2016) finds rapidly declining information and communications technology (ICT) prices, a shift from ICT investment to ICT services, and a continuing increase in knowledge-based assets that support ICT. It appears, nevertheless, that – even in industrialized countries – many digital technologies, in particular those relating to AI, may still be in the installation phase.

For a subset of advanced economies, De Vries, Erumban and Van Ark (2021) show that it is indeed the most intensively digital-using sectors that are making the largest contribution to productivity growth at the aggregate economic level. In the four advanced economies they examine, the least intensively digital-using industries performed worst in both absolute and relative terms. Van Ark and Fleming (2022) remark that achieving higher digital intensity across sectors chiefly hinges on (i) the diffusion of new digital technologies to productivity laggards, (ii) improvements in the capacity of firms to absorb AI technology, (iii) the redistribution of rewards towards high-skilled labour and intangible capital and away from physical capital, and (iv) a broadening of

16 The authors refer to AI technology.

the benefits derived from new technologies so that they are inclusive.

Labour market institutions not only help the workforce to adjust their skills according to the new technologies' requirements; they also drive technological change and thereby directly enhance productivity growth. For example, improvements in occupational safety and overall health outcomes significantly contribute to economic development via increased productivity.[17] Children's health affects their education and has long-lasting implications for their labour force participation and productivity later in life (Bloom, Kuhn and Prettner 2019). Katsuro et al. (2010) show that problems relating to occupational health and safety as well as social health protection negatively affect workers' productive capacity in the food industry, resulting in reduced output per worker. Pollution and climate change also have a negative relationship with productivity, mainly through the worsening of workers' health, for example through heat stress (Zivin and Neidell 2012; ILO 2019b).

Employment protection offered by labour market institutions has also been linked to productivity performance. Legal prerogatives to make lay-offs costly, such as severance payments or advance notice periods, affect the level of labour market turnover and incentivize both firms and employees to invest in their specific employment relationships. Some scholars believe that above a certain level of job protection the reallocation of labour between firms and job turnover may be impeded – leading to mismatch – and cost-saving innovation may be replaced by investments in lower-return, less risky projects (Miranda et al. 2018). It has also been suggested that too stringent firing costs may strengthen the bargaining power of incumbent workers to an extent that reduces incentives for productivity-enhancing investment by employers (Caballero and Hammour 1996). However, the view that curtailing the extent of labour market protection might lead to better economic outcomes, including productivity growth, hinges on the assumption that it increases employment without reducing productive investment and without hampering the incentives and welfare of workers (Fedotenkov, Kvedaras and Sanchez-Martinez 2022).

In contrast, arguments pointing to a positive relationship between labour protection and productivity revolve around the alignment of incentives for employers and workers through longer-lasting and more predictable relationships that encourage job-specific accumulation of human capital. Empirical analyses based on the Employment Protection Legislation (EPL) indicator compiled by the OECD have shown that decentralized but organized and coordinated systems (systems where sector-level agreements set broad framework conditions, detailed provisions are made in firm-level negotiations, and coordination is rather strong) tend to deliver higher productivity (OECD 2019b).[18] In a similar vein, Bassanini and Ernst (2002) argue that employment protection and coordinated industrial-relations regimes, by aligning workers' and firms' objectives, encourage firm-sponsored training as well as the accumulation of firm-specific competencies, which is conducive to increasing the productivity of workers. Overall, a certain level of job protection enhances firm productivity, limits excessive turnover and incentivizes both firms and employees to undertake relevant investment to enhance workplace productivity (El-Ganainy et al. 2021).

Minimum wages have been shown to contribute to higher labour productivity at both the firm and economy-wide levels.[19] At the micro level, the efficiency wage theory suggests that workers become more engaged and exert more effort in exchange for higher wages (Akerlof 1982). Georgiadis (2013) provides corresponding evidence for the United Kingdom, while Ku (2020) and Coviello, Deserranno and Persico (2022) provide evidence for the United States and underline the importance of well-designed minimum wage policies.[20] Moreover,

17 See, among others, Weil (2006), Bloom and Canning (2008), Kumar and Kober (2012) and Saha (2013).

18 https://www.oecd.org/els/emp/oecdindicatorsofemploymentprotection.htm. On the other hand, Fedotenkov, Kvedaras and Sanchez-Martinez (2022) show that the effect of EPL on labour productivity growth depends on the skill composition of specific sectors; there are also differences in the sign of the impact of EPL on productivity growth for shorter and longer horizons.

19 https://www.ilo.org/global/topics/wages/minimum-wages/monitoring/WCMS_438881/lang--en/index.htm.

20 Following, for instance, ILO's minimum wage policy guidance: https://www.ilo.org/global/publications/books/WCMS_570376/lang--en/index.htm.

employees may stay longer with their employer, which provides them with valuable experience and also encourages employers and employees to undertake productivity-enhancing training (Arulampalam, Booth and Bryan 2004). At the aggregate level, minimum wages can result in more productive firms replacing less productive ones – and surviving firms becoming more efficient.[21] All these effects can decisively stimulate labour productivity growth.

Other institutional factors that improve human capital, such as education, are generally viewed as crucial drivers of productivity. Human capital acquired from education can be broadly defined as the stock of knowledge, skills and other personal characteristics embodied in people that enable them to be more productive (OECD 2019c). Investment in human capital includes formal education (early childhood, the formal school system and adult training and education programmes) and informal and on-the-job learning and work experience. Human capital plays a key role in explaining productivity differences across countries (OECD 2019c). Not only is the effect of human capital accumulation in OECD countries significant, but positive social returns are also observed in wider country samples. The ultimate impact of education on productivity growth may, however, be importantly conditioned by both the quality of education and its interplay with skills matching in the labour market.[22]

In low-income economies, the benefits of investing more in education are even greater. In these countries, individuals face significant barriers to investing optimally in their education, mainly because of high opportunity costs. Moreover, their educational levels tend to fall significantly short of what is socially optimal, given the presence of positive knowledge spillovers that are even larger than in higher-income countries. Equitable access to education is essential for productivity growth, since rising inequality on this front has been linked to reduced productivity growth rates in developing countries (Valero 2021). Rising income inequality may also reduce the effective human capital pool as it undermines the educational opportunities for disadvantaged individuals, making the available stock of human capital at the economy-wide level smaller (Cingano 2014).

For productivity growth to deliver shared prosperity and inclusivity, key labour market policies and institutions need to be in place to guarantee that income gains will be equitably shared. Essential to this aim are policies to enhance education and skills, general health policies (beyond occupational safety and health), fundamental principles and rights at work, minimum wages, and labour market institutions pertaining to social dialogue and collective bargaining.[23] For example, the removal of barriers to occupational choice, including by preventing discrimination on the basis of ethnicity or gender, can have positive effects for productivity while guaranteeing respect for fundamental principles and rights at work (El-Ganainy et al. 2021).

Raising workers' compensation in line with productivity growth ensures workers' participation in productivity gains. Research points to an increasing divergence between productivity growth and workers' wages in many countries.[24] Key determinants of such decoupling are the type of technology and a shift towards capital as a production factor, facilitated by a relative decline in the prices of capital goods, by automation techniques and by the greater mobility of capital wrought by globalization, including opportunities to offshore (Fossen, Samaan and Sorgner 2022). A gradual erosion of labour market institutions in many advanced countries, in particular a decline in trade union membership, has eroded the quality of collective bargaining agreements and weakened the bargaining power of workers. These

21 See, among others, Rizov, Croucher and Lange (2016), Riley and Bondibene (2015) and Mayneris, Poncet and Zhang (2014).

22 For example, ILO (2020b) focuses on the returns to education and shows that evidence of mismatch is reflected in varying returns to education for young people across countries. This finding is rooted in countries' dissimilar quality standards of education as well as in differing labour market contexts.

23 Active labour market policies, which are also instrumental to well-functioning labour markets and productivity, are discussed in the next section.

24 See, among others, ILO (2020c).

developments have played a role in shrinking the labour share of income.[25] It has been argued that the causality can flow the other way, meaning that productivity can increase as a result of higher real wages, since these could be a significant driver of aggregate demand (ILO 2012).

Changes in the distribution of firm-level productivity have effectively increased the degree of firm monopsony power in the labour market, thereby weakening the bargaining power of workers and lowering wages relative to productivity (El-Ganainy et al. 2021). In the United States and Canada, Greenspon, Stansbury and Summers (2021) observe that, although there has been divergence in productivity and pay levels over time, increments in the growth rates of productivity and workers' compensation exhibit a strongly positive correlation. These findings imply that policies and/or trends that lead to incremental increases in productivity growth tend to raise middle-class incomes, even though other factors, such as the quality of labour market institutions, may be driving productivity and pay apart (Productivity Institute 2021).

The goal of lifting productivity growth needs to be weighed against potential costs for workers. The work intensification and lack of workplace autonomy triggered by mechanization and computerization have been identified as important stressors in workforce health (Gallie 2012; Gallie and Ying 2013; Isham, Mair and Jackson 2020). Moreover, although ICT can promote productivity growth, it can also blur the boundaries between work and home life, hence reducing well-being. Here the notion of inclusive productivity growth becomes critical; it is of utmost importance, first, that productivity gains are realized and, second, that these are evenly shared across capital owners and workers so that material well-being is lifted for all.[26]

Not directly controllable through labour market institutions are demographic factors that can decelerate or boost labour productivity growth. In particular, the ongoing demographic transitions in most advanced economies as well as some emerging markets – China being the most outstanding example – involve a process of rapid population ageing which is bound to impinge upon economic growth (see figure 3.7). Potential factors driving the effect of ageing on labour productivity growth comprise increasing difficulties in filling job vacancies owing to increasing skill mismatch/depreciation; lower rates of start-up creation, entrepreneurship and innovation at the firm level; and slower technology diffusion owing to the slower pace at which an older working-age population may adopt new technologies.[27]

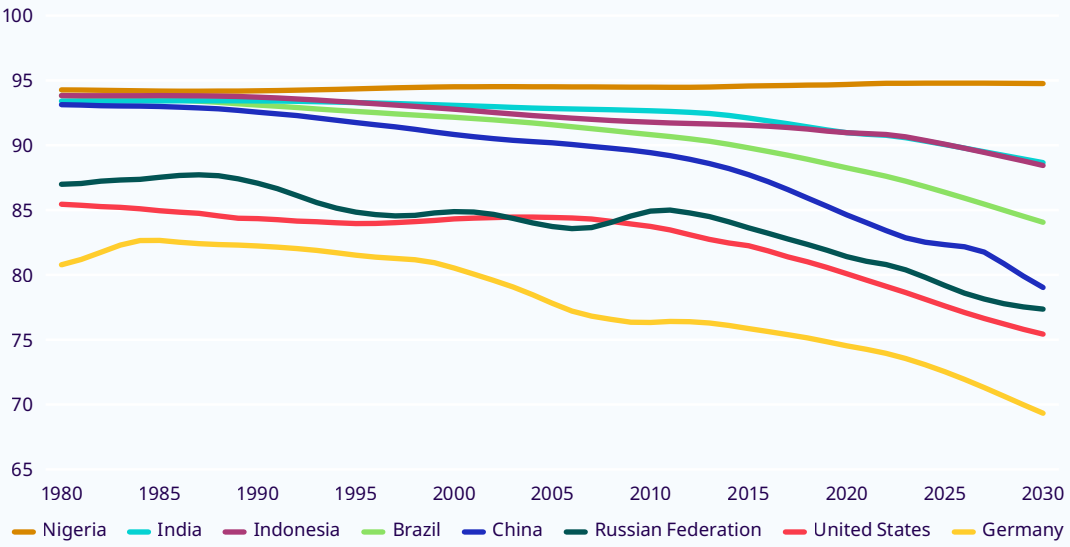
Poplawski-Ribeiro (2020) provides a thorough empirical analysis revealing that ageing has played a significant role in slowing down TFP growth in recent decades in a group of both advanced and transitioning economies. Focusing on labour productivity growth, Maestas, Mullen and Powell (2016) find in the case of the United States that an increase in the fraction of the population above 60 years of age significantly decreases labour productivity and hourly worker compensation. In a comparable analysis using data for Europe, Aiyar, Ebeke and Shao (2016) show that the ageing of the workforce reduces growth in labour productivity,

25 For more details, see https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_712232.pdf.

26 The OECD (2018) stresses the risk posed by the vicious cycle whereby individuals with fewer skills and poorer access to opportunities are forever confined to unproductive and often precarious jobs. This in turn reduces aggregate productivity and widens inequality. The OECD's report underscores the importance of inclusive growth as a means of ensuring aggregate productivity growth and examines different policy options to accomplish this.

27 Examples of studies investigating the role of ageing on entrepreneurship include Karahan, Pugsley and Şahin (2019), Liang, Wang and Lazear (2018), Bornstein (2020) and Engbom (2019). Studies that confirm its ultimate negative impact on productivity growth comprise Decker et al. (2014) and Alon et al. (2018). In a study for OECD regions on the role of the erosion of skills, Daniele, Tahu and Lembcke (2020) find that the negative association between ageing and productivity growth is strongest in knowledge-intensive services. On knowledge diffusion, Davis, Hashimoto and Tabata (2022) provide a theoretical model in which a contraction in the population of working age leads to lower knowledge spillover within and across firms, and hence lower productivity growth. Viviani et al. (2021) carried out a systematic survey of micro studies in both developing and developed countries and conclude that there was no difference in productivity between older and younger workers, since older workers performed better than younger workers but had more absenteeism. Another indirect channel through which ageing has a bearing on productivity is through shifts in the consumption basket across the consumer's life cycle. The demand for services increases with age, thereby accelerating structural transformation towards service-based economies. Since the service sector exhibits lower labour productivity growth rates, in aggregate, this weakens economy-wide productivity growth (Vollrath 2020). The role of sectoral structural change is elaborated on in Appendix F.

Figure 3.7. Working-age population trajectories in some of the world's most populous countries, 1980–2030 (percentages of total population)



Note: Working-age population is defined here as the number of people in the 15–64 age bracket.

Source: Authors' calculations based on World Population Prospects 2022 of UN Population Division.

mainly through its negative effect on TFP growth rather than on investment in physical capital.[28] The net impact of ageing on labour productivity growth through its impact on investment is ambiguous, given that this phenomenon might entail, on one hand, capital deepening spurred by scarcer labour (Acemoglu and Restrepo 2017) and, on the other, a savings glut and fewer opportunities for investment (Jimeno 2019).

Figure 3.7 shows that trends in working-age population similar to those of the United States and Germany occur in other economies too. Brazil and China are projected to undergo a sizeable hollowing out of their working-age population, while India's and Indonesia's working-age populations are also trending downwards, albeit at a slower pace. On the other hand, demographic trends in Nigeria – as in much of Africa – are projected to continue to support economic growth.[29]

28 The largest negative impact is expected to occur in countries such as Spain, Italy, Portugal, Greece and Ireland, where rapid workforce ageing is expected and which also face high debt burdens.

29 Africa is expected to undergo a vast demographic expansion that will result in a sizeable rise in urbanization rates. Although the positive contribution of urbanization to productivity growth, based on density and network effects, is well documented for other regions of the world, the anticipated effects for Africa are unclear. This is not least because there is evidence that a large majority of the African urban population experience informal work and inadequate housing. Thus, the development of well-functioning cities is key to enabling these demographic trends to be conducive to productivity growth and well-being (Page et al. 2020).

What else explains the productivity slowdown?

Several other factors have been discussed that shape the environment in which firms operate, thereby influencing the potential for labour productivity growth; they include market structures, physical infrastructure, the institutional framework and the quality of governance (Dieppe 2021; ILO 2021b).

The lack of diffusion of new technologies is a major factor behind the productivity paradox (Ernst 2022a). First, in recent years "superstar" firms have emerged, which manage to absorb the lion's share of the surplus generated by productivity growth (Autor et al. 2020). This can explain low productivity growth and its uneven distribution as well as widening income inequality. Second, low exit rates of unproductive firms drag down average productivity growth at the industry level, since these firms hold on to resources that could be more productively used elsewhere. This second factor has probably been exacerbated by the COVID-19 crisis, since the support measures implemented in many countries kept firms afloat that would otherwise have exited the market.[30] Third, the necessary complementary investments in new skills and intangible assets are lacking.

In regard to the role of digital technologies in the developing world, there is evidence that, despite noticeable improvements in innovation investment and networks and in the capacity to adopt and diffuse new technological knowledge, such progress remains geographically very concentrated, and sustained productivity gains have not yet materialized in the dominant agricultural sector or for the myriad of micro, small and medium-sized enterprises. In sub-Saharan African countries, labour productivity has lost ground with respect to both the technology frontier, represented by the United States, and the Asian Dragons and other dynamic emerging markets, such as Brazil, China and India (Dosso 2022). Two of the main barriers impeding the translation of technological advances into labour productivity gains in developing countries are: (i) high degrees of informality in labour markets; and (ii) poorly performing financial markets and institutions, which condition the innovation investment decisions made by firms (Andrade, Cosentino and Sagazio 2022). The extent of ICT use, technology adoption, skills availability, and access to external knowledge inhibits productivity growth in countries of all income groups. These are all robust enablers of different types of innovation and critically influence the productivity of local firms (Dosso 2022).

Market concentration creates entry barriers and is preventing the wider diffusion of benefits from new technologies. The benefits of new technologies seem to be enjoyed by a relatively small fraction of the economy, and the technologies' narrowly scoped and rivalrous nature creates wasteful "gold rush" activity (Brynjolfsson, Rock and Syverson 2019). A small number of players dominate several markets of the digital economy, and the nature of the business and extant network effects may give rise to (natural) monopolies.[31] Industry concentration can lead to welfare losses owing to the distortions caused by market power (see, for example, De Loecker and Eeckhout 2017; Gutierrez and Philippon 2017).

Other research points towards sizeable productivity differences between frontier firms and average firms in the same industries in advanced economies (Andrews, Criscuolo and Gal 2016; Furman and Orszag 2015). Similarly, gaps in profit margins between top and bottom performers in most industries in the United States have grown (McAfee and Brynjolfsson 2008). This indicates that productivity gains can be made by some firms without the same gains manifesting in the broader population of firms. A smaller number of superstar firms are gaining market share (Autor et al. 2020; Tambe et al., 2020) with consequences also for workers, whose earnings in the United States are increasingly tied to firm-level productivity differences (Song et al. 2018).

30 The latest evidence for OECD countries on firms' churn rates suggests that such exacerbation has occurred: https://stats.oecd.org/Index.aspx?DataSetCode=SSIS_BSC_ISIC4.

31 In the media, reference is often made to "FAANG", the five prominent tech companies: Facebook, Amazon, Apple, Netflix and Google.

The primary difficulty in measuring AI capital is, as mentioned above, its often intangible nature. Intangible assets are an important driver of labour productivity growth.[32] This is especially true in countries at later stages of economic development, since the productivity gains accruing from the accumulation of traditional inputs – such as investment in physical capital – are progressively lower, owing to the well-known phenomenon of decreasing returns to scale. Roth (2019) concludes from an in-depth survey of the literature that the economic debate surrounding the role of intangibles broadly acknowledges their importance in the transformation of developed economies into fully fledged knowledge economies. The results of his research also show that, in order to fully reap the benefits of investment in ICT and AI, businesses need to make complementary investments in intangible assets. Furthermore, the literature highlights the importance of a well-endowed infrastructure of public intangibles.[33]

Intangible investment is an important driver of labour productivity growth, but its impact depends on the type of intangible assets and the specific sector in which the investment occurs (European Commission 2020). Some of the assets accounted for in national accounts, such as research and development (R&D) and software, remain key for labour productivity growth in the manufacturing sector, whereas non-national-account intangibles, which include economic competencies, are more important for services. Given the highly predominant share of services in advanced economies, this result highlights the importance of investing in non-national-account intangibles and of duly accounting for them. In a similar vein, Niebel, O'Mahony and Saam (2017) use sectoral data to conclude that the contribution of intangibles to labour productivity growth is generally highest in manufacturing and finance, where the estimated output elasticity of intangibles lies between 0.1 and 0.2.

Investment in intangible assets can make recoveries from crises faster in terms of the pace of resumption of labour productivity growth. The European Commission (2022) has estimated the impact on labour productivity growth of investments in intangible and tangible assets in the years preceding the Great Recession to ascertain whether these investments rendered industries more resilient. The authors find that, in the long run, investment intensity in both intangible and tangible assets was associated with higher productivity growth. Among intangible assets, R&D bears a statistically significant relationship with both labour productivity and TFP growth.

The potential of digital technologies to raise productivity could be overestimated and low productivity growth could be the new normal. A principal argument why digital technologies are expected to boost productivity growth is their potential to automate routine tasks that are currently performed by labour (see box 3.3). The extent to which this restructuring is actually taking place is unclear. Some evidence exists for the United States (see Autor, Levy and Murnane 2003) but this evidence is not conclusive. Furthermore, there exist substantial cross-country differences in the routineness of job tasks, both at the national level and within specific occupations (see Lewandowski, Park and Schotte 2020; Lewandowski et al. 2022). The differences in tasks between countries at different stages of development are much greater than can be explained by differences in occupational structure. Not surprisingly, work in advanced countries involves the largest share of non-routine cognitive analytical and non-routine cognitive interpersonal tasks, and often has the least manual tasks, while the opposite is true for EMDEs. Routine cognitive tasks are lowest in the least and most developed countries and highest in Eastern and Southern European countries, suggesting an inverse U-shaped relationship between the role of routine cognitive work and the level of development.

In comparison with previous waves of industrialization, the benefits of further digitalization for productivity growth seem limited. Gordon (2013 and 2017) and Gordon and Sayed (2020), among others, state that the main reason for the current slowdown is that the benefits of major innovations

32 For a comprehensive overview of recent economic literature on intangible assets and their importance, including specific definitions and ways to properly account for them, see Haskel and Westlake (2018).

33 Public intangibles cover a broad spectrum of assets, such as public sector information, trademarks, know-how and the value of access to public spaces for private events.

introduced during the 20th century – such as electricity and the combustion engine – are wearing thin. In their view, the low-hanging fruit from the disruptive technological advances of the past have already been harvested, and only innovations with lower marginal returns remain to be made.

Policy options

Sustained productivity increases that deliver shared prosperity should be a central focus for policymakers and social partners. The analysis in this chapter has demonstrated that the slowdown in productivity growth, which started as a phenomenon of advanced economies decades ago, has become a global concern. The reasons for the slowdown are still being debated, and country-specific factors may well play a role. In these circumstances, it is impossible to identify a single, one-size-fits-all policy approach. Yet the observation that the slowdown is now widespread across the globe, and that for many countries it has become persistent, points towards the possibility that structural problems are inhibiting stronger productivity growth.

Higher productivity growth was possible in the past. Policymakers can therefore focus on areas that are known to have raised productivity growth: a conducive business environment, and public and private investment in production capabilities that enable the development and diffusion of technologies that improve or facilitate sustainable production or consumption of goods and services and, ultimately, serve to improve people's lives. Finally, policies that support investment in people – in all forms of human capital – offer the prospect of raising productivity growth to precedented higher levels. Such policies would attempt to strategically increase workforce quality through (re-)education and (re)training along a career-long horizon and would also promote better access to the resources that enable people to build up and maintain their own human capital.

Other policy options that are discussed in this section relate to the policy mechanisms and institutional arrangements through which the above-mentioned policy areas can be effectively and efficiently addressed.

Creating an environment for sustainable productivity growth

The provision of an environment for sustainable businesses is crucial. Productivity improvements ultimately need to be implemented in enterprises, through changes in the working environment and production processes. This means that policymakers may seek to positively change the business environment so that firms have the incentives to make changes that are conducive to increasing productivity. At the highest policy level, governments need to provide a macroeconomic, legal and institutional framework in which private enterprises can thrive. Such an environment starts with enforceable property rights, anti-corruption laws and competition laws that together allow fair access of economic agents to markets and prevent the creation of monopolies, monopsonies and oligarchies.

The legal and institutional framework should be maintained by independent and effective courts that uphold the rule of law. A stable macroeconomic environment requires low inflation and macroeconomic policies to absorb shocks. If such a basic framework cannot be maintained, as may be the case in developing countries in particular, it is difficult to create stable markets and to promote sustainable enterprises that have the necessary incentives to enter and operate in these markets to create productive employment opportunities. Proper macro-prudential regulation, in this respect, is essential for productivity growth and the creation of decent work (Ernst 2019).

Tax policies are an essential element of achieving inclusive productivity growth. In the current era of digitalization and robotization, taxation has become heavily skewed towards burdening labour. Government taxation should instead find the right balance between reducing

inequality and preserving long-term productivity and growth. Recent evidence indicates that this policy trade-off may not be fully respected (Merola 2022). For example, Acemoglu, Manera and Restrepo (2020) argue that the United States currently taxes machinery and equipment too little compared with labour, to the point of encouraging excessive automation that eliminates jobs without making the economy more productive.

Private investment in means of production, including technology, is needed, as well as sufficient investment in public infrastructure like transportation and digital infrastructure. For example, smartphone network coverage and internet access are important for the creation and maintenance of a facilitating business environment. If only a fraction of the population and of enterprises have access to hardware, digital devices and the internet, the economy experiences a digital divide. Certain groups, likely to be based on demographic characteristics such as gender or income, will have limited or no access to the digital economy. Such a divide can also occur between different geographical regions of an economy, especially between rural and urban areas, and may require targeted policy measures. More generally, care needs to be taken that financial innovation does not elicit new sources of economic instability and volatility.

Financial stability and access to financial resources are essential. Small and medium-sized enterprises need access to credit or equity and they often have limited or no access to global financial markets. Recent advances in digital technologies have obtained new financial solutions and led to the creation of high-tech financial services companies, so called "fintech". These financial digital applications may have the potential to improve financing options in developing countries (including in rural areas), in which financial institutions tend to be less developed.

The development, diffusion, implementation and adoption of new technologies across firms and countries should be promoted.[34] This chapter has shown that many advances in digital technologies have so far failed to translate into measurable productivity increases that are widely shared across the population. Although the exact reasons for this are still unclear, policy areas that need attention in this regard concern the promotion of fair competition between firms and the avoidance of monopolies in technology, data and digital infrastructure. Regulation should support the diffusion, across firms and people, of digital technology and its benefits over the medium term. It should also be directed at preventing social or economic abuse of the information asymmetries that can be created through digital technologies, and should support a human-centred use of technology that improves the well-being of people.

Stronger efforts are needed to support human capital development in the workforce and strong labour market institutions. Governments should work closely with social partners, employers and workers to make sure that education systems and skills training correspond to enterprises' needs and hence lead to higher productivity growth. Workforce quality is crucial to the use of new technologies and to harvesting the productivity gains that new production processes may offer. Besides investments in education and training systems to create and maintain an employable and effective workforce, active labour market policies can improve the efficiency of the labour market and have been shown to lead to productivity increases, for example through improved skills and knowledge spillover (Goulas and Zervoyianni 2018; Escudero 2018; Escudero et al. 2019). The characteristics of digital transformation imply that labour market policies should also embrace flexibility in labour market transitions, which allows talent to flow between different firms, while ensuring that workers have adequate social protection (Petropoulos 2022).

From a broader, social justice perspective, efforts to maintain a healthy population have been shown to be a source of cross-country differences in income per worker. This finding calls for the implementation of public health measures as a complementary means of delivering higher productivity growth (Bloom et al. 2022). Moreover, the elimination of violence, harassment and discrimination at work, may also be productivity-enhancing because of the negative impact that such nefarious behaviour

34 This statement applies to all kinds of technologies but this chapter discusses this issue mainly in relation to digital technologies.

has on workers' mental health (see, for instance, ILO 2022e).

Adequate unemployment insurance systems are essential to provide jobseekers with the necessary income support and to give them the incentive to find jobs that match their skills and aspirations. Unemployment benefits should not prevent jobseekers from devoting time to finding jobs that match their skills. Recent research suggests that the extension of unemployment insurance benefits may significantly improve job matching, thereby raising productivity (Acemoglu and Shimer 1999 and 2000; Farooq, Kugler and Muratori 2020).

Productivity ecosystems for decent work and just transition

With regard to policy mechanisms through which policies could become effective, the ILO is proposing a "productivity ecosystems for decent work" framework to address existing barriers to productivity growth.[35] Enterprises and their workers are embedded in an "ecosystem" in which the drivers of productivity growth and decent work are interlinked across several levels. Policies need to target specific industry and occupational needs to help businesses and employees to acquire the necessary competences to enable a successful technological transformation. Businesses not only lack necessary skills among their employees; they also often lack the requisite managerial experience, which can be acquired, for instance, through more intensive interaction with competitors in similar or related sectors (Bender et al. 2018; Bloom et al. 2019). Low managerial turnover thus hampers the adoption of more productive management practices (Bloom et al. 2020). Moreover, faster productivity growth requires that micro and small enterprises be helped to transition to formality and to achieve and maintain a minimum efficient scale and economic viability.

Social dialogue is crucial for buttressing efforts to improve productivity.[36] This pillar is central to addressing the large productivity differences among individuals and firms as well as the widening gap between productivity growth and wage growth, which disproportionately hurt workers. There is also evidence that **bolstering the quality of industrial relations at the shop floor level helps to prevent inefficient restructuring**, thereby improving firm productivity. Works councils, which have to be consulted on restructuring, investment plans or layoffs, have been shown to reduce labour turnover. When combined with industry-level bargaining that prevents rent-seeking, works councils have been shown to raise firm-level productivity and speed up the introduction of new technologies (El-Ganainy et al. 2021). The overall effects of trade unions and collective bargaining on productivity are ambiguous and subject to debate (ILO 2022f; Doucouliagos, Freeman and Laroche 2017). Nevertheless, a stronger voice of organized labour at the company level could help to achieve faster and more equitable introduction of new technologies, which in turn could improve the longer-term prospects for productivity and employment, for instance by strengthening incentives for worker training and supporting workforce reorganization.

Special attention should also be given to the role played by policies aiming to **reduce the incidence of informal employment**. The low productivity of the informal economy is a major drag on aggregate productivity growth and leads to the persistence of poverty. Key policies to ameliorate the informal economy comprise the creation of formal business incentives, access to finance through national development banking or government-backed loans, the development of business owners' and workers' skills (to improve resource allocation and management practices while raising labour productivity), simple and fair taxation, anti-corruption policies, a stable and conducive business climate and the simplification of registration procedures, among other things (El-Ganainy et al. 2021).

35 https://www.ilo.org/empent/Projects/productivity-ecosystems/lang--en/index.htm.

36 A recent story from Colombia illustrates very well how social dialogue and collective bargaining have greatly improved productivity: https://www.ilo.org/global/about-the-ilo/multimedia/features/colombia/collective-bargaining/lang--en/index.htm.

Institutional arrangements to promote productivity and decent work

Central coordinating bodies can play an important role in providing guidance to the private sector to promote productivity (Mazzucato 2013 and 2022). Public institutions can provide important services to reduce transaction costs for businesses. For instance, they provide information, help coordinate different actors to set standards and promote their application through procurement policies, ensure the delivery of relevant skills and training and reduce the risks of investment in moon-shot ventures deemed to have societal importance. Such coordinating institutions are particularly important in developing countries undergoing large structural adjustment processes (Salazar-Xirinachs, Nübler and Kozul-Wright 2014).

At minimum, **productivity organizations provide essential information for businesses and workers to make informed decisions about investments and education**. The ILO emphasizes the role of such national productivity organizations and their mandate to promote productivity growth. Such organizations are supposed to be independent institutions (neither government nor employers nor workers dominate the institution) and can steer national and regional policies towards measures that facilitate productivity growth. Typically, these organizations carry out economic and statistical analysis and publish their results to influence policies in their countries and encourage reforms that seek sustainable economic growth. National productivity organizations may consult relevant stakeholders but are required to be objective and neutral.

Productivity organizations can also help to promote standards and streamline public procurement policies. Industry standards are an important tool for coordinating businesses and their investment and reducing transaction costs in their activities. Where soft laws and industry agreements are not sufficient, public actors can step in or help to negotiate agreements. Industry standards have been particularly important in the evolution of the digital economy, where international standards and regulations are important to ensure frictionless trade in digital services. Further convergence is needed, however, especially in upholding the application of international labour standards to platform workers, since without this the rewards of the digital transformation may remain concentrated among a small number of players (ILO 2018).

Skills development and vocational training play a prominent role in the productive upgrading of economies, as does the recognition of professional experience gained on the job. However, the proper development of educational curricula remains a challenge for many countries. An integrated process of curriculum development, involving social partners and business and educational institutions, is key to effective and relevant skills development (Nübler 2014). For instance, occupational curricula for Germany's dual vocational training systems are subject to regular revisions and integration of new course content in line with employers' requirements. In the Republic of Korea, close collaboration between public and private institutions has ensured that employees receive adequate training and a broad-based general education, helping the country to navigate a rapid structural adjustment process (Cheon 2014). Getting the private sector to take ownership of the provision of skills and training is important to ensuring that relevant and up-to-date content is provided.

Institutional developments with regard to skills anticipation and professional orientation can help workers and businesses to adjust to shifts in economic opportunities. The Skills Future Singapore initiative, for instance, allows employees to more rapidly find new occupational opportunities in line with their previous professional experience and formal training. New approaches that accord greater value to the professional experience that people build up over their lifetime are needed to support productive occupational transitions (McKinsey 2022). Public certification standards together with new digital forms of (micro-)certificates could constitute a useful strategy to strengthen lifelong learning.

Public spending on general R&D has declined in many countries over the past decade despite its important role in the development of frontier technologies. **The use of sovereign wealth funds (SWFs), which have proliferated in recent years to manage national resources, should receive more attention** (Thatcher and Vlandas 2022). So far, most SWFs have taken a passive stance in the management of their investments both domestically

and abroad. However, given the size these funds have reached, there have been attempts to use at least part of the funds in more active investment strategies, especially in supporting innovative projects. Saudi Arabia, for instance, launched its Future Investment Initiative Institute in 2017, partly funded by its Public Investment Fund, with the specific purpose of investing in sustainability-related moon-shot projects. Similarly, SWFs from Singapore, Malaysia and Abu Dhabi have investments in Silicon Valley to support innovative digital companies with a view to helping to diversify the home economies (WIPO 2020). Overall, a more active stance of such funds would mobilize sufficient resources to help transform economies to fulfil their sustainability goals while improving their productive base (Ernst 2022a).

Finally, **the ongoing transition to a green economy offers the potential for significant productive upgrading, especially in developing countries**. Many of these countries contain large areas of natural habitats that are essential to ecological regeneration and the regulation of the global climate. Shifts in international governance mechanisms to value these forms of natural capital would allow these countries to obtain additional financial resources to help fund both technological upgrading and the protection of environmental resources (Ernst 2022b; Ernst, Schörling and Achtnich 2022). In the absence of these mechanisms, many countries prefer to dispose of their natural resources through mineral and timber extraction, which does not create conditions for successful structural transformation. The conclusions on a new "Loss and Damage" fund reached at the recent United Nations Climate Change Conference (COP27) provide an important step in the development of international governance mechanisms. This fund should be extended to valuing natural capital through, for instance, payment for ecosystem services, an avenue that promises to generate additional financial resources instead of redistributing existing ones as the "Loss and Damage" fund is intended to do (Dasgupta 2021). In combination with SWFs or national development boards, as discussed above, such governance innovations can be used to provide additional resources for private sector development, as has been suggested by the Rwanda Development Board. In combination with the just transition policies discussed above, the pursuit of such nature-based solutions promises to produce significant benefits for sustainable economic development (ILO and UNEP 2022).

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Appendices

▶ Appendix A. Groupings of countries by region and income level

Africa

North Africa
Algeria
Egypt
Libya
Morocco
Sudan
Tunisia
Western Sahara

Sub-Saharan Africa
Angola
Benin
Botswana
Burkina Faso
Burundi
Cabo Verde
Cameroon
Central African Republic
Chad
Comoros
Congo
Côte d'Ivoire
Democratic Republic of the Congo
Djibouti
Equatorial Guinea
Eritrea
Eswatini
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Namibia
Niger
Nigeria
Rwanda
Sao Tome and Principe
Senegal
Sierra Leone
Somalia
South Africa
South Sudan
Togo
Uganda
United Republic of Tanzania
Zambia
Zimbabwe

Americas

Latin America and the Caribbean
Argentina
Bahamas
Barbados
Belize
Bolivia (Plurinational State of)
Brazil
Chile
Colombia
Costa Rica
Cuba
Dominican Republic
Ecuador
El Salvador
Guatemala
Guyana
Haiti
Honduras
Jamaica
Mexico
Nicaragua
Panama
Paraguay
Peru
Puerto Rico
Saint Lucia
Saint Vincent and the Grenadines
Suriname
Trinidad and Tobago
United States Virgin Islands
Uruguay
Venezuela (Bolivarian Republic of)

North America
Canada
United States

Arab States

Bahrain
Iraq
Jordan
Kuwait
Lebanon
Occupied Palestinian Territory
Oman
Qatar
Saudi Arabia
Syrian Arab Republic
United Arab Emirates
Yemen

Asia and the Pacific

East Asia
China
Democratic People's Republic of Korea
Hong Kong, China
Japan
Macau, China
Mongolia
Republic of Korea
Taiwan, China

South-East Asia
Brunei Darussalam
Cambodia
Indonesia
Lao People's Democratic Republic
Malaysia
Myanmar
Philippines
Singapore
Thailand
Timor-Leste
Viet Nam

The Pacific
Australia
Fiji
French Polynesia
Guam
New Caledonia
New Zealand
Papua New Guinea
Samoa
Solomon Islands
Tonga
Vanuatu

South Asia
Afghanistan
Bangladesh
Bhutan
India
Iran (Islamic Republic of)
Maldives
Nepal
Pakistan
Sri Lanka

Europe and Central Asia

Northern, Southern and Western Europe
Albania
Austria
Belgium
Bosnia and Herzegovina
Channel Islands
Croatia
Denmark
Estonia
Finland
France
Germany
Greece
Iceland
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Montenegro
Netherlands
North Macedonia
Norway
Portugal
Serbia
Slovenia
Spain
Sweden
Switzerland
United Kingdom

Eastern Europe
Belarus
Bulgaria
Czechia
Hungary
Poland
Republic of Moldova
Romania
Russian Federation
Slovakia
Ukraine

Central and Western Asia
Armenia
Azerbaijan
Cyprus
Georgia
Israel
Kazakhstan
Kyrgyzstan
Tajikistan
Türkiye
Turkmenistan
Uzbekistan

High-income countries	Upper-middle-income countries	Lower-middle-income countries	Low-income countries
Australia	Albania	Angola	Afghanistan
Austria	Algeria	Bangladesh	Burkina Faso
Bahamas	Argentina	Benin	Burundi
Bahrain	Armenia	Bhutan	Central African Republic
Barbados	Azerbaijan	Bolivia (Plurinational State of)	Chad
Belgium	Belarus	Cabo Verde	Democratic People's Republic of Korea
Brunei Darussalam	Belize	Cambodia	Democratic Republic of the Congo
Canada	Bosnia and Herzegovina	Cameroon	Eritrea
Channel Islands	Botswana	Comoros	Ethiopia
Chile	Brazil	Congo	Gambia
Croatia	Bulgaria	Côte d'Ivoire	Guinea
Cyprus	China	Djibouti	Guinea-Bissau
Czechia	Colombia	Egypt	Liberia
Denmark	Costa Rica	El Salvador	Madagascar
Estonia	Cuba	Eswatini	Malawi
Finland	Dominican Republic	Ghana	Mali
France	Ecuador	Haiti	Mozambique
French Polynesia	Equatorial Guinea	Honduras	Niger
Germany	Fiji	India	Rwanda
Greece	Gabon	Indonesia	Sierra Leone
Guam	Georgia	Iran (Islamic Republic of)	Somalia
Hong Kong, China	Guatemala	Kenya	South Sudan
Hungary	Guyana	Kyrgyzstan	Sudan
Iceland	Iraq	Lao People's Democratic Republic	Syrian Arab Republic
Ireland	Jamaica	Lebanon	Togo
Israel	Jordan	Lesotho	Uganda
Italy	Kazakhstan	Mauritania	Yemen
Japan	Libya	Mongolia	Zambia
Kuwait	Malaysia	Morocco	
Latvia	Maldives	Myanmar	
Lithuania	Mauritius	Nepal	
Luxembourg	Mexico	Nicaragua	
Macau, China	Montenegro	Nigeria	
Malta	Namibia	Occupied Palestinian Territory	
Netherlands	North Macedonia	Pakistan	
New Caledonia	Paraguay	Papua New Guinea	
New Zealand	Peru	Philippines	
Norway	Republic of Moldova	Samoa	
Oman	Russian Federation	Sao Tome and Principe	
Panama	Saint Lucia	Senegal	
Poland	Saint Vincent and the Grenadines	Solomon Islands	
Portugal	Serbia	Tajikistan	
Puerto Rico	South Africa	Timor-Leste	
Qatar	Sri Lanka	Tunisia	
Republic of Korea	Suriname	Ukraine	
Romania	Thailand	United Republic of Tanzania	
Saudi Arabia	Tonga	Uzbekistan	
Singapore	Türkiye	Vanuatu	
Slovakia	Turkmenistan	Viet Nam	
Slovenia	Venezuela (Bolivarian Republic of)	Western Sahara	
Spain		Zimbabwe	
Sweden			
Switzerland			
Taiwan, China			
Trinidad and Tobago			
United Arab Emirates			
United Kingdom			
United States			
United States Virgin Islands			
Uruguay			

▶ Appendix B. ILO modelled estimates

The source of all the global and regional labour market estimates presented in this *World Employment and Social Outlook* report is the ILO modelled estimates as of November 2022. The ILO has designed and actively maintains a series of econometric models that are used to produce estimates of labour market indicators in the countries and years for which country-reported data are unavailable. The purpose of estimating labour market indicators for countries with missing data is to obtain a balanced panel data set so that, every year, regional and global aggregates with consistent country coverage can be computed. These allow the ILO to analyse global and regional estimates of key labour market indicators and related trends. Moreover, the resulting country-level data, combining both reported and imputed observations, constitute a unique, internationally comparable data set on labour market indicators.

Data collection and evaluation

The ILO modelled estimates are generally derived for 189 countries and are disaggregated by sex and age as appropriate. Before running the models to obtain the estimates, labour market information specialists from the ILO Department of Statistics, in cooperation with the Research Department, evaluate existing country-reported data and select only those observations deemed sufficiently comparable across countries. The recent efforts by the ILO to produce harmonized indicators from country-reported microdata have greatly increased the comparability of the observations. Nonetheless, it is still necessary to select the data on the basis of the following four criteria: (a) type of data source; (b) geographical coverage; (c) age group coverage; and (d) presence of methodological breaks or outliers.

With regard to the first criterion, in order for labour market data to be included in a particular model, they must be derived from a labour force survey, a household survey or, more rarely, a population census. National labour force surveys are generally similar across countries and present the highest data quality. Hence, the data derived from such surveys are more readily comparable than data obtained from other sources. Strict preference is therefore given to labour-force-survey-based data in the selection process. However, many developing countries, which lack the resources to carry out a labour force survey, do report labour market information on the basis of other types of household survey or population census. Consequently, because of the need to balance the competing goals of data comparability and data coverage, some (non-labour-force-survey) household survey data and, more rarely, population-census-based data are included in the models.

The second criterion is that only nationally representative (that is, not geographically limited) labour market indicators are included. Observations corresponding to only urban or only rural areas are not included, because large differences typically exist between rural and urban labour markets, and the use of only rural or only urban data would not be consistent with benchmark data such as GDP.

The third criterion is that the age groups covered by the observed data must be sufficiently comparable across countries. Countries report labour market information for a variety of age groups, and the age group selected can influence the observed value of a given labour market indicator.

The last criterion for excluding data from a given model is whether a methodological break is present or a particular data point is clearly an outlier. In both cases, a balance has to be struck between using as much data as possible and omitting observations likely to distort the results. During this process, particular attention is paid to the existing metadata and the underlying methodology for obtaining the data point under consideration.

Historical estimates can be revised in cases where previously used input data are discarded because a source has become available that is more accurate according to the above-mentioned criteria.

General methodology used to estimate labour market indicators

Labour market indicators are estimated using a series of models that establish statistical relationships between observed labour market indicators and explanatory variables. These relationships are used to impute missing observations and to make projections for the indicators.

There are many potential statistical relationships, also called "model specifications", that could be used to predict labour market indicators. The key to obtaining accurate and unbiased estimates is to select the best model specification in each case. The ILO modelled estimates generally rely on a procedure called "cross-validation", which is used to identify those models that minimize the expected error and variance of the estimation. This procedure involves repeatedly computing a number of candidate model specifications using random subsets of the data: the missing observations are predicted and the prediction error is calculated for each iteration. Each candidate model is assessed on the basis of the pseudo-out-of-sample root mean square error, although other metrics such as result stability are also assessed depending on the model. This makes it possible to identify the statistical relationship that provides the best estimate of a given labour market indicator. It is worth noting that the most appropriate statistical relationship for this purpose may differ according to the country.

The extraordinary disruptions of the global labour market caused by the COVID-19 crisis have rendered the series of models underlying the ILO modelled estimates less suitable for estimating and projecting the evolution of labour market indicators. For this reason, the methodology has been adapted, and explanatory variables that are specific to the COVID-19 crisis have been introduced into the modelling process.

The benchmark for the ILO modelled estimates is the 2022 Revision of the United Nations World Population Prospects, which provides estimates and projections of the total population broken down into five-year age groups. The working-age population comprises everyone who is at least 15 years of age.

Although the same basic approach is followed in the models used to estimate all the indicators, there are differences between the various models because of specific features of the underlying data. Further details are provided below for each model.

Models used to estimate labour market indicators

Labour force estimates

Methodological changes are introduced in the current version of the labour force participation rate (LFPR) model in order to produce more granular age breakdowns. The basic data used as input for the LFPR model are single-year LFPRs disaggregated by sex and age groups, the latter comprising four intervals (15–24, 25–54, 55–64 and 65+). Compared with earlier years when only two intervals were available (15–24 and 25+), the additional age groups significantly increase the amount of input data. Moreover, estimates for the 25+ age group can still be recovered with the new methodology. The underlying methodology has been extensively assessed in terms of pseudo-out-of-sample performance. However, for certain types of missing data patterns, the LFPR and the unemployment rate models are the only two models described in this appendix which do not carry out automatized model selection.

Linear interpolation is used to fill in the missing data for countries for which such a procedure is possible. This procedure produces accurate estimates of low variance, which is not surprising, given that the LFPR is a very persistent variable. In all other cases, weighted multivariate estimation is carried out. Countries are divided into nine estimation groups, chosen on the combined basis of broad economic similarity and geographical proximity. On the basis of the data structure and the heterogeneity among the countries covered by the input data, the model was specified using panel data with country fixed effects. The regressions are weighted by the inverse of the likelihood of a labour force survey's availability. The explanatory variables used include economic and demographic variables. To produce estimates for 2020, a cross-validation approach is used to select the model that minimizes prediction error in that specific year. The tested models include annual averages of high-frequency indicators related to the evolution of the COVID-19 pandemic. An additional module is used to produce estimates

for the recovery year 2021. In addition to the cross-validation procedure for model selection, macroeconomic and labour market indicators are utilized to estimate a smooth recovery while accounting for the pre-2020 trend. The global figures are calculated using the benchmark population from the United Nations World Population Prospects and the LFPRs.

Rebalancing the estimates ensures that the implied total rate obtained from summing the demographic breakdowns matches the total rate derived from the labour force surveys or estimated.

Unemployment estimates

This model estimates a complete panel data set of unemployment rates disaggregated by sex and age (15–24, 25+). For countries for which at least one observation is reported,[1] regressions involving country fixed effects are used. Three models are combined with equal weighting in order to impute missing values. The models have been chosen on the basis of pseudo-out-of-sample root mean square error and stability of results (the two components are weighted using expert judgement). For countries with no reported observations, models are selected on the basis of cross-validation. The evolution of the average unemployment rate of a particular demographic group in a particular region is highly predictive of the evolution of the unemployment rate of that particular group in a country in that region. A separate cross-validation approach is used to select the model that minimizes prediction error in the year 2020. The candidate models include annual averages of high-frequency indicators related to the evolution of the COVID-19 pandemic. An additional procedure is used to produce estimates for 2021 which also uses cross-validation procedure to select models. These models account for the historical trend and utilize macroeconomic indicators, including the dynamics of the unemployment rate in 2020. The procedure shows unemployment to have displayed a smooth recovery towards that historical trend in 2021.

Rebalancing the estimates ensures that the implied total rate obtained from summing the demographic breakdowns matches the total rate derived from the labour force surveys or estimated.

Jobs gap

The aim of the model is to provide aggregate estimates of the jobs gap rate by sex for the population aged 15 or older. The jobs gap rate is the target variable estimated for countries with missing data and is computed as follows:

$$\textit{Jobs gap rate} = \frac{(\textit{Unemployed} + \textit{Potential labour force} + \textit{Willing non-jobseekers})}{(\textit{Labour force} + \textit{Potential labour force} + \textit{Willing non-jobseekers})}$$

where the potential labour force and willing non-jobseekers include persons who were seeking employment and were not available but would become available in a short time (unavailable jobseekers), persons who were not seeking work but were currently available (available potential jobseekers) and persons who were not seeking work and were not available but were willing to work (willing non-jobseekers).

The imputations for missing data are produced through four separate econometric models. First, a model produces estimates from 2004 to 2019 for countries with at least one yearly data point for the jobs gap rate by sex. Second, a model produces estimates from 2004 to 2019 for those countries with no data on the jobs gap rate during the entire period. The third and fourth models produce estimates for, respectively, the 2020 crisis year and the recovery period of 2021–22.

The four distinct models were chosen from an array of candidate models on the basis of cross-validation, which selects the models with the highest accuracy in predicting the jobs gap rates in pseudo-out-of-sample simulations. The predictions from the models are used to estimate the missing observations of the jobs gap rate by sex. Interpolation procedures are applied to the predictions to ensure that the model estimate coincides with the real observations and that imputed data are consistent with real observations that are close in time. Since the models estimate the jobs gap rates for the total population and for women and men separately, the aggregated estimates for women and men may be incompatible with the total-population estimates. The subcomponents for women and men are adjusted proportionally to match the total-population estimates.

1 For ease of exposition, we abstract here from the case in which observations are reported for some demographic groups but not for others in a given country and year.

Informal employment

The target variable of the model is the informality rate disaggregated by sex for the population aged 15 and older. The informality estimates include both nationally reported observations and imputed data for countries with missing data. The gender-specific country-level data used for the models include self-employment and part-time employment rates. The country-level data include the percentage of people below various poverty lines, the share of employment in agriculture and industry, the urbanization rate, the logarithm of GDP per capita, and categorical variables for geographical regions and levels of economic development.

The imputations for missing data are produced through five separate econometric models. First, a model produces estimates from 2004 to 2019 for countries with at least one yearly data point for the share of informal employment by sex. Second, a model produces estimates from 2004 to 2019 for those countries with no data on the share of informality during the entire period. The third and fourth models are used to produce estimates for, respectively, the 2020 crisis year and the recovery period of 2021. The final model estimates the projections for 2022. The five distinct models were chosen from an array of candidate models based on cross-validation, which selects the models with the highest accuracy in predicting informality rates in pseudo-out-of-sample simulations. The predictions from the models are used to estimate the missing observations of the share of informal employment by sex. Since the models estimate the informal rates for the total population and for women and men separately, the aggregated estimates for women and men may be incompatible with the total-population estimates. The subcomponents for women and men are adjusted proportionally to match the total-population estimates.

Youth not in employment, education or training

The target variable of the model is the share of youth, the population aged 15 to 24, not in education, employment or training (NEET):

$$\textit{NEET share} = \frac{\textit{Youth not in education, employment or training}}{\textit{Youth population}}$$

It is worth noting that, by definition, 1 minus the NEET share gives the share of young people who are either in employment or enrolled in some educational or training programme. The NEET share is included as one of the indicators used to measure progress towards the achievement of the SDGs – specifically Goal 8 ("Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all").

The model uses the principles of cross-validation and uncertainty estimation to select the regression models with the best pseudo-out-of-sample performance, not unlike the unemployment rate model. The NEET model estimates all demographic groups jointly, using the appropriate categorical variable as a control in the regression, because the groups are interdependent and data availability is roughly uniform across breakdowns. The model incorporates the information on unemployment, labour force and enrolment rates into the regressions (using it alongside other variables to reflect economic and demographic factors). The resulting estimates include the NEET share and the number of youth NEET.

Hours worked

The ratio of weekly hours worked to the population aged 15–64 is the target variable that is estimated for countries with missing data. Total weekly working hours are derived by multiplying this ratio by the estimate of the population aged 15–64.

For estimates up to and including 2019, the regression approach uses the share of the population aged 15–64 in the total population, the employment-to-population ratio (EPR) and the rate of time-related underemployment to predict missing values. For countries with no observations of this indicator, the country intercept is estimated by combining the regional mean and the income group mean.

Working hours up to and including the third quarter of 2022 are estimated using the ILO nowcasting model. This is a data-driven statistical prediction model that draws on the values of high-frequency indicators in real time or with a very short publication lag in order to predict the current value of the target variable. The specific target variable of the ILO nowcasting model is the change in hours worked adjusted for population aged 15–64 relative to the fourth quarter of 2019 (seasonally adjusted). For an in-depth methodological description please

consult Gomis et al. (2022). The model produces an estimate of the change in hours worked adjusted for population aged 15–64 relative to this baseline. In addition, a benchmark of weekly hours worked in the fourth quarter of 2019 is used to compute the full-time equivalent jobs represented by the changes in working hours adjusted for population aged 15–64. This benchmark is also used to compute the time series of average hours worked adjusted for population aged 15–64.

The ILO nowcasting model draws from multiple sources: labour force survey data up to the third quarter of 2022 and up-to-date high-frequency economic data such as retail sales, administrative labour market data and confidence survey data. Up-to-date mobile phone data from Google Community Mobility Reports and the most recent values of the COVID-19 Government Response Stringency Index (hereafter "Oxford Stringency Index") are also used in the estimates.

Drawing on available real-time data, the model estimates the historical statistical relationship between these indicators and hours worked per person aged 15–64 and uses the resulting coefficients to predict how hours worked adjusted for population aged 15–64 change in response to the most recent observed values of the nowcasting indicators. Multiple candidate relationships were evaluated on the basis of their prediction accuracy and performance around turning points to construct a weighted average nowcast. For countries for which high-frequency data on economic activity were available, but either data on the target variable were not available or the above methodology did not work well, the estimated coefficients and data from the panel of countries were used to produce an estimate.

An indirect approach is applied for the remaining countries: this involves extrapolating the observed or estimated (using the direct nowcast) change in hours adjusted for population aged 15–64. The extrapolation is based on the observed decline in mobility, derived from the Google Community Mobility Reports and the Oxford Stringency Index, since countries with comparable drops in mobility and similarly stringent restrictions are likely to have experienced a similar decline in hours worked adjusted for population aged 15–64. From the Google Community Mobility Reports, an average of the workplace and "retail and recreation" indices is used. The stringency and mobility indices are combined into a single variable using principal component analysis.[2] For countries without data on restrictions, mobility data (if available) and up-to-date data on the incidence of COVID-19 were used to extrapolate the impact on hours worked adjusted for population aged 15–64. Because of countries' different practices in counting cases of COVID-19 infection, the more homogeneous concept of deceased patients is used as a proxy for the local intensity of the pandemic. The variable was averaged for each month, but the data were updated daily on the basis of the Our World in Data online repository.[3] Finally, for a small number of countries with no data readily available at the time of estimation the regional average was used to impute the target variable. For 2022 the model was modified to include GDP growth estimates and regional trends data and to take into account time series properties of hours worked.

With the ILO nowcasting model estimates completed, the ratio of weekly hours worked relative to the fourth quarter of 2019 is estimated for men and women separately. These estimates for female and male changes in hours worked adjusted by the corresponding population aged 15–64 relative to the fourth quarter of 2019 (seasonally adjusted) are produced using the ILO nowcasting-by-gender model. The change in hours worked for country *i*, sex *s* and quarter *t* is computed as follows:

$$\textit{Change in hours worked relative to Q4 2019}_{(i,s,t)} = \left(\frac{\dfrac{\textit{Hours worked}_{(i,s,t)}}{\textit{Population aged 15–64}_{(i,s,t)}}}{\dfrac{\textit{Hours worked}_{(i,s,Q4\ 2019)}}{\textit{Population aged 15–64}_{(i,s,Q4\ 2019)}}} \right)$$

The data used in the model include estimates of the country's sex-aggregated ratio of weekly hours worked (see the ILO nowcasting model above), country demographic and economic characteristics and a regional dummy variable. The gender decomposition model is composed of four separate models. First, a model produces estimates from the first quarter of 2020 to the fourth quarter of 2021 for countries with data on hours worked for at least one quarter. Second, a model produces

2 During 2021 and 2022, a dummy variable for developed countries was also used to account for differential impacts of workplace mobility and stringency on working hours, as well as a detrending procedure for Google Mobility Reports data.

3 https://ourworldindata.org/coronavirus.

estimates from the first quarter of 2020 to the fourth quarter of 2021 for countries with no hours worked data during that period. Third, a model produces estimates for the first quarter of 2022. Finally, a model produces the projections for the second and third quarters of 2022.[4] These models that make up the nowcast by gender were chosen from an array of models on the basis of their accuracy in predicting changes in female and male hours worked. Next, the predictions from the selected models are used to estimate the missing observations of hours worked.[5] Given that the models estimate the change in hours worked for women and men separately, the aggregated estimates for women and men may be incompatible with the total-population estimates of the nowcasting model. To produce compatible estimates, the subcomponents for women and men are adjusted proportionally to match the total loss in worked hours adjusted for population aged 15–64 estimated by the nowcasting model.

For analytical purposes, an estimate of the gender gap in hours worked can be estimated using the change in weekly hours worked relative to the fourth quarter of 2019 by sex disaggregation. A change in the gender gap can be computed as the change in working hours of men minus the change in working hours of women at the country level. Finally, to obtain a weighted global aggregate, countries' changes in the gender gap relative to the fourth quarter of 2019 are aggregated, the weights being given by each country's female total hours worked in the relevant quarter. Thus, the global aggregate estimate for the gender gap can be computed as follows:

$$\textit{Global change in the gender gap in hours worked relative to Q4 2019}_t = \sum_{i=1}^{i=189} \left(\begin{array}{l} (\textit{Male change in hours worked relative to Q4 2019}_{(i,t)} \\ \quad - \textit{Female change in hours worked relative to Q4 2019}_{(i,t)}) \\ \quad \times \dfrac{\textit{Female hours worked}_{(i,t)}}{\sum_{i=1}^{i=189} \textit{Female hours worked}_{(i,t)}} \end{array} \right)$$

This weighting scheme avoids compositional effects that arise from the size of each country's initial gender gap.

Estimates of the distribution of employment by status, occupation and economic activity

The distribution of employment by status, occupation and economic activity (sector) is estimated for total employment and also disaggregated by sex. In the first step, a cross-country regression is performed to identify the share of each of the employment-related categories in countries for which no data are available. This step uses information on demography, per capita income, economic structure and a model-specific indicator with high predictive power for the estimated distribution. The indicators for each category are as follows:

- for status, the index called "work for an employer" from the Gallup World Poll;
- for occupation, the share of value added of a sector in which people with a given occupation are most likely to work;
- for sector, the share of value added of the sector.

The next step estimates the evolution of the shares of each category, using information on the economic cycle and also on economic structure and demographics. The third step estimates the change in the shares of each category in the years 2020 and 2021. Lastly, the estimates are rebalanced to ensure that the individual shares add up to 100 per cent.

The estimated sectors are based on an ILO-specific classification that ensures maximum consistency between the third and fourth revisions of the United Nations International Standard Industrial Classification of All Economic Activities (ISIC). The sectors A, B, C, F, G, I, K, O, P and Q correspond to the ISIC Rev. 4 classification. Furthermore, the following composite sectors are defined:

- "Utilities" is composed of sectors D and E.
- "Transport, storage and communication" is composed of sectors H and J.
- "Real estate, business and administrative activities" is composed of sectors L, M and N.
- "Other services" is composed of sectors R, S, T and U.

4 The different periods were selected because of the differing availability of reported observations of hours worked.

5 The sex-disaggregated estimates of hours worked in India were obtained using urban employment levels as a proxy for hours worked, since recent data were available from the Periodic Labour Force Survey.

The estimated occupations correspond in principle to the major categories of the 1988 and 2008 iterations of the ILO International Standard Classification of Occupations (ISCO-88 and ISCO-08). However, subsistence farming occupations were classified inconsistently across countries, and sometimes even within one country across years. According to ISCO-08, subsistence farmers should be classified in ISCO category 6, namely as skilled agricultural workers. However, a number of countries with a high incidence of subsistence farming reported a low share of workers in category 6, but a high share in category 9 (elementary occupations). This means that the shares of occupational categories 6 and 9 can differ widely between countries that have a very similar economic structure. It is not feasible to determine the extent of misclassification between categories 6 and 9. Consequently, in order to obtain a consistent and internationally comparable classification, categories 6 and 9 are merged and estimated jointly.

Estimates of employment by economic class

The estimates of employment by economic class are produced for a subset of countries. The model uses the data derived from the unemployment, status and economic activity models as inputs in addition to other demographic, social and economic variables.

The methodology involves two steps. In the first step, the various economic classes of workers are estimated using the economic classes of the working plus non-working population (among other explanatory variables). This procedure is based on the fact that the distribution of economic class in the overall population and the distribution in the working population are closely related. The economic class of the overall population is derived from the World Bank's PovcalNet database.[6] In general, economic class is defined in terms of consumption, but in particular cases for which no other data exist income data are used instead.

Once the estimates from this first step have been obtained, a second step estimates data for those observations for which neither data on the economic class of the working population nor estimates from step 1 are available. This second step relies on cross-validation and subsequent selection of the best-performing model to ensure a satisfactory performance.

In the present edition of the model, employment is subdivided into five different economic classes: workers living on US$0–1.90 per day, US$1.90–3.20 per day, US$3.20–5.50 per day and above US$5.50 per day, in PPP terms.

Models used to project labour market indicators

The ILO has developed projection models to estimate and forecast hours worked, employment, unemployment and the labour force for the years 2022 to 2024. In a first step, projections are made at quarterly frequency up to the fourth quarter of 2023 for around 50 countries where labour market indicators are available at quarterly frequency for at least part of 2022. In a second step, annual projections are made up to 2024 for all countries – taking as given the annual averages of the projections from the first step for those countries where these are available. Projections based on the first step have the advantage of taking into account the latest labour market information and latest high-frequency data, which greatly enhances the accuracy of estimates of labour market indicators for the year 2022 and also improves the short-term forecasting performance.

Step 1. Projections at quarterly frequency

The quarterly projections for the unemployment rate, the EPR, the LFPR and the ratio of hours worked to population aged 15–64 use high-frequency data such as confidence indices in addition to economic growth forecasts in order to test a series of models. The approach is very much in line with the direct nowcasting approach used to estimate hours worked (Gomis et al. 2022). These models are evaluated using the model search routines described above, including splitting the data into training and evaluation samples. Models are combined using a "jackknife model-averaging"

6 The 2020–22 poverty data are from the World Bank Poverty and Inequality Platform (PIP): https://pip.worldbank.org/home. See Mahler (2022).

technique described by Hansen and Racine (2012), which essentially finds the linear combination of models that minimizes the variance of the prediction error. The hours worked per person aged 15–64 are only projected for the fourth quarter of 2022 (nowcasts exist until the third quarter), and all other indicators are projected up to the fourth quarter of 2023 – including the breakdowns by sex and age.

The ratios of employment and labour force to the population have been strongly affected by the COVID-19 crisis. The projection model is based on the assumption that these ratios will have a tendency to return to their long-term trend. Basically, people will come back into the labour market and try to find employment. In technical terms, the projection is based on an error correction model, the correction parameter being estimated using an econometric specification that includes the gap between the actual historical series and the long-term trend.[7]

Step 2. Projections at annual frequency

The annual projection pools countries and utilizes vector error correction models. Five different indicators are projected: the EPR, the LFPR, the unemployment rate, the ratio of weekly hours worked to population aged 15–64, and the weekly hours worked per person employed. This estimation strategy over-identifies the target variables: hours worked are projected twice, and the labour force can also be computed as the sum of unemployment plus employment. The redundancies are averaged and reduce the reliance on a single specification.

Three different approaches are used to derive projections, which are then combined into a weighted average. In all three approaches the forecast variable of interest is the annual change in the above-mentioned indicators. The first approach contains elements of error correction, while the second and third approaches don't. The first and second approach pool countries globally, while the third approach pools countries according to similarity.

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7 The long-term trend is estimated using a Hodrick–Prescott filter with a smoothing parameter of 3,200, which is larger than the parameter of 1,600 usually used in filtering time series at quarterly frequency and hence results in less variability in the trend.

▶ Appendix C. Tables of labour market indicators, world, by country income group and by region or subregion

Table C1. World

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	2751.7	3159.0	3465.0	3411.5	3499.9	3564.7	3601.7	3640.5
	Women	Millions	1093.5	1251.5	1376.0	1346.7	1388.0	1416.8	1430.6	1444.4
	Men	Millions	1658.2	1907.6	2089.0	2064.8	2111.9	2147.8	2171.1	2196.1
	Youth	Millions	558.8	557.7	493.7	472.7	484.8	493.8	497.5	501.5
Labour force participation rate	Total	Per cent	64.2	62.0	60.2	58.6	59.4	59.8	59.7	59.6
	Women	Per cent	50.7	49.0	47.7	46.1	47.0	47.4	47.3	47.1
	Men	Per cent	77.8	75.2	72.8	71.1	71.9	72.3	72.2	72.1
	Youth	Per cent	51.3	45.6	40.7	38.8	39.6	40.1	40.0	40.0
Employment	Total	Millions	2584.6	2958.6	3273.1	3176.3	3283.5	3359.4	3393.4	3429.5
	Women	Millions	1025.6	1171.6	1298.8	1256.4	1301.5	1334.9	1347.1	1359.7
	Men	Millions	1559.0	1787.0	1974.3	1919.9	1982.0	2024.5	2046.3	2069.8
	Youth	Millions	491.9	484.1	426.1	395.0	413.5	424.8	427.3	430.4
Employment-to-population ratio	Total	Per cent	60.3	58.1	56.9	54.5	55.7	56.4	56.3	56.1
	Women	Per cent	47.6	45.8	45.0	43.0	44.0	44.7	44.5	44.4
	Men	Per cent	73.1	70.5	68.8	66.1	67.5	68.2	68.1	68.0
	Youth	Per cent	45.2	39.6	35.2	32.5	33.8	34.5	34.4	34.3
Unemployment	Total	Millions	167.1	200.4	191.9	235.2	216.4	205.2	208.2	210.9
	Women	Millions	67.9	79.9	77.3	90.3	86.5	81.9	83.5	84.7
	Men	Millions	99.2	120.6	114.7	144.9	129.9	123.3	124.7	126.3
	Youth	Millions	66.9	73.6	67.6	77.8	71.4	69.0	70.1	71.1
Unemployment rate	Total	Per cent	6.1	6.3	5.5	6.9	6.2	5.8	5.8	5.8
	Women	Per cent	6.2	6.4	5.6	6.7	6.2	5.8	5.8	5.9
	Men	Per cent	6.0	6.3	5.5	7.0	6.1	5.7	5.7	5.7
	Youth	Per cent	12.0	13.2	13.7	16.4	14.7	14.0	14.1	14.2
Jobs gap	Total	Millions		442.5	439.5	521.1	483.8	472.8		
	Women	Millions		219.9	219.6	250.2	238.5	234.8		
	Men	Millions		222.5	219.9	270.9	245.3	238.1		
Jobs gap rate	Total	Per cent		13.0	11.8	14.1	12.8	12.3		
	Women	Per cent		15.8	14.5	16.6	15.5	15.0		
	Men	Per cent		11.1	10.0	12.4	11.0	10.5		
Weekly hours worked per employee	Total	Hours		43.2	42.1	40.0	41.1	41.4	41.3	41.3

Table C1. World (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		274.4	277.0	303.1	290.7	289.3		
	Women	Millions		189.7	185.1	193.2	191.0	191.4		
	Men	Millions		84.7	92.0	109.9	99.7	97.9		
Youth NEET rate	Total	Per cent		22.5	22.9	24.9	23.8	23.5		
	Women	Per cent		31.9	31.6	32.8	32.2	32.1		
	Men	Per cent		13.5	14.7	17.5	15.8	15.4		
Informal employment	Total	Millions		1 783.0	1 905.0	1 844.0	1 921.6	1 961.0		
	Women	Millions		676.6	716.5	681.5	717.9	734.6		
	Men	Millions		1 106.4	1 188.5	1 162.5	1 203.7	1 226.4		
Informality rate	Total	Per cent		60.3	58.2	58.1	58.5	58.4		
	Women	Per cent		57.8	55.2	54.2	55.2	55.0		
	Men	Per cent		61.9	60.2	60.5	60.7	60.6		
Wage and salaried workers	Total	Millions	1 146.3	1 429.4	1 754.3	1 695.4	1 755.2			
Self-employed workers	Total	Millions	1 438.3	1 529.2	1 518.8	1 481.0	1 528.2			
Share of wage and salaried workers	Total	Per cent	44.4	48.3	53.6	53.4	53.5			
Share of self-employed workers	Total	Per cent	55.6	51.7	46.4	46.6	46.5			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	666.9	405.9	218.8	228.3	220.6	214.3		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	25.8	13.7	6.7	7.2	6.7	6.4		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C2. Low-income countries

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	150.5	199.1	255.1	260.1	269.5	279.3	288.5	297.9
	Women	Millions	66.4	86.0	110.9	112.7	117.1	120.4	124.3	128.3
	Men	Millions	84.1	113.0	144.2	147.3	152.4	158.9	164.1	169.6
	Youth	Millions	42.3	55.0	66.1	67.0	68.9	71.3	73.4	75.4
Labour force participation rate	Total	Per cent	68.8	66.7	65.4	64.5	64.8	65.1	65.1	65.1
	Women	Per cent	59.4	56.8	56.2	55.2	55.6	55.4	55.4	55.4
	Men	Per cent	78.6	77.0	74.9	74.1	74.2	75.0	75.0	75.0
	Youth	Per cent	54.7	51.6	48.4	47.7	47.6	47.9	47.9	47.8
Employment	Total	Millions	142.8	189.1	242.0	244.7	253.8	263.3	272.0	281.0
	Women	Millions	63.0	81.5	105.0	105.8	109.9	113.2	116.8	120.6
	Men	Millions	79.7	107.6	137.0	138.9	143.9	150.1	155.1	160.4
	Youth	Millions	38.7	50.5	60.5	60.5	62.5	64.7	66.6	68.5
Employment-to-population ratio	Total	Per cent	65.3	63.4	62.0	60.7	61.0	61.3	61.4	61.4
	Women	Per cent	56.4	53.8	53.1	51.8	52.2	52.1	52.1	52.1
	Men	Per cent	74.5	73.3	71.2	69.8	70.1	70.8	70.9	71.0
	Youth	Per cent	50.1	47.4	44.3	43.0	43.2	43.4	43.4	43.4
Unemployment	Total	Millions	7.7	10.0	13.1	15.4	15.7	16.1	16.5	16.9
	Women	Millions	3.4	4.5	6.0	6.9	7.2	7.3	7.5	7.7
	Men	Millions	4.4	5.4	7.2	8.4	8.6	8.8	9.0	9.2
	Youth	Millions	3.6	4.4	5.6	6.5	6.4	6.6	6.8	6.9
Unemployment rate	Total	Per cent	5.1	5.0	5.2	5.9	5.8	5.8	5.7	5.7
	Women	Per cent	5.1	5.3	5.4	6.1	6.1	6.0	6.0	6.0
	Men	Per cent	5.2	4.8	5.0	5.7	5.6	5.5	5.5	5.4
	Youth	Per cent	8.4	8.1	8.5	9.7	9.3	9.3	9.3	9.2
Jobs gap	Total	Millions		44.1	59.4	64.4	65.7	67.5		
	Women	Millions		24.9	33.2	35.9	36.8	37.6		
	Men	Millions		19.2	26.2	28.5	28.9	29.9		
Jobs gap rate	Total	Per cent		18.9	19.7	20.8	20.6	20.4		
	Women	Per cent		23.4	24.0	25.3	25.1	24.9		
	Men	Per cent		15.1	16.0	17.0	16.7	16.6		
Weekly hours worked per employee	Total	Hours		35.4	35.6	34.2	34.5	35.2	35.2	35.4

Table C2. Low-income countries (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		24.7	36.4	39.7	39.6	41.2		
	Women	Millions		16.6	23.7	25.2	25.7	27.1		
	Men	Millions		8.2	12.7	14.5	13.8	14.1		
Youth NEET rate	Total	Per cent		23.2	26.7	28.2	27.4	27.7		
	Women	Per cent		31.3	35.0	36.1	35.9	36.7		
	Men	Per cent		15.2	18.5	20.5	19.0	18.8		
Informal employment	Total	Millions		169.1	215.2	218.7	226.3	234.5		
	Women	Millions		75.9	96.6	96.3	100.8	103.7		
	Men	Millions		93.2	118.6	122.3	125.5	130.9		
Informality rate	Total	Per cent		89.4	88.9	89.4	89.2	89.1		
	Women	Per cent		93.1	92.0	91.1	91.7	91.6		
	Men	Per cent		86.6	86.5	88.1	87.2	87.2		
Wage and salaried workers	Total	Millions	22.4	34.0	48.6	49.1	51.8			
Self-employed workers	Total	Millions	120.3	155.1	193.4	195.6	202.0			
Share of wage and salaried workers	Total	Per cent	15.7	18.0	20.1	20.1	20.4			
Share of self-employed workers	Total	Per cent	84.3	82.0	79.9	79.9	79.6			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	81.3	86.2	92.7	95.0	97.7	101.6		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	56.9	45.6	38.3	38.8	38.5	38.6		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C3. Lower-middle-income countries

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	929.1	1127.7	1274.8	1267.9	1296.2	1331.4	1355.4	1380.8
	Women	Millions	298.8	366.9	411.2	405.5	416.3	431.2	439.9	448.6
	Men	Millions	630.3	760.8	863.6	862.4	879.8	900.2	915.5	932.2
	Youth	Millions	220.1	225.3	206.9	200.4	204.5	209.4	211.9	214.2
Labour force participation rate	Total	Per cent	59.1	57.5	55.0	53.7	54.1	54.8	54.9	54.9
	Women	Per cent	38.4	37.8	35.7	34.6	35.0	35.7	35.9	35.9
	Men	Per cent	79.3	77.0	74.0	72.6	72.9	73.6	73.7	73.7
	Youth	Per cent	45.2	40.2	34.6	33.3	33.6	34.2	34.4	34.4
Employment	Total	Millions	867.8	1056.7	1204.7	1174.1	1213.4	1249.4	1272.0	1295.5
	Women	Millions	278.6	342.8	388.3	377.8	390.1	404.5	412.6	420.6
	Men	Millions	589.2	713.8	816.4	796.3	823.3	844.8	859.4	875.0
	Youth	Millions	191.6	193.8	175.0	162.3	171.2	176.1	177.9	179.5
Employment-to-population ratio	Total	Per cent	55.2	53.9	52.0	49.8	50.6	51.4	51.5	51.6
	Women	Per cent	35.8	35.3	33.7	32.3	32.8	33.5	33.6	33.7
	Men	Per cent	74.2	72.3	69.9	67.1	68.2	69.0	69.2	69.2
	Youth	Per cent	39.3	34.6	29.3	26.9	28.2	28.8	28.9	28.8
Unemployment	Total	Millions	61.3	71.0	70.1	93.8	82.8	82.0	83.3	85.3
	Women	Millions	20.2	24.0	22.9	27.7	26.2	26.7	27.3	28.0
	Men	Millions	41.1	47.0	47.2	66.1	56.5	55.4	56.1	57.3
	Youth	Millions	28.5	31.5	31.8	38.1	33.3	33.4	33.9	34.7
Unemployment rate	Total	Per cent	6.6	6.3	5.5	7.4	6.4	6.2	6.1	6.2
	Women	Per cent	6.8	6.5	5.6	6.8	6.3	6.2	6.2	6.2
	Men	Per cent	6.5	6.2	5.5	7.7	6.4	6.2	6.1	6.1
	Youth	Per cent	13.0	14.0	15.4	19.0	16.3	15.9	16.0	16.2
Jobs gap	Total	Millions		167.9	168.5	209.2	189.4	189.4		
	Women	Millions		77.4	76.8	87.1	83.1	84.9		
	Men	Millions		90.5	91.7	122.0	106.2	104.5		
Jobs gap rate	Total	Per cent		13.7	12.3	15.1	13.5	13.2		
	Women	Per cent		18.4	16.5	18.7	17.6	17.3		
	Men	Per cent		11.3	10.1	13.3	11.4	11.0		
Weekly hours worked per employee	Total	Hours		45.0	43.9	40.6	42.1	43.0	42.9	43.0

Table C3. Lower-middle-income countries (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		151.2	163.6	176.9	171.4	171.1		
	Women	Millions		114.0	115.9	119.3	119.1	119.5		
	Men	Millions		37.1	47.7	57.6	52.4	51.5		
Youth NEET rate	Total	Per cent		27.0	27.4	29.4	28.2	28.0		
	Women	Per cent		41.8	40.0	40.8	40.4	40.3		
	Men	Per cent		12.9	15.5	18.6	16.7	16.3		
Informal employment	Total	Millions		874.0	982.0	957.6	992.8	1 020.2		
	Women	Millions		288.2	315.7	302.8	316.8	328.4		
	Men	Millions		585.7	666.4	654.7	676.1	691.8		
Informality rate	Total	Per cent		82.7	81.5	81.6	81.8	81.7		
	Women	Per cent		84.1	81.3	80.2	81.2	81.2		
	Men	Per cent		82.1	81.6	82.2	82.1	81.9		
Wage and salaried workers	Total	Millions	233.5	320.1	447.2	432.6	449.5			
Self-employed workers	Total	Millions	634.3	736.6	757.5	741.5	763.9			
Share of wage and salaried workers	Total	Per cent	26.9	30.3	37.1	36.8	37.0			
Share of self-employed workers	Total	Per cent	73.1	69.7	62.9	63.2	63.0			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	308.1	213.1	115.6	122.5	112.6	102.2		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	35.5	20.2	9.6	10.4	9.3	8.2		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C4. Upper-middle-income countries

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	1134.2	1244.8	1303.3	1258.2	1305.2	1315.2	1315.5	1319.6
	Women	Millions	496.9	540.5	573.2	550.3	573.9	579.1	578.9	580.3
	Men	Millions	637.3	704.3	730.1	707.9	731.3	736.1	736.6	739.4
	Youth	Millions	221.8	209.4	155.2	142.4	147.8	148.4	147.3	147.5
Labour force participation rate	Total	Per cent	70.6	67.0	64.9	62.2	64.1	64.2	63.7	63.5
	Women	Per cent	61.3	57.7	56.6	54.0	55.9	56.0	55.6	55.3
	Men	Per cent	80.0	76.4	73.3	70.6	72.5	72.5	72.0	71.8
	Youth	Per cent	59.5	52.0	46.7	43.2	45.0	45.2	44.8	44.6
Employment	Total	Millions	1071.3	1173.5	1224.7	1172.9	1222.6	1236.8	1238.6	1242.6
	Women	Millions	469.1	510.1	538.9	513.8	537.2	544.8	545.0	546.3
	Men	Millions	602.2	663.5	685.8	659.1	685.3	692.0	693.5	696.3
	Youth	Millions	197.0	183.7	132.2	118.5	123.9	125.9	125.3	125.4
Employment-to-population ratio	Total	Per cent	66.7	63.2	61.0	58.0	60.1	60.4	60.0	59.8
	Women	Per cent	57.9	54.5	53.2	50.4	52.3	52.7	52.4	52.1
	Men	Per cent	75.6	72.0	68.8	65.7	67.9	68.1	67.8	67.6
	Youth	Per cent	52.9	45.6	39.8	35.9	37.8	38.4	38.1	38.0
Unemployment	Total	Millions	62.9	71.3	78.6	85.3	82.6	78.4	76.9	77.0
	Women	Millions	27.8	30.5	34.3	36.5	36.7	34.3	33.8	33.9
	Men	Millions	35.1	40.8	44.3	48.8	46.0	44.1	43.1	43.1
	Youth	Millions	24.7	25.6	23.0	23.9	23.8	22.4	22.1	22.0
Unemployment rate	Total	Per cent	5.5	5.7	6.0	6.8	6.3	6.0	5.8	5.8
	Women	Per cent	5.6	5.6	6.0	6.6	6.4	5.9	5.8	5.8
	Men	Per cent	5.5	5.8	6.1	6.9	6.3	6.0	5.9	5.8
	Youth	Per cent	11.2	12.3	14.8	16.8	16.1	15.1	15.0	14.9
Jobs gap	Total	Millions		153.0	155.0	175.4	165.3	160.1		
	Women	Millions		80.1	80.5	90.5	86.6	83.4		
	Men	Millions		72.9	74.4	85.0	78.8	76.6		
Jobs gap rate	Total	Per cent		11.5	11.2	13.0	11.9	11.5		
	Women	Per cent		13.6	13.0	15.0	13.9	13.3		
	Men	Per cent		9.9	9.8	11.4	10.3	10.0		
Weekly hours worked per employee	Total	Hours		45.1	44.0	42.7	43.8	43.5	43.5	43.5

Table C4. Upper-middle-income countries (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		78.1	61.8	68.3	63.4	62.1		
	Women	Millions		48.4	37.5	39.6	37.8	37.0		
	Men	Millions		29.7	24.3	28.7	25.6	25.1		
Youth NEET rate	Total	Per cent		19.4	18.6	20.7	19.3	19.0		
	Women	Per cent		24.9	23.6	25.2	24.2	23.7		
	Men	Per cent		14.3	14.0	16.6	14.9	14.6		
Informal employment	Total	Millions		650.1	611.2	576.8	608.3	610.5		
	Women	Millions		273.8	263.0	243.4	259.8	261.4		
	Men	Millions		376.3	348.2	333.4	348.5	349.2		
Informality rate	Total	Per cent		55.4	49.9	49.2	49.8	49.4		
	Women	Per cent		53.7	48.8	47.4	48.4	48.0		
	Men	Per cent		56.7	50.8	50.6	50.9	50.5		
Wage and salaried workers	Total	Millions	466.9	611.0	731.6	702.3	733.5			
Self-employed workers	Total	Millions	604.4	562.5	493.1	470.6	489.1			
Share of wage and salaried workers	Total	Per cent	43.6	52.1	59.7	59.9	60.0			
Share of self-employed workers	Total	Per cent	56.4	47.9	40.3	40.1	40.0			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	277.2	106.5	10.4	10.6	10.1	10.3		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	25.9	9.1	0.8	0.9	0.8	0.8		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C5. High-income countries

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	537.9	587.5	631.8	625.3	629.0	638.7	642.3	642.2
	Women	Millions	231.4	258.0	280.7	278.2	280.7	286.1	287.5	287.3
	Men	Millions	306.5	329.5	351.1	347.1	348.3	352.6	354.8	354.9
	Youth	Millions	74.7	68.1	65.5	62.9	63.7	64.8	64.9	64.5
Labour force participation rate	Total	Per cent	60.5	60.2	61.0	60.2	60.4	60.9	60.9	60.7
	Women	Per cent	50.9	52.0	53.7	53.0	53.3	54.0	53.9	53.7
	Men	Per cent	70.5	68.7	68.5	67.5	67.6	68.0	68.0	67.8
	Youth	Per cent	48.9	44.5	45.2	43.7	44.5	45.1	45.1	44.9
Employment	Total	Millions	502.7	539.3	601.7	584.6	593.7	609.9	610.9	610.4
	Women	Millions	214.9	237.2	266.5	259.0	264.3	272.4	272.6	272.2
	Men	Millions	287.9	302.1	335.2	325.6	329.5	337.5	338.3	338.2
	Youth	Millions	64.6	56.1	58.4	53.6	55.9	58.1	57.6	57.0
Employment-to-population ratio	Total	Per cent	56.5	55.3	58.1	56.3	57.0	58.2	57.9	57.7
	Women	Per cent	47.2	47.8	51.0	49.3	50.2	51.4	51.1	50.9
	Men	Per cent	66.3	63.0	65.4	63.3	63.9	65.1	64.8	64.6
	Youth	Per cent	42.4	36.7	40.2	37.2	39.1	40.5	40.0	39.7
Unemployment	Total	Millions	35.2	48.2	30.1	40.7	35.2	28.7	31.5	31.8
	Women	Millions	16.6	20.8	14.1	19.2	16.5	13.7	14.9	15.1
	Men	Millions	18.6	27.3	15.9	21.5	18.8	15.1	16.6	16.7
	Youth	Millions	10.1	12.0	7.2	9.3	7.8	6.6	7.4	7.5
Unemployment rate	Total	Per cent	6.5	8.2	4.8	6.5	5.6	4.5	4.9	5.0
	Women	Per cent	7.2	8.1	5.0	6.9	5.9	4.8	5.2	5.3
	Men	Per cent	6.1	8.3	4.5	6.2	5.4	4.3	4.7	4.7
	Youth	Per cent	13.5	17.6	10.9	14.7	12.2	10.3	11.4	11.6
Jobs gap	Total	Millions		77.4	56.6	72.1	63.4	55.8		
	Women	Millions		37.5	29.1	36.7	32.0	28.8		
	Men	Millions		40.0	27.6	35.4	31.4	27.0		
Jobs gap rate	Total	Per cent		12.6	8.6	11.0	9.6	8.4		
	Women	Per cent		13.6	9.8	12.4	10.8	9.6		
	Men	Per cent		11.7	7.6	9.8	8.7	7.4		
Weekly hours worked per employee	Total	Hours		38.1	37.2	35.5	36.4	36.6	36.2	36.3

Table C5. High-income countries (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		20.4	15.2	18.2	16.3	14.9		
	Women	Millions		10.7	7.9	9.1	8.3	7.7		
	Men	Millions		9.7	7.3	9.1	7.9	7.2		
Youth NEET rate	Total	Per cent		13.3	10.5	12.6	11.4	10.4		
	Women	Per cent		14.4	11.3	13.1	12.0	11.0		
	Men	Per cent		12.3	9.7	12.3	10.8	9.7		
Informal employment	Total	Millions		89.9	96.6	90.9	94.2	95.7		
	Women	Millions		38.7	41.3	38.9	40.5	41.1		
	Men	Millions		51.2	55.3	52.0	53.7	54.6		
Informality rate	Total	Per cent		16.7	16.1	15.5	15.9	15.7		
	Women	Per cent		16.3	15.5	15.0	15.3	15.1		
	Men	Per cent		17.0	16.5	16.0	16.3	16.2		
Wage and salaried workers	Total	Millions	423.5	464.3	526.8	511.3	520.5			
Self-employed workers	Total	Millions	79.3	75.0	74.8	73.3	73.2			
Share of wage and salaried workers	Total	Per cent	84.2	86.1	87.6	87.5	87.7			
Share of self-employed workers	Total	Per cent	15.8	13.9	12.4	12.5	12.3			

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C6. Africa

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	301.1	393.1	491.4	497.7	515.3	533.7	550.0	566.3
	Women	Millions	129.5	169.6	211.8	214.0	222.1	230.8	238.3	245.6
	Men	Millions	171.5	223.5	279.6	283.7	293.2	302.9	311.7	320.8
	Youth	Millions	78.8	95.2	106.0	107.0	110.6	115.1	118.7	122.3
Labour force participation rate	Total	Per cent	64.5	63.8	62.5	61.6	62.1	62.6	62.7	62.8
	Women	Per cent	54.5	54.3	53.3	52.4	52.9	53.5	53.8	53.9
	Men	Per cent	74.8	73.5	71.9	71.0	71.4	71.8	71.8	71.9
	Youth	Per cent	47.8	45.5	41.9	41.2	41.4	42.0	42.1	42.1
Employment	Total	Millions	278.8	367.7	459.4	462.4	478.2	495.8	510.9	526.5
	Women	Millions	120.1	157.1	196.6	197.7	204.7	212.8	219.7	226.5
	Men	Millions	158.7	210.5	262.8	264.6	273.5	282.9	291.2	300.0
	Youth	Millions	68.7	84.3	94.8	94.7	98.2	102.2	105.4	108.6
Employment-to-population ratio	Total	Per cent	59.7	59.6	58.5	57.2	57.6	58.1	58.3	58.4
	Women	Per cent	50.5	50.3	49.5	48.4	48.8	49.4	49.6	49.7
	Men	Per cent	69.3	69.2	67.6	66.2	66.6	67.0	67.1	67.2
	Youth	Per cent	41.6	40.2	37.5	36.4	36.8	37.3	37.4	37.4
Unemployment	Total	Millions	22.3	25.5	32.0	35.3	37.0	37.9	39.1	39.8
	Women	Millions	9.5	12.5	15.2	16.3	17.4	18.0	18.6	19.1
	Men	Millions	12.8	13.0	16.8	19.0	19.7	20.0	20.5	20.8
	Youth	Millions	10.2	10.9	11.2	12.3	12.4	12.9	13.4	13.7
Unemployment rate	Total	Per cent	7.4	6.5	6.5	7.1	7.2	7.1	7.1	7.0
	Women	Per cent	7.3	7.4	7.2	7.6	7.8	7.8	7.8	7.8
	Men	Per cent	7.5	5.8	6.0	6.7	6.7	6.6	6.6	6.5
	Youth	Per cent	12.9	11.5	10.6	11.5	11.2	11.2	11.2	11.2
Jobs gap	Total	Millions		90.8	118.9	126.2	130.8	134.1		
	Women	Millions		52.1	66.8	70.0	72.8	75.0		
	Men	Millions		38.7	52.1	56.2	58.0	59.1		
Jobs gap rate	Total	Per cent		19.8	20.6	21.4	21.5	21.3		
	Women	Per cent		24.9	25.4	26.1	26.2	26.1		
	Men	Per cent		15.5	16.5	17.5	17.5	17.3		
Weekly hours worked per employee	Total	Hours		38.5	38.0	36.0	36.6	37.4	37.3	37.5

Table C6. Africa (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		49.5	65.3	69.6	69.7	71.5		
	Women	Millions		32.0	40.6	42.7	43.2	44.3		
	Men	Millions		17.5	24.7	26.9	26.5	27.2		
Youth NEET rate	Total	Per cent		23.6	25.8	26.8	26.1	26.1		
	Women	Per cent		30.7	32.3	33.1	32.6	32.6		
	Men	Per cent		16.7	19.4	20.6	19.7	19.7		
Informal employment	Total	Millions		308.2	387.3	391.7	405.4	421.4		
	Women	Millions		139.5	173.4	172.8	180.7	188.0		
	Men	Millions		168.6	213.9	218.9	224.7	233.4		
Informality rate	Total	Per cent		83.8	84.3	84.7	84.8	85.0		
	Women	Per cent		88.8	88.2	87.4	88.2	88.3		
	Men	Per cent		80.1	81.4	82.7	82.2	82.5		
Wage and salaried workers	Total	Millions	72.9	104.7	142.0	141.3	147.0			
Self-employed workers	Total	Millions	205.9	263.0	317.4	321.1	331.3			
Share of wage and salaried workers	Total	Per cent	26.2	28.5	30.9	30.6	30.7			
Share of self-employed workers	Total	Per cent	73.8	71.5	69.1	69.4	69.3			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	135.4	136.8	141.4	147.7	150.6	154.1		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	48.6	37.2	30.8	31.9	31.5	31.1		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C7. North Africa

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	51.7	66.9	73.1	72.3	74.5	76.7	78.2	79.8
	Women	Millions	11.7	16.1	16.7	16.2	16.5	17.3	17.8	18.2
	Men	Millions	40.0	50.8	56.3	56.2	57.9	59.3	60.4	61.6
	Youth	Millions	12.6	13.4	10.2	10.0	10.2	10.5	10.7	11.0
Labour force participation rate	Total	Per cent	47.3	47.8	44.0	42.8	43.2	43.7	43.7	43.7
	Women	Per cent	21.4	23.1	20.3	19.2	19.3	19.8	19.9	20.0
	Men	Per cent	73.0	72.3	67.7	66.2	67.1	67.5	67.4	67.4
	Youth	Per cent	34.7	32.4	24.7	23.9	24.3	24.6	24.6	24.6
Employment	Total	Millions	43.9	59.8	65.1	63.7	65.8	68.0	69.4	70.9
	Women	Millions	9.3	12.9	13.3	12.8	13.1	13.8	14.1	14.5
	Men	Millions	34.6	47.0	51.8	50.9	52.7	54.2	55.3	56.4
	Youth	Millions	8.8	10.2	7.6	7.3	7.6	7.9	8.0	8.2
Employment-to-population ratio	Total	Per cent	40.2	42.8	39.2	37.7	38.2	38.8	38.8	38.8
	Women	Per cent	17.0	18.5	16.0	15.2	15.3	15.7	15.8	15.9
	Men	Per cent	63.2	66.9	62.3	60.0	61.0	61.6	61.7	61.7
	Youth	Per cent	24.3	24.6	18.3	17.5	18.0	18.3	18.3	18.4
Unemployment	Total	Millions	7.8	7.0	8.0	8.7	8.6	8.7	8.8	8.9
	Women	Millions	2.4	3.2	3.5	3.4	3.4	3.5	3.7	3.7
	Men	Millions	5.4	3.8	4.5	5.3	5.2	5.1	5.2	5.2
	Youth	Millions	3.8	3.2	2.6	2.7	2.6	2.7	2.7	2.8
Unemployment rate	Total	Per cent	15.0	10.5	10.9	12.0	11.6	11.3	11.3	11.1
	Women	Per cent	20.6	20.1	20.9	21.0	20.5	20.4	20.5	20.5
	Men	Per cent	13.4	7.5	8.0	9.4	9.0	8.6	8.5	8.4
	Youth	Per cent	30.0	24.1	25.8	26.9	25.8	25.4	25.5	25.3
Jobs gap	Total	Millions		17.1	20.7	22.0	22.0	22.3		
	Women	Millions		8.5	9.8	9.8	9.7	10.1		
	Men	Millions		8.7	10.9	12.3	12.3	12.2		
Jobs gap rate	Total	Per cent		22.3	24.1	25.7	25.1	24.7		
	Women	Per cent		39.7	42.5	43.3	42.6	42.3		
	Men	Per cent		15.6	17.4	19.4	18.9	18.3		
Weekly hours worked per employee	Total	Hours		42.8	42.1	39.3	40.4	41.6	41.5	41.7

Table C7. North Africa (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		12.5	11.6	12.4	11.8	12.0		
	Women	Millions		9.2	8.0	8.4	8.1	8.2		
	Men	Millions		3.4	3.6	4.0	3.8	3.8		
Youth NEET rate	Total	Per cent		30.3	28.0	29.7	28.1	28.0		
	Women	Per cent		45.3	39.3	41.1	39.0	39.0		
	Men	Per cent		15.9	17.2	18.7	17.5	17.3		
Informal employment	Total	Millions		38.5	45.0	44.0	45.6	48.1		
	Women	Millions		8.2	8.2	7.7	8.1	8.5		
	Men	Millions		30.3	36.8	36.3	37.5	39.6		
Informality rate	Total	Per cent		64.4	69.2	69.1	69.2	70.7		
	Women	Per cent		63.9	62.1	60.4	61.4	61.4		
	Men	Per cent		64.5	71.0	71.3	71.2	73.1		
Wage and salaried workers	Total	Millions	24.0	34.9	41.8	41.3	43.0			
Self-employed workers	Total	Millions	19.9	24.9	23.3	22.4	22.8			
Share of wage and salaried workers	Total	Per cent	54.6	58.3	64.2	64.9	65.4			
Share of self-employed workers	Total	Per cent	45.4	41.7	35.8	35.1	34.6			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	2.0	1.6	1.8	2.0	2.1	2.2		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	4.6	2.6	2.8	3.1	3.2	3.2		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C8. Sub-Saharan Africa

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	249.4	326.3	418.3	425.4	440.8	457.1	471.7	486.5
	Women	Millions	117.9	153.5	195.1	197.9	205.6	213.5	220.5	227.4
	Men	Millions	131.5	172.7	223.3	227.5	235.3	243.6	251.2	259.2
	Youth	Millions	66.2	81.8	95.8	97.0	100.3	104.6	108.0	111.3
Labour force participation rate	Total	Per cent	69.7	68.5	67.5	66.6	67.0	67.4	67.6	67.6
	Women	Per cent	64.3	63.3	62.0	61.1	61.6	62.2	62.3	62.4
	Men	Per cent	75.4	73.9	73.1	72.2	72.5	72.9	73.0	73.0
	Youth	Per cent	51.5	48.7	45.2	44.5	44.7	45.2	45.3	45.3
Employment	Total	Millions	234.9	307.8	394.3	398.7	412.4	427.8	441.5	455.6
	Women	Millions	110.8	144.3	183.3	185.0	191.6	199.1	205.5	212.1
	Men	Millions	124.1	163.6	211.0	213.7	220.8	228.7	236.0	243.5
	Youth	Millions	59.8	74.1	87.2	87.4	90.6	94.4	97.4	100.4
Employment-to-population ratio	Total	Per cent	65.7	64.6	63.6	62.4	62.7	63.1	63.2	63.3
	Women	Per cent	60.5	59.5	58.3	57.1	57.4	57.9	58.1	58.2
	Men	Per cent	71.1	70.0	69.1	67.9	68.1	68.4	68.5	68.6
	Youth	Per cent	46.6	44.1	41.2	40.1	40.3	40.8	40.8	40.9
Unemployment	Total	Millions	14.5	18.4	24.0	26.6	28.4	29.3	30.3	30.9
	Women	Millions	7.1	9.3	11.7	12.9	14.0	14.4	15.0	15.3
	Men	Millions	7.4	9.2	12.3	13.8	14.5	14.8	15.3	15.6
	Youth	Millions	6.4	7.7	8.6	9.6	9.7	10.2	10.6	10.9
Unemployment rate	Total	Per cent	5.8	5.7	5.7	6.3	6.4	6.4	6.4	6.4
	Women	Per cent	6.0	6.0	6.0	6.5	6.8	6.8	6.8	6.7
	Men	Per cent	5.7	5.3	5.5	6.0	6.1	6.1	6.1	6.0
	Youth	Per cent	9.6	9.4	9.0	9.9	9.7	9.8	9.8	9.8
Jobs gap	Total	Millions		73.7	98.2	104.2	108.8	111.9		
	Women	Millions		43.6	57.0	60.2	63.1	64.9		
	Men	Millions		30.1	41.2	44.0	45.7	47.0		
Jobs gap rate	Total	Per cent		19.3	19.9	20.7	20.9	20.7		
	Women	Per cent		23.2	23.7	24.6	24.8	24.6		
	Men	Per cent		15.5	16.3	17.1	17.2	17.0		
Weekly hours worked per employee	Total	Hours		37.6	37.3	35.5	36.0	36.7	36.7	36.8

Table C8. Sub-Saharan Africa (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		36.9	53.7	57.2	57.9	59.5		
	Women	Millions		22.8	32.6	34.3	35.1	36.1		
	Men	Millions		14.2	21.1	22.9	22.8	23.5		
Youth NEET rate	Total	Per cent		22.0	25.4	26.2	25.8	25.7		
	Women	Per cent		27.1	31.0	31.6	31.4	31.4		
	Men	Per cent		16.8	19.8	20.9	20.1	20.1		
Informal employment	Total	Millions		269.6	342.3	347.7	359.8	373.3		
	Women	Millions		131.3	165.2	165.1	172.6	179.5		
	Men	Millions		138.3	177.1	182.6	187.2	193.8		
Informality rate	Total	Per cent		87.6	86.8	87.2	87.2	87.3		
	Women	Per cent		91.0	90.1	89.2	90.1	90.2		
	Men	Per cent		84.6	83.9	85.4	84.8	84.7		
Wage and salaried workers	Total	Millions	49.0	69.8	100.3	100.0	103.9			
Self-employed workers	Total	Millions	186.0	238.1	294.1	298.7	308.4			
Share of wage and salaried workers	Total	Per cent	20.8	22.7	25.4	25.1	25.2			
Share of self-employed workers	Total	Per cent	79.2	77.3	74.6	74.9	74.8			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	133.4	135.2	139.5	145.7	148.5	151.9		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	56.8	43.9	35.4	36.6	36.0	35.5		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C9. Latin America and the Caribbean

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	221.5	270.7	310.8	292.5	307.8	315.0	317.9	322.5
	Women	Millions	85.1	110.2	129.9	120.1	127.6	132.0	133.4	135.6
	Men	Millions	136.4	160.5	180.9	172.4	180.1	183.0	184.5	187.0
	Youth	Millions	54.2	55.3	52.7	47.4	50.3	50.7	50.1	49.9
Labour force participation rate	Total	Per cent	62.7	63.6	63.6	59.1	61.6	62.4	62.2	62.4
	Women	Per cent	47.2	50.6	51.9	47.4	49.8	51.0	50.9	51.1
	Men	Per cent	79.0	77.2	75.9	71.5	73.9	74.3	74.1	74.2
	Youth	Per cent	53.9	51.4	49.0	44.2	47.1	47.6	47.2	47.3
Employment	Total	Millions	200.9	251.6	286.0	262.6	279.4	292.9	295.8	300.1
	Women	Millions	75.1	100.5	117.4	105.6	113.1	120.6	122.0	124.0
	Men	Millions	125.7	151.1	168.7	157.0	166.3	172.3	173.8	176.2
	Youth	Millions	44.8	47.2	43.2	37.4	40.6	42.9	42.2	42.2
Employment-to-population ratio	Total	Per cent	56.9	59.1	58.5	53.1	55.9	58.0	57.9	58.0
	Women	Per cent	41.6	46.1	46.9	41.7	44.1	46.5	46.5	46.7
	Men	Per cent	72.8	72.7	70.7	65.1	68.2	70.0	69.8	69.9
	Youth	Per cent	44.7	43.9	40.2	34.9	38.0	40.3	39.9	39.9
Unemployment	Total	Millions	20.7	19.1	24.8	29.8	28.4	22.1	22.1	22.4
	Women	Millions	10.0	9.7	12.6	14.5	14.6	11.4	11.4	11.6
	Men	Millions	10.7	9.4	12.2	15.4	13.8	10.7	10.7	10.8
	Youth	Millions	9.3	8.1	9.5	10.1	9.7	7.8	7.8	7.8
Unemployment rate	Total	Per cent	9.3	7.1	8.0	10.2	9.2	7.0	7.0	6.9
	Women	Per cent	11.7	8.8	9.7	12.0	11.4	8.6	8.6	8.6
	Men	Per cent	7.8	5.9	6.8	8.9	7.7	5.9	5.8	5.8
	Youth	Per cent	17.2	14.6	17.9	21.2	19.2	15.4	15.6	15.6
Jobs gap	Total	Millions		49.2	58.0	70.0	64.6	57.1		
	Women	Millions		30.7	34.7	40.1	38.7	34.4		
	Men	Millions		18.4	23.4	29.8	25.9	22.6		
Jobs gap rate	Total	Per cent		16.3	16.9	21.0	18.8	16.3		
	Women	Per cent		23.4	22.8	27.5	25.5	22.2		
	Men	Per cent		10.9	12.2	16.0	13.5	11.6		
Weekly hours worked per employee	Total	Hours		40.2	38.7	35.8	38.8	39.6	39.1	39.0

Table C9. Latin America and the Caribbean (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		21.8	23.1	26.0	23.3	21.6		
	Women	Millions		15.0	15.3	16.3	15.1	14.1		
	Men	Millions		6.7	7.9	9.7	8.3	7.5		
Youth NEET rate	Total	Per cent		20.2	21.5	24.3	21.8	20.3		
	Women	Per cent		28.2	28.7	30.9	28.6	26.9		
	Men	Per cent		12.4	14.4	17.8	15.3	13.9		
Informal employment	Total	Millions		142.9	153.2	137.7	149.4	157.4		
	Women	Millions		57.2	61.8	53.6	58.8	63.2		
	Men	Millions		85.7	91.5	84.2	90.6	94.3		
Informality rate	Total	Per cent		56.8	53.6	52.4	53.5	53.7		
	Women	Per cent		56.9	52.6	50.7	52.0	52.4		
	Men	Per cent		56.7	54.2	53.6	54.5	54.7		
Wage and salaried workers	Total	Millions	121.1	158.2	180.7	164.7	174.3			
Self-employed workers	Total	Millions	79.8	93.3	105.3	98.0	105.1			
Share of wage and salaried workers	Total	Per cent	60.3	62.9	63.2	62.7	62.4			
Share of self-employed workers	Total	Per cent	39.7	37.1	36.8	37.3	37.6			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	17.6	8.7	9.3	9.6	9.1	9.4		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	8.7	3.4	3.2	3.6	3.3	3.2		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C10. North America

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	162.6	177.3	190.9	188.3	189.6	192.9	194.5	195.2
	Women	Millions	74.5	82.5	88.3	87.1	87.7	89.7	90.5	90.7
	Men	Millions	88.1	94.7	102.5	101.2	101.9	103.2	104.1	104.5
	Youth	Millions	26.4	25.0	25.2	24.3	25.1	25.3	25.5	25.5
Labour force participation rate	Total	Per cent	65.9	63.8	62.9	61.6	61.6	62.2	62.2	61.9
	Women	Per cent	58.9	58.1	57.4	56.1	56.1	56.9	56.9	56.6
	Men	Per cent	73.3	69.8	68.7	67.3	67.3	67.7	67.7	67.4
	Youth	Per cent	60.3	51.5	52.1	50.2	51.7	51.8	51.9	51.6
Employment	Total	Millions	155.6	160.5	183.4	172.8	179.0	185.6	185.4	185.5
	Women	Millions	71.3	75.5	85.0	79.7	82.9	86.3	86.3	86.4
	Men	Millions	84.4	84.9	98.5	93.1	96.1	99.2	99.0	99.2
	Youth	Millions	23.8	20.5	23.0	20.6	22.6	23.3	23.0	22.7
Employment-to-population ratio	Total	Per cent	63.1	57.8	60.5	56.5	58.2	59.9	59.3	58.8
	Women	Per cent	56.3	53.2	55.2	51.3	53.1	54.8	54.3	53.9
	Men	Per cent	70.2	62.6	66.0	61.9	63.5	65.1	64.4	63.9
	Youth	Per cent	54.5	42.3	47.6	42.4	46.5	47.6	46.6	46.1
Unemployment	Total	Millions	7.0	16.8	7.4	15.4	10.6	7.3	9.2	9.7
	Women	Millions	3.2	7.0	3.3	7.4	4.8	3.3	4.1	4.4
	Men	Millions	3.7	9.8	4.1	8.1	5.8	4.0	5.0	5.3
	Youth	Millions	2.5	4.5	2.2	3.8	2.5	2.1	2.6	2.7
Unemployment rate	Total	Per cent	4.3	9.5	3.9	8.2	5.6	3.8	4.7	5.0
	Women	Per cent	4.4	8.5	3.8	8.5	5.4	3.7	4.6	4.8
	Men	Per cent	4.2	10.3	4.0	8.0	5.7	3.9	4.8	5.1
	Youth	Per cent	9.6	17.9	8.7	15.5	10.1	8.1	10.1	10.7
Jobs gap	Total	Millions		20.2	9.9	18.8	13.6	10.2		
	Women	Millions		8.6	4.6	9.0	6.3	4.8		
	Men	Millions		11.5	5.3	9.8	7.3	5.4		
Jobs gap rate	Total	Per cent		11.2	5.1	9.8	7.1	5.2		
	Women	Per cent		10.3	5.1	10.1	7.0	5.3		
	Men	Per cent		11.9	5.1	9.5	7.1	5.1		
Weekly hours worked per employee	Total	Hours		35.5	35.8	34.7	35.3	35.3	34.8	35.0

Table C10. North America (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		7.3	5.1	6.9	6.0	5.5		
	Women	Millions		3.6	2.6	3.4	3.0	2.8		
	Men	Millions		3.7	2.5	3.5	3.0	2.7		
Youth NEET rate	Total	Per cent		15.1	10.6	14.3	12.3	11.3		
	Women	Per cent		15.4	11.0	14.4	12.5	11.6		
	Men	Per cent		14.9	10.2	14.1	12.0	11.0		
Informal employment	Total	Millions		18.3	18.0	16.5	17.4	17.8		
	Women	Millions		8.3	8.0	7.3	7.7	8.0		
	Men	Millions		10.1	10.0	9.2	9.7	9.8		
Informality rate	Total	Per cent		11.4	9.8	9.6	9.7	9.6		
	Women	Per cent		10.9	9.4	9.2	9.3	9.2		
	Men	Per cent		11.9	10.2	9.8	10.1	9.9		
Wage and salaried workers	Total	Millions	142.6	147.7	170.3	160.2	165.8			
Self-employed workers	Total	Millions	13.0	12.8	13.1	12.7	13.2			
Share of wage and salaried workers	Total	Per cent	91.6	92.0	92.9	92.7	92.6			
Share of self-employed workers	Total	Per cent	8.4	8.0	7.1	7.3	7.4			

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C11. Arab States (non-GCC)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	18.2	23.5	29.7	29.9	30.7	32.1	33.5	34.9
	Women	Millions	3.2	3.7	4.5	4.5	4.6	5.0	5.3	5.5
	Men	Millions	14.9	19.8	25.2	25.4	26.0	27.1	28.2	29.4
	Youth	Millions	5.3	5.9	6.3	6.2	6.5	6.8	7.1	7.3
Labour force participation rate	Total	Per cent	44.8	41.2	41.6	40.6	40.5	41.0	41.5	41.8
	Women	Per cent	15.8	12.7	12.5	12.1	12.2	12.7	13.0	13.2
	Men	Per cent	74.2	70.0	71.1	69.3	69.0	69.7	70.2	70.6
	Youth	Per cent	35.6	29.9	27.6	26.2	26.9	27.3	27.6	27.8
Employment	Total	Millions	16.4	21.1	25.6	25.4	26.1	27.5	28.7	30.0
	Women	Millions	2.8	3.0	3.4	3.4	3.5	3.7	3.9	4.1
	Men	Millions	13.5	18.0	22.2	22.1	22.7	23.8	24.8	25.9
	Youth	Millions	4.3	4.7	4.5	4.3	4.5	4.8	5.0	5.1
Employment-to-population ratio	Total	Per cent	40.3	37.0	35.9	34.6	34.5	35.2	35.6	35.9
	Women	Per cent	13.8	10.6	9.6	9.1	9.1	9.5	9.7	9.8
	Men	Per cent	67.2	63.7	62.6	60.3	60.1	61.1	61.7	62.2
	Youth	Per cent	29.0	23.7	19.6	18.0	18.7	19.2	19.4	19.6
Unemployment	Total	Millions	1.8	2.4	4.1	4.4	4.5	4.6	4.8	4.9
	Women	Millions	0.4	0.6	1.1	1.1	1.2	1.3	1.3	1.4
	Men	Millions	1.4	1.8	3.0	3.3	3.4	3.3	3.4	3.5
	Youth	Millions	1.0	1.2	1.8	1.9	2.0	2.0	2.1	2.2
Unemployment rate	Total	Per cent	10.0	10.1	13.7	14.8	14.8	14.3	14.2	14.2
	Women	Per cent	13.0	16.7	23.7	24.9	25.3	25.3	25.6	25.8
	Men	Per cent	9.3	8.9	12.0	13.1	12.9	12.3	12.1	12.0
	Youth	Per cent	18.5	20.6	28.9	31.3	30.4	29.8	29.6	29.7
Jobs gap	Total	Millions		5.7	8.8	9.3	9.7	9.9		
	Women	Millions		2.1	3.3	3.4	3.5	3.8		
	Men	Millions		3.6	5.5	5.9	6.2	6.2		
Jobs gap rate	Total	Per cent		21.3	25.7	26.8	27.1	26.6		
	Women	Per cent		40.9	49.0	49.9	50.5	50.3		
	Men	Per cent		16.7	20.0	21.2	21.4	20.6		
Weekly hours worked per employee	Total	Hours		42.0	41.1	38.9	40.2	41.0	40.9	41.1

Table C11. Arab States (non-GCC) (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		7.4	8.7	9.1	9.1	9.3		
	Women	Millions		5.5	6.0	6.2	6.3	6.5		
	Men	Millions		1.9	2.7	2.9	2.8	2.8		
Youth NEET rate	Total	Per cent		37.6	37.7	38.6	37.5	37.4		
	Women	Per cent		57.0	53.5	53.5	53.0	53.0		
	Men	Per cent		18.8	22.6	24.4	22.7	22.4		
Informal employment	Total	Millions		13.6	17.6	17.5	18.0	19.1		
	Women	Millions		1.7	1.8	1.7	1.8	2.0		
	Men	Millions		11.9	15.7	15.7	16.2	17.2		
Informality rate	Total	Per cent		64.4	68.6	68.8	68.8	69.6		
	Women	Per cent		55.1	52.9	51.5	52.4	52.6		
	Men	Per cent		66.0	71.0	71.4	71.3	72.2		
Wage and salaried workers	Total	Millions	9.5	13.1	15.7	15.6	16.1			
Self-employed workers	Total	Millions	6.8	7.9	9.9	9.8	10.1			
Share of wage and salaried workers	Total	Per cent	58.4	62.4	61.2	61.3	61.5			
Share of self-employed workers	Total	Per cent	41.6	37.6	38.8	38.7	38.5			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	0.2	0.3	5.8	5.0	5.5	5.9		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	1.4	1.4	22.7	19.6	20.9	21.4		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C12. Arab States (GCC)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	11.4	21.5	29.9	30.0	29.5	30.0	30.6	31.2
	Women	Millions	1.6	3.3	5.2	5.8	5.5	5.7	5.9	6.1
	Men	Millions	9.8	18.2	24.7	24.1	24.0	24.3	24.7	25.1
	Youth	Millions	1.7	2.8	2.4	2.3	2.0	2.0	2.1	2.2
Labour force participation rate	Total	Per cent	56.5	61.7	66.6	66.8	66.1	66.5	66.7	67.0
	Women	Per cent	21.3	26.5	32.9	36.4	34.2	34.7	35.3	35.8
	Men	Per cent	77.4	81.3	85.0	83.8	84.2	84.6	84.9	85.2
	Youth	Per cent	27.8	30.3	28.7	28.5	27.1	27.0	27.3	27.8
Employment	Total	Millions	11.0	20.7	28.8	28.3	28.1	28.8	29.4	29.9
	Women	Millions	1.5	2.9	4.6	5.0	4.7	5.0	5.1	5.3
	Men	Millions	9.5	17.7	24.2	23.3	23.4	23.8	24.2	24.6
	Youth	Millions	1.5	2.4	2.0	1.8	1.6	1.7	1.7	1.8
Employment-to-population ratio	Total	Per cent	54.5	59.3	64.0	63.2	63.0	63.8	64.0	64.1
	Women	Per cent	19.8	23.6	28.6	31.3	29.3	30.2	30.6	30.8
	Men	Per cent	75.0	79.2	83.5	81.0	82.2	83.0	83.4	83.6
	Youth	Per cent	23.7	26.1	24.4	22.7	22.1	22.5	22.8	22.9
Unemployment	Total	Millions	0.4	0.8	1.1	1.6	1.4	1.2	1.2	1.3
	Women	Millions	0.1	0.4	0.7	0.8	0.8	0.7	0.8	0.9
	Men	Millions	0.3	0.5	0.4	0.8	0.6	0.5	0.4	0.5
	Youth	Millions	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.4
Unemployment rate	Total	Per cent	3.6	3.9	3.8	5.4	4.7	4.0	4.0	4.3
	Women	Per cent	6.8	11.1	13.2	14.1	14.4	13.0	13.2	14.0
	Men	Per cent	3.1	2.6	1.8	3.4	2.5	1.9	1.8	1.9
	Youth	Per cent	14.7	13.8	14.9	20.6	18.5	16.6	16.7	17.6
Jobs gap	Total	Millions		1.9	2.7	3.6	2.9	2.7		
	Women	Millions		0.8	1.4	1.8	1.4	1.4		
	Men	Millions		1.0	1.3	1.7	1.5	1.2		
Jobs gap rate	Total	Per cent		8.3	8.6	11.2	9.4	8.5		
	Women	Per cent		22.2	23.8	26.9	23.4	22.5		
	Men	Per cent		5.6	5.0	6.9	6.0	5.0		
Weekly hours worked per employee	Total	Hours		49.2	47.9	43.2	44.7	46.0	46.0	46.3

Table C12. Arab States (GCC) (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		2.0	1.5	1.8	1.4	1.3		
	Women	Millions		1.2	1.0	1.1	0.9	0.9		
	Men	Millions		0.8	0.5	0.7	0.4	0.4		
Youth NEET rate	Total	Per cent		22.0	17.7	22.4	18.4	18.0		
	Women	Per cent		32.6	27.5	29.9	27.2	26.7		
	Men	Per cent		14.5	10.2	16.3	10.9	10.2		
Informal employment	Total	Millions		8.3	11.8	11.3	11.4	11.9		
	Women	Millions		1.1	1.6	1.7	1.6	1.7		
	Men	Millions		7.3	10.2	9.6	9.8	10.2		
Informality rate	Total	Per cent		40.3	41.0	39.9	40.6	41.5		
	Women	Per cent		35.8	35.6	33.7	34.3	34.8		
	Men	Per cent		41.1	42.1	41.2	41.8	42.9		
Wage and salaried workers	Total	Millions	10.4	20.0	27.5	27.0	26.8			
Self-employed workers	Total	Millions	0.6	0.7	1.3	1.3	1.3			
Share of wage and salaried workers	Total	Per cent	94.7	96.6	95.4	95.3	95.3			
Share of self-employed workers	Total	Per cent	5.3	3.4	4.6	4.7	4.7			

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C13. East Asia

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	851.0	902.3	914.1	889.2	918.6	920.9	917.5	916.5
	Women	Millions	381.7	398.2	411.5	399.5	414.5	415.5	413.6	412.9
	Men	Millions	469.3	504.1	502.6	489.7	504.1	505.4	503.8	503.6
	Youth	Millions	152.3	139.5	93.2	86.7	88.6	88.5	87.7	87.6
Labour force participation rate	Total	Per cent	74.5	69.5	66.8	64.7	66.5	66.4	65.9	65.5
	Women	Per cent	67.2	61.7	60.4	58.4	60.3	60.2	59.7	59.3
	Men	Per cent	81.7	77.2	73.0	70.9	72.7	72.5	72.0	71.6
	Youth	Per cent	64.6	55.4	49.2	46.4	47.8	47.9	47.4	47.1
Employment	Total	Millions	822.1	861.5	874.6	846.9	878.5	878.4	877.0	876.7
	Women	Millions	370.3	382.6	396.0	382.8	398.6	398.7	397.7	397.3
	Men	Millions	451.7	479.0	478.7	464.1	479.9	479.7	479.4	479.5
	Youth	Millions	141.6	125.8	83.7	76.4	78.2	77.6	77.3	77.4
Employment-to-population ratio	Total	Per cent	72.0	66.3	63.9	61.6	63.6	63.3	63.0	62.6
	Women	Per cent	65.2	59.2	58.1	56.0	58.0	57.8	57.4	57.0
	Men	Per cent	78.7	73.3	69.6	67.2	69.2	68.9	68.5	68.2
	Youth	Per cent	60.1	50.0	44.2	40.8	42.2	42.0	41.8	41.6
Unemployment	Total	Millions	29.0	40.8	39.5	42.3	40.1	42.5	40.4	39.7
	Women	Millions	11.4	15.7	15.6	16.6	15.9	16.8	16.0	15.7
	Men	Millions	17.6	25.1	23.9	25.6	24.2	25.7	24.5	24.1
	Youth	Millions	10.7	13.6	9.5	10.4	10.4	10.9	10.4	10.2
Unemployment rate	Total	Per cent	3.4	4.5	4.3	4.8	4.4	4.6	4.4	4.3
	Women	Per cent	3.0	3.9	3.8	4.2	3.8	4.0	3.9	3.8
	Men	Per cent	3.8	5.0	4.8	5.2	4.8	5.1	4.9	4.8
	Youth	Per cent	7.0	9.8	10.2	12.0	11.7	12.3	11.8	11.7
Jobs gap	Total	Millions		84.4	75.3	82.0	77.9	80.4		
	Women	Millions		40.1	35.9	39.5	37.1	38.1		
	Men	Millions		44.3	39.4	42.4	40.8	42.3		
Jobs gap rate	Total	Per cent		8.9	7.9	8.8	8.1	8.4		
	Women	Per cent		9.5	8.3	9.4	8.5	8.7		
	Men	Per cent		8.5	7.6	8.4	7.8	8.1		
Weekly hours worked per employee	Total	Hours		46.8	45.8	45.3	45.7	45.1	45.0	45.0

Table C13. East Asia (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		41.9	27.3	30.6	28.7	28.8		
	Women	Millions		24.2	15.4	16.5	16.0	15.9		
	Men	Millions		17.7	11.9	14.2	12.8	12.9		
Youth NEET rate	Total	Per cent		16.6	14.4	16.4	15.5	15.6		
	Women	Per cent		20.2	17.4	18.9	18.5	18.5		
	Men	Per cent		13.4	11.7	14.2	12.9	13.1		
Informal employment	Total	Millions		477.6	429.7	411.3	430.4	424.3		
	Women	Millions		205.7	191.8	180.6	191.5	188.9		
	Men	Millions		271.8	237.9	230.7	238.9	235.4		
Informality rate	Total	Per cent		55.4	49.1	48.6	49.0	48.3		
	Women	Per cent		53.8	48.4	47.2	48.0	47.4		
	Men	Per cent		56.8	49.7	49.7	49.8	49.1		
Wage and salaried workers	Total	Millions	309.2	407.0	501.1	488.8	508.9			
Self-employed workers	Total	Millions	512.9	454.6	373.5	358.1	369.6			
Share of wage and salaried workers	Total	Per cent	37.6	47.2	57.3	57.7	57.9			
Share of self-employed workers	Total	Per cent	62.4	52.8	42.7	42.3	42.1			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	258.4	99.7	2.7	2.5	2.6	2.6		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	31.4	11.6	0.3	0.3	0.3	0.3		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C14. South-East Asia

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	246.5	294.0	333.5	330.2	332.0	338.6	343.3	348.1
	Women	Millions	103.2	121.8	139.3	137.5	138.8	141.9	143.9	145.9
	Men	Millions	143.4	172.2	194.1	192.8	193.2	196.7	199.5	202.2
	Youth	Millions	54.9	53.1	49.6	47.2	45.6	46.0	46.4	46.9
Labour force participation rate	Total	Per cent	68.5	67.7	67.2	65.7	65.3	65.9	66.0	66.1
	Women	Per cent	56.6	55.6	55.7	54.3	54.2	54.8	54.9	54.9
	Men	Per cent	80.7	79.9	78.9	77.3	76.6	77.2	77.3	77.4
	Youth	Per cent	53.9	49.4	46.0	43.8	42.3	42.6	42.9	43.2
Employment	Total	Millions	237.0	284.5	325.4	320.4	322.5	329.9	334.9	339.2
	Women	Millions	99.1	117.7	136.1	133.5	135.2	138.5	140.6	142.4
	Men	Millions	137.9	166.8	189.3	186.8	187.4	191.4	194.4	196.8
	Youth	Millions	48.9	47.9	45.2	42.4	41.1	41.7	42.3	42.5
Employment-to-population ratio	Total	Per cent	65.9	65.5	65.6	63.8	63.4	64.2	64.4	64.4
	Women	Per cent	54.4	53.7	54.4	52.7	52.8	53.5	53.6	53.6
	Men	Per cent	77.6	77.4	76.9	75.0	74.3	75.1	75.3	75.3
	Youth	Per cent	47.9	44.5	42.0	39.4	38.2	38.7	39.1	39.2
Unemployment	Total	Millions	9.5	9.6	8.0	9.9	9.5	8.7	8.4	8.9
	Women	Millions	4.1	4.1	3.2	3.9	3.7	3.4	3.3	3.5
	Men	Millions	5.5	5.4	4.8	5.9	5.8	5.4	5.1	5.4
	Youth	Millions	6.1	5.2	4.4	4.8	4.4	4.3	4.1	4.4
Unemployment rate	Total	Per cent	3.9	3.3	2.4	3.0	2.9	2.6	2.4	2.6
	Women	Per cent	4.0	3.4	2.3	2.9	2.6	2.4	2.3	2.4
	Men	Per cent	3.8	3.2	2.5	3.1	3.0	2.7	2.6	2.7
	Youth	Per cent	11.1	9.8	8.8	10.1	9.8	9.3	8.9	9.4
Jobs gap	Total	Millions		26.2	22.2	26.3	27.8	27.0		
	Women	Millions		15.2	12.1	13.1	14.5	14.3		
	Men	Millions		11.0	10.1	13.2	13.3	12.7		
Jobs gap rate	Total	Per cent		8.4	6.4	7.6	7.9	7.6		
	Women	Per cent		11.4	8.2	8.9	9.7	9.4		
	Men	Per cent		6.2	5.1	6.6	6.6	6.2		
Weekly hours worked per employee	Total	Hours		42.6	40.4	38.3	38.6	39.9	39.5	39.6

Table C14. South-East Asia (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		21.9	18.8	20.9	20.0	19.7		
	Women	Millions		14.0	11.6	12.3	11.5	11.4		
	Men	Millions		7.9	7.2	8.6	8.5	8.2		
Youth NEET rate	Total	Per cent		20.4	17.5	19.4	18.6	18.3		
	Women	Per cent		26.5	22.1	23.4	22.0	21.8		
	Men	Per cent		14.5	13.0	15.6	15.4	14.9		
Informal employment	Total	Millions		224.9	229.8	226.5	227.9	229.7		
	Women	Millions		92.9	96.1	93.2	95.1	96.1		
	Men	Millions		132.0	133.7	133.3	132.8	133.6		
Informality rate	Total	Per cent		79.1	70.6	70.7	70.7	69.6		
	Women	Per cent		79.0	70.6	69.8	70.4	69.4		
	Men	Per cent		79.1	70.6	71.3	70.9	69.8		
Wage and salaried workers	Total	Millions	80.6	118.8	165.6	161.3	163.9			
Self-employed workers	Total	Millions	156.4	165.6	159.8	159.0	158.6			
Share of wage and salaried workers	Total	Per cent	34.0	41.8	50.9	50.4	50.8			
Share of self-employed workers	Total	Per cent	66.0	58.2	49.1	49.6	49.2			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	69.6	25.2	8.0	9.0	8.0	6.7		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	29.4	8.9	2.5	2.8	2.5	2.0		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C15. South Asia

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	523.3	632.3	699.2	694.3	712.3	733.6	746.5	758.4
	Women	Millions	127.9	158.3	169.8	165.5	171.4	178.5	182.2	184.9
	Men	Millions	395.3	474.0	529.3	528.8	540.9	555.1	564.3	573.5
	Youth	Millions	125.3	126.6	111.8	107.6	111.7	114.3	114.7	114.6
Labour force participation rate	Total	Per cent	55.7	53.6	50.0	48.8	49.3	50.1	50.2	50.2
	Women	Per cent	28.0	27.4	24.7	23.7	24.1	24.8	24.9	24.9
	Men	Per cent	81.9	78.6	74.3	73.0	73.6	74.5	74.6	74.6
	Youth	Per cent	43.4	37.4	31.0	29.7	30.7	31.3	31.3	31.2
Employment	Total	Millions	487.0	586.0	654.5	629.9	658.9	680.8	692.5	703.2
	Women	Millions	118.3	145.9	158.3	150.7	158.0	165.0	168.3	170.7
	Men	Millions	368.7	440.1	496.2	479.2	500.8	515.8	524.2	532.6
	Youth	Millions	109.7	106.9	90.2	80.8	89.2	91.8	91.7	91.4
Employment-to-population ratio	Total	Per cent	51.8	49.7	46.8	44.3	45.6	46.5	46.5	46.5
	Women	Per cent	25.9	25.3	23.1	21.6	22.3	22.9	23.0	23.0
	Men	Per cent	76.4	73.0	69.7	66.2	68.1	69.2	69.3	69.3
	Youth	Per cent	38.0	31.6	25.0	22.3	24.5	25.1	25.0	24.9
Unemployment	Total	Millions	36.3	46.3	44.6	64.4	53.4	52.8	54.1	55.1
	Women	Millions	9.6	12.5	11.5	14.8	13.3	13.5	13.9	14.2
	Men	Millions	26.7	33.9	33.1	49.6	40.1	39.3	40.1	40.9
	Youth	Millions	15.6	19.7	21.6	26.8	22.5	22.6	23.0	23.2
Unemployment rate	Total	Per cent	6.9	7.3	6.4	9.3	7.5	7.2	7.2	7.3
	Women	Per cent	7.5	7.9	6.8	8.9	7.8	7.5	7.6	7.7
	Men	Per cent	6.7	7.1	6.3	9.4	7.4	7.1	7.1	7.1
	Youth	Per cent	12.5	15.6	19.3	24.9	20.2	19.7	20.0	20.3
Jobs gap	Total	Millions		90.0	83.1	116.5	93.0	92.3		
	Women	Millions		32.6	29.4	37.7	31.0	31.5		
	Men	Millions		57.4	53.8	78.9	62.1	60.9		
Jobs gap rate	Total	Per cent		13.3	11.3	15.6	12.4	11.9		
	Women	Per cent		18.3	15.7	20.0	16.4	16.0		
	Men	Per cent		11.5	9.8	14.1	11.0	10.6		
Weekly hours worked per employee	Total	Hours		47.6	46.8	42.7	44.8	45.9	45.7	45.9

Table C15. South Asia (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		100.5	110.9	120.6	115.9	115.9		
	Women	Millions		81.5	83.5	85.3	86.0	86.8		
	Men	Millions		19.0	27.3	35.3	29.9	29.1		
Youth NEET rate	Total	Per cent		29.7	30.7	33.3	31.8	31.7		
	Women	Per cent		49.9	48.2	49.0	49.1	49.5		
	Men	Per cent		10.8	14.6	18.8	15.8	15.3		
Informal employment	Total	Millions		505.6	568.7	547.2	573.9	590.6		
	Women	Millions		130.9	140.1	131.0	139.2	145.1		
	Men	Millions		374.8	428.6	416.1	434.7	445.6		
Informality rate	Total	Per cent		86.3	86.9	86.9	87.1	86.8		
	Women	Per cent		89.7	88.5	86.9	88.1	87.9		
	Men	Per cent		85.2	86.4	86.8	86.8	86.4		
Wage and salaried workers	Total	Millions	100.9	132.2	192.1	183.1	193.9			
Self-employed workers	Total	Millions	386.1	453.8	462.4	446.8	464.9			
Share of wage and salaried workers	Total	Per cent	20.7	22.6	29.4	29.1	29.4			
Share of self-employed workers	Total	Per cent	79.3	77.4	70.6	70.9	70.6			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	175.9	131.0	49.5	52.3	42.8	33.6		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	36.1	22.4	7.6	8.3	6.5	4.9		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C16. The Pacific

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	14.8	17.4	20.6	20.7	21.3	21.7	21.8	22.0
	Women	Millions	6.6	7.9	9.7	9.7	10.0	10.2	10.3	10.4
	Men	Millions	8.3	9.5	11.0	11.0	11.3	11.5	11.5	11.6
	Youth	Millions	3.0	3.3	3.5	3.4	3.5	3.6	3.6	3.6
Labour force participation rate	Total	Per cent	64.9	62.8	62.9	62.1	62.7	63.0	62.4	62.1
	Women	Per cent	57.0	57.0	58.5	57.8	58.6	59.2	58.5	58.2
	Men	Per cent	72.8	68.6	67.3	66.5	66.8	66.9	66.4	66.1
	Youth	Per cent	64.7	57.2	56.1	54.8	56.0	57.2	56.3	55.8
Employment	Total	Millions	14.0	16.6	19.7	19.6	20.3	20.9	21.0	21.3
	Women	Millions	6.2	7.5	9.2	9.2	9.5	9.9	9.9	10.0
	Men	Millions	7.8	9.0	10.5	10.4	10.7	11.0	11.1	11.2
	Youth	Millions	2.7	2.9	3.2	3.0	3.2	3.3	3.3	3.3
Employment-to-population ratio	Total	Per cent	61.1	59.6	60.0	58.6	59.8	60.8	60.3	60.0
	Women	Per cent	53.9	54.1	55.9	54.7	56.0	57.2	56.6	56.3
	Men	Per cent	68.4	65.3	64.1	62.7	63.6	64.4	64.0	63.8
	Youth	Per cent	57.7	51.0	50.3	48.1	50.4	52.6	51.8	51.5
Unemployment	Total	Millions	0.9	0.9	1.0	1.2	1.0	0.8	0.8	0.7
	Women	Millions	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.3
	Men	Millions	0.5	0.5	0.5	0.6	0.5	0.4	0.4	0.4
	Youth	Millions	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3
Unemployment rate	Total	Per cent	5.8	5.0	4.6	5.6	4.6	3.6	3.4	3.4
	Women	Per cent	5.5	5.1	4.5	5.5	4.4	3.4	3.3	3.3
	Men	Per cent	6.0	4.9	4.7	5.7	4.8	3.7	3.6	3.5
	Youth	Per cent	10.9	10.9	10.4	12.2	10.1	8.1	7.9	7.8
Jobs gap	Total	Millions		2.5	2.7	3.0	2.8	2.6		
	Women	Millions		1.3	1.5	1.6	1.5	1.4		
	Men	Millions		1.2	1.3	1.4	1.3	1.2		
Jobs gap rate	Total	Per cent		13.1	12.2	13.4	12.3	11.0		
	Women	Per cent		14.8	13.8	15.1	13.8	12.4		
	Men	Per cent		11.6	10.8	11.8	10.9	9.8		
Weekly hours worked per employee	Total	Hours		35.9	34.7	34.1	33.7	33.9	33.6	33.7

Table C16. The Pacific (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		1.1	1.1	1.2	1.1	1.1		
	Women	Millions		0.6	0.6	0.6	0.6	0.6		
	Men	Millions		0.5	0.5	0.6	0.5	0.5		
Youth NEET rate	Total	Per cent		18.8	17.8	19.2	18.0	17.4		
	Women	Per cent		20.7	19.2	20.4	19.5	19.0		
	Men	Per cent		17.1	16.4	18.1	16.7	16.0		
Informal employment	Total	Millions		6.1	7.1	7.0	7.3	7.4		
	Women	Millions		2.9	3.4	3.4	3.5	3.6		
	Men	Millions		3.2	3.7	3.6	3.8	3.8		
Informality rate	Total	Per cent		36.9	36.3	35.8	36.2	35.4		
	Women	Per cent		38.3	37.3	36.8	37.1	36.0		
	Men	Per cent		35.8	35.5	35.0	35.3	34.9		
Wage and salaried workers	Total	Millions	9.8	12.4	15.0	14.9	15.0			
Self-employed workers	Total	Millions	4.2	4.1	4.7	4.7	5.3			
Share of wage and salaried workers	Total	Per cent	70.3	75.1	76.2	76.0	74.1			
Share of self-employed workers	Total	Per cent	29.7	24.9	23.8	24.0	25.9			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	1.3	0.8	0.8	0.8	0.8	0.8		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	9.3	5.1	3.8	4.3	4.1	4.0		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C17. Northern, Southern and Western Europe

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	197.7	214.4	223.5	220.8	222.6	225.5	225.6	225.3
	Women	Millions	86.0	97.5	103.9	102.8	104.1	105.6	105.5	105.3
	Men	Millions	111.7	116.9	119.6	118.0	118.5	120.0	120.1	120.0
	Youth	Millions	25.3	23.7	21.7	20.9	21.3	21.8	21.6	21.4
Labour force participation rate	Total	Per cent	56.5	57.8	58.5	57.6	57.9	58.6	58.5	58.3
	Women	Per cent	47.4	50.9	52.9	52.2	52.7	53.4	53.2	53.0
	Men	Per cent	66.2	65.1	64.3	63.3	63.4	64.0	64.0	63.7
	Youth	Per cent	47.5	45.6	43.9	42.4	43.1	44.2	43.9	43.7
Employment	Total	Millions	180.3	193.3	208.0	204.6	206.4	211.4	210.7	210.5
	Women	Millions	77.2	87.9	96.5	95.1	96.2	98.6	98.2	98.1
	Men	Millions	103.1	105.4	111.6	109.6	110.2	112.7	112.5	112.5
	Youth	Millions	21.0	18.7	18.5	17.4	17.8	18.8	18.4	18.3
Employment-to-population ratio	Total	Per cent	51.5	52.1	54.4	53.4	53.7	54.9	54.6	54.4
	Women	Per cent	42.5	45.9	49.1	48.2	48.7	49.9	49.6	49.4
	Men	Per cent	61.1	58.7	60.0	58.8	59.0	60.2	59.9	59.7
	Youth	Per cent	39.5	36.1	37.4	35.3	36.1	38.1	37.5	37.3
Unemployment	Total	Millions	17.4	21.1	15.5	16.2	16.3	14.2	14.9	14.8
	Women	Millions	8.8	9.6	7.5	7.7	7.9	7.0	7.3	7.2
	Men	Millions	8.6	11.5	8.0	8.5	8.4	7.2	7.6	7.5
	Youth	Millions	4.3	5.0	3.2	3.5	3.5	3.0	3.2	3.1
Unemployment rate	Total	Per cent	8.8	9.8	6.9	7.3	7.3	6.3	6.6	6.6
	Women	Per cent	10.2	9.8	7.2	7.5	7.6	6.6	6.9	6.9
	Men	Per cent	7.7	9.9	6.7	7.2	7.1	6.0	6.3	6.3
	Youth	Per cent	16.9	20.9	14.8	16.6	16.3	13.8	14.6	14.6
Jobs gap	Total	Millions		36.8	30.8	34.8	32.1	29.2		
	Women	Millions		19.0	16.4	18.4	17.0	15.6		
	Men	Millions		17.8	14.4	16.4	15.1	13.6		
Jobs gap rate	Total	Per cent		16.0	12.9	14.5	13.4	12.1		
	Women	Per cent		17.8	14.5	16.2	15.0	13.7		
	Men	Per cent		14.4	11.4	13.0	12.0	10.7		
Weekly hours worked per employee	Total	Hours		36.9	36.4	33.9	35.6	35.8	35.6	35.6

Table C17. Northern, Southern and Western Europe (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		6.9	5.3	5.8	5.5	4.8		
	Women	Millions		3.4	2.5	2.7	2.6	2.3		
	Men	Millions		3.4	2.8	3.1	2.9	2.5		
Youth NEET rate	Total	Per cent		13.2	10.8	11.8	11.1	9.8		
	Women	Per cent		13.5	10.6	11.3	10.8	9.7		
	Men	Per cent		12.9	10.9	12.3	11.3	9.9		
Informal employment	Total	Millions		24.2	27.7	25.9	27.1	27.5		
	Women	Millions		12.1	13.7	12.9	13.6	13.7		
	Men	Millions		12.1	14.0	13.0	13.5	13.7		
Informality rate	Total	Per cent		12.5	13.3	12.7	13.1	13.0		
	Women	Per cent		13.8	14.2	13.6	14.1	13.9		
	Men	Per cent		11.5	12.5	11.9	12.2	12.2		
Wage and salaried workers	Total	Millions	150.0	162.4	177.0	174.3	176.1			
Self-employed workers	Total	Millions	30.3	30.9	31.1	30.3	30.2			
Share of wage and salaried workers	Total	Per cent	83.2	84.0	85.1	85.2	85.4			
Share of self-employed workers	Total	Per cent	16.8	16.0	14.9	14.8	14.6			

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C18. Eastern Europe

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	147.7	148.0	145.4	143.9	143.8	142.5	141.5	140.3
	Women	Millions	71.1	70.9	68.7	68.0	68.1	67.6	67.0	66.4
	Men	Millions	76.7	77.1	76.7	75.9	75.6	74.9	74.4	73.9
	Youth	Millions	19.6	15.6	9.6	9.0	8.8	8.8	9.0	9.2
Labour force participation rate	Total	Per cent	59.3	59.1	59.4	59.0	59.2	59.0	58.8	58.3
	Women	Per cent	53.2	52.6	52.2	51.8	52.1	52.0	51.7	51.3
	Men	Per cent	66.5	66.7	67.8	67.3	67.4	67.1	67.0	66.5
	Youth	Per cent	40.7	37.5	33.4	31.6	30.7	30.4	30.9	30.8
Employment	Total	Millions	131.1	136.1	138.5	135.9	136.2	135.3	134.3	133.1
	Women	Millions	63.1	65.6	65.5	64.3	64.5	64.2	63.6	62.9
	Men	Millions	67.9	70.5	73.0	71.7	71.7	71.2	70.7	70.2
	Youth	Millions	15.1	12.7	8.3	7.6	7.4	7.5	7.7	7.8
Employment-to-population ratio	Total	Per cent	52.6	54.4	56.6	55.7	56.1	56.0	55.8	55.3
	Women	Per cent	47.2	48.7	49.8	48.9	49.3	49.3	49.1	48.6
	Men	Per cent	58.9	61.0	64.5	63.5	63.9	63.8	63.7	63.2
	Youth	Per cent	31.5	30.5	28.8	26.6	25.9	26.1	26.4	26.1
Unemployment	Total	Millions	16.7	11.8	6.9	8.0	7.5	7.1	7.1	7.2
	Women	Millions	8.0	5.3	3.2	3.7	3.6	3.4	3.4	3.4
	Men	Millions	8.7	6.6	3.7	4.3	3.9	3.7	3.7	3.7
	Youth	Millions	4.4	2.9	1.3	1.4	1.4	1.2	1.3	1.4
Unemployment rate	Total	Per cent	11.3	8.0	4.7	5.6	5.2	5.0	5.1	5.1
	Women	Per cent	11.2	7.4	4.6	5.5	5.3	5.1	5.1	5.2
	Men	Per cent	11.4	8.5	4.8	5.6	5.2	4.9	5.0	5.1
	Youth	Per cent	22.7	18.6	13.8	15.8	15.7	14.2	14.6	15.1
Jobs gap	Total	Millions		22.0	14.3	15.8	14.7	14.3		
	Women	Millions		11.1	7.4	8.2	7.8	7.6		
	Men	Millions		10.9	6.9	7.6	6.9	6.7		
Jobs gap rate	Total	Per cent		13.9	9.4	10.4	9.7	9.5		
	Women	Per cent		14.4	10.2	11.3	10.7	10.6		
	Men	Per cent		13.4	8.6	9.6	8.8	8.6		
Weekly hours worked per employee	Total	Hours		38.6	38.2	36.5	37.3	35.5	36.1	36.3

Table C18. Eastern Europe (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		6.0	3.4	3.6	3.7	3.6		
	Women	Millions		3.5	2.0	2.0	2.1	2.0		
	Men	Millions		2.5	1.4	1.6	1.6	1.5		
Youth NEET rate	Total	Per cent		14.5	11.7	12.6	12.8	12.4		
	Women	Per cent		17.3	13.9	14.5	15.0	14.3		
	Men	Per cent		11.8	9.6	10.8	10.7	10.5		
Informal employment	Total	Millions		26.9	27.5	26.4	26.8	26.3		
	Women	Millions		12.2	12.2	11.7	11.9	11.8		
	Men	Millions		14.7	15.2	14.7	14.9	14.6		
Informality rate	Total	Per cent		19.8	19.8	19.4	19.7	19.5		
	Women	Per cent		18.5	18.7	18.2	18.5	18.4		
	Men	Per cent		20.9	20.9	20.6	20.8	20.5		
Wage and salaried workers	Total	Millions	113.8	118.0	122.4	119.9	121.3			
Self-employed workers	Total	Millions	17.3	18.1	16.1	16.0	14.9			
Share of wage and salaried workers	Total	Per cent	86.8	86.7	88.4	88.3	89.0			
Share of self-employed workers	Total	Per cent	13.2	13.3	11.6	11.7	11.0			

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

Table C19. Central and Western Asia

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Labour force	Total	Millions	55.8	64.5	76.0	74.1	76.5	78.2	78.9	79.7
	Women	Millions	23.1	27.4	33.3	32.2	33.5	34.4	34.8	35.1
	Men	Millions	32.7	37.1	42.7	41.8	43.0	43.8	44.2	44.6
	Youth	Millions	12.1	11.9	11.5	10.6	10.9	11.0	11.0	11.1
Labour force participation rate	Total	Per cent	57.6	54.9	56.4	54.4	55.6	56.2	56.1	56.0
	Women	Per cent	46.6	45.7	48.5	46.5	47.7	48.5	48.5	48.4
	Men	Per cent	69.1	64.5	64.7	62.8	63.8	64.3	64.1	63.9
	Youth	Per cent	44.3	38.6	40.2	37.4	38.7	39.3	39.2	39.0
Employment	Total	Millions	50.5	59.1	69.0	67.4	69.8	72.2	72.8	73.5
	Women	Millions	20.6	25.2	30.2	29.4	30.5	31.6	31.9	32.2
	Men	Millions	30.0	33.9	38.7	38.0	39.4	40.6	41.0	41.3
	Youth	Millions	9.9	10.1	9.4	8.7	9.0	9.3	9.3	9.4
Employment-to-population ratio	Total	Per cent	52.1	50.3	51.2	49.5	50.8	51.9	51.8	51.6
	Women	Per cent	41.4	42.0	44.0	42.3	43.4	44.5	44.4	44.3
	Men	Per cent	63.4	59.0	58.7	57.0	58.4	59.6	59.4	59.2
	Youth	Per cent	36.4	32.7	32.9	30.6	32.1	33.3	33.2	33.0
Unemployment	Total	Millions	5.3	5.4	7.0	6.7	6.6	6.0	6.1	6.2
	Women	Millions	2.6	2.2	3.1	2.9	3.0	2.9	2.9	2.9
	Men	Millions	2.7	3.2	4.0	3.8	3.6	3.2	3.2	3.3
	Youth	Millions	2.2	1.8	2.1	1.9	1.9	1.7	1.7	1.7
Unemployment rate	Total	Per cent	9.5	8.4	9.2	9.0	8.7	7.7	7.8	7.8
	Women	Per cent	11.2	8.1	9.2	8.9	9.0	8.3	8.3	8.4
	Men	Per cent	8.3	8.6	9.3	9.1	8.4	7.3	7.3	7.3
	Youth	Per cent	17.9	15.3	18.3	18.2	17.2	15.3	15.3	15.4
Jobs gap	Total	Millions		12.9	12.5	14.9	13.8	13.0		
	Women	Millions		6.3	6.1	7.4	7.0	6.8		
	Men	Millions		6.6	6.4	7.6	6.8	6.2		
Jobs gap rate	Total	Per cent		17.9	15.4	18.2	16.5	15.2		
	Women	Per cent		20.0	16.9	20.1	18.7	17.7		
	Men	Per cent		16.3	14.2	16.6	14.7	13.2		
Weekly hours worked per employee	Total	Hours		42.2	41.4	37.8	40.0	41.5	41.2	41.4

Table C19. Central and Western Asia (cont'd)

Indicator	Group	Unit	2000	2010	2019	2020	2021	2022	2023	2024
Youth NEET	Total	Millions		8.1	6.5	6.9	6.3	6.2		
	Women	Millions		5.1	3.9	4.1	3.8	3.8		
	Men	Millions		3.0	2.6	2.8	2.5	2.4		
Youth NEET rate	Total	Per cent		26.4	22.9	24.3	22.4	22.0		
	Women	Per cent		33.4	28.3	29.5	27.7	27.5		
	Men	Per cent		19.5	17.8	19.4	17.4	16.8		
Informal employment	Total	Millions		26.4	26.6	25.0	26.5	27.4		
	Women	Millions		12.2	12.5	11.6	12.4	12.7		
	Men	Millions		14.2	14.1	13.4	14.1	14.7		
Informality rate	Total	Per cent		44.6	38.6	37.0	38.0	37.9		
	Women	Per cent		48.4	41.4	39.3	40.7	40.1		
	Men	Per cent		41.8	36.4	35.2	35.9	36.2		
Wage and salaried workers	Total	Millions	25.4	34.8	44.8	44.2	46.1			
Self-employed workers	Total	Millions	25.1	24.3	24.1	23.2	23.7			
Share of wage and salaried workers	Total	Per cent	50.3	58.9	65.0	65.6	66.1			
Share of self-employed workers	Total	Per cent	49.7	41.1	35.0	34.4	33.9			
Extreme working poverty (<US$1.90 PPP per day)	Total	Millions	7.3	3.2	1.2	1.2	1.0	1.0		
Share of extreme working poverty (<US$1.90 PPP per day)	Total	Per cent	14.5	5.4	1.7	1.7	1.4	1.4		

Note: "Youth" = ages 15–24. The terms "women" and "men" refer to ages 15 upwards.

▶ Appendix D. Estimates of jobs in global supply chains

This appendix describes the data and methodology used to produce estimates of the number of jobs in global supply chains (GSCs) that are linked to high-income countries, as well as the jobs' composition in terms of sex, age, status, formality, skill level and pay.

Data

Estimates of the number of jobs in GSCs are constructed on the basis of a combination of two data sources. The first data source consists of the international input–output tables that are available for 62 countries worldwide for 2000 and 2007–21 from the MRIO Database of the Asian Development Bank (ADB). These tables cover 35 economic activities (henceforth called "sectors", shown in table D1) and provide information on country-sector level linkages in production. They are combined with a novel balanced panel database of ILO estimates of employment by detailed sector for 1991–2021, which was developed specifically for this project.

Besides the estimate of total employment in a sector, the ILO's database also includes for each sector an estimate of employment by sex (male and female), by age group (youth and adult), by employment status (employees and self-employed), by informality, by occupational skill level (high skilled and low/medium skilled) and by hourly pay of employees (low pay when earning less than two thirds of the median hourly pay). The ILO's harmonized microdata repository, which is the world's largest repository of national labour force survey data sets, is the primary source of these labour market indicators. Some additional data were taken from other national sources. These data are cleaned, and adjusted for breaks in the data series as well as for the lack of reliability in cases of data points based on less than 30 observations in the labour force survey. All the missing data points are estimated using information such as GDP, sectoral value added and employment data from other data sources such as the United Nations Industrial Development Organization (UNIDO) or the OECD. The estimation approach follows the ILO's standard methods to estimate labour market data (see Appendix B).

Methodology

The methodology applied to estimate the number of jobs in GSCs consists of three main steps.

First, one calculates the gross output in each country and sector which is required to produce one unit of final goods demanded in any country and sector. The Leontief inverse matrix allows one to determine these technical coefficients and is computed on the basis of the international input–output tables from the ADB's MRIO Database following standard input–output modelling procedures.

Second, a demand vector needs to be defined that captures output produced for GSCs. The methodology defines GSCs as including any type of supply relationship that crosses borders, thereby including exports of intermediates to be used in the production of final goods or services in other countries, and also exports of final goods or services. Consequently, the demand vector for each country for which the number of GSC jobs is to be determined is uniquely specified by country. For example, for GSC jobs in manufacturing in Thailand, the approach would consider jobs related to the production of manufactured goods in Thailand, which are either directly consumed or further processed and then consumed by consumers outside Thailand. To quantify "re-imports", meaning exported intermediates required to satisfy domestic demand, domestic demand is specified as a demand vector, but only the jobs related to the production of intermediates used in foreign countries are considered.

Third, gross output required from each sector within a country to satisfy GSC demand is translated into a corresponding number of jobs. By dividing employment in a sector by its gross output, the employment input per unit of gross output can be computed. In line with estimation approaches used by other international organizations, the assumption is made that labour productivity does not differ between GSC-related and non-GSC-related economic activity within a sector. The agricultural sector in low- and middle-income countries often comprises a large segment characterized by relatively low labour productivity levels, serving mainly local markets, and a small but highly productive

segment that is integrated into GSCs, serving international markets. As this report focuses on GSC jobs in industry and market services, the productivity differences in agriculture do not affect results shown in this report.

The incidence of employment characteristics (status, formality, skill, pay, sex, age) in GSC sectors is estimated as a weighted average of the incidence of such employment. The incidence in each sector is weighted by the share of that sector in total GSC employment. In Chapter 1, this figure is compared with the economy-wide incidence of employment characteristics, where the weights are simply the share of that sector in employment across all sectors considered.

When the data sources described above are combined in this way, the methodology produces estimates of GSC jobs for 35 sectors in 62 countries for 2000 and 2007–21 (see table D1 and D2 for lists of sectors and countries, respectively).

Table D1. Sectors included

Section/ division code	Industry name
A–B	Agriculture, hunting, forestry and fishing
C	Mining and quarrying
15–16	Food, beverages and tobacco
17–18	Textiles and textile products
19	Leather, leather and footwear
20	Wood and products of wood and cork
21–22	Pulp, paper, printing and publishing
23	Coke, refined petroleum and nuclear fuel
24	Chemicals and chemical products
25	Rubber and plastics
26	Other non-metallic minerals
27–28	Basic metals and fabricated metal
29	Machinery, n.e.c.
30–33	Electrical and optical equipment
34–35	Transport equipment
36–37	Manufacturing, n.e.c.; recycling
E	Electricity, gas and water supply
F	Construction
50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of fuel
51	Wholesale trade and commission trade, except of motor vehicles and motorcycles
52	Retail trade, except of motor vehicles and motorcycles; repair of household goods
H	Hotels and restaurants
60	Inland transport
61	Water transport
62	Air transport
63	Other supporting and auxiliary transport activities; activities of travel agencies
64	Post and telecommunications
J	Financial intermediation
70	Real estate activities
71–74	Renting of machinery and equipment and other business activities
L	Public administration and defense; compulsory social security
M	Education
N	Health and social work
O	Other community, social and personal services
P	Private households with employed persons

Notes: Based on ISIC Rev. 3.1.

Source: ADB MRIO.

▶ Table D2. Economies included

ISO code	Country name
AUS	Australia
AUT	Austria
BGD	Bangladesh
BEL	Belgium
BTN	Bhutan
BRA	Brazil
BRN	Brunei Darussalam
BGR	Bulgaria
KHM	Cambodia
CAN	Canada
CHN	China
HRV	Croatia
CYP	Cyprus
CZE	Czechia
DNK	Denmark
EST	Estonia
FJI	Fiji
FIN	Finland
FRA	France
DEU	Germany
GRC	Greece
HKG	Hong Kong, China
HUN	Hungary
IND	India
IDN	Indonesia
IRL	Ireland
ITA	Italy
JPN	Japan
KAZ	Kazakhstan
KOR	Republic of Korea
KGZ	Kyrgyzstan

ISO code	Country name
LAO	Lao People's Democratic Republic
LVA	Latvia
LTU	Lithuania
LUX	Luxembourg
MYS	Malaysia
MDV	Maldives
MLT	Malta
MEX	Mexico
MNG	Mongolia
NPL	Nepal
NLD	Netherlands
NOR	Norway
PAK	Pakistan
PHL	Philippines
POL	Poland
PRT	Portugal
ROU	Romania
RUS	Russian Federation
SGP	Singapore
SVK	Slovakia
SVN	Slovenia
ESP	Spain
LKA	Sri Lanka
SWE	Sweden
CHE	Switzerland
TWN	Taiwan, China
THA	Thailand
TUR	Türkiye
GBR	United Kingdom
USA	United States
VNM	Viet Nam

Source: ADB MRIO.

Appendix E. Productivity measurement and data

Measuring productivity

Productivity measurement, including the precise indicators to be used, is an issue of utmost relevance to the analysis in Chapter 3. Most production processes involve multiple outputs and virtually all involve multiple inputs, and thus in Chapter 3 the choice of the productivity measure matters (Diewert and Nakamura 2005).

Some of the measures proposed in the literature include:

- single-factor productivity (SFP) defined as the ratio of a measure of output quantity to the quantity of a single input;
- labour productivity (LP) defined as the ratio of a measure of output quantity to some measure of the quantity of labour used, such as total workers or total hours worked;
- multifactor productivity (MFP) defined as the ratio of a measure of output quantity to a measure of the quantity of a bundle of inputs often intended to approximate total input;
- total-factor productivity (TFP) defined as the ratio of a measure of total output quantity to a measure of the quantity of total input.

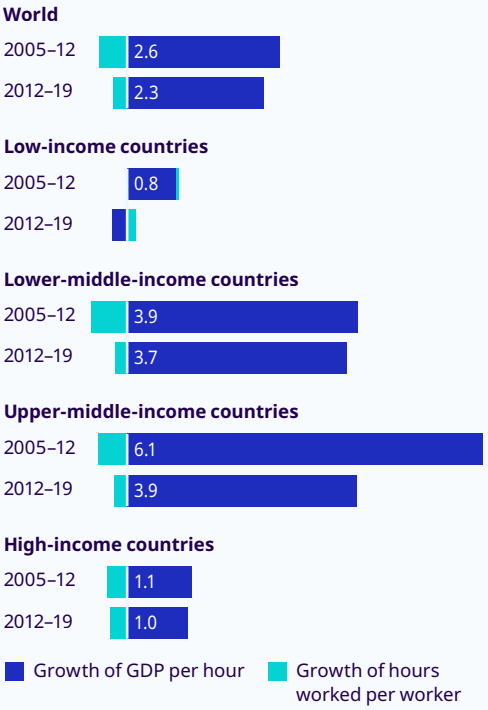
Labour productivity is one of the most widely used indicators. Its level and evolution over time depend on the availability of other inputs – such as different forms of capital – and the technology used to combine them to produce output. Labour productivity can be directly measured using widely available national account and labour market variables. TFP, by contrast, is a theoretical construct that is assumed to reflect efficiency gains, whence the income gains accruing to all factors of production are derived. The importance of TFP is reflected in its being the most commonly employed proxy to gauge the degree of technological progress as well as other important drivers of productivity like institutional quality. As such, it is considered to be a key driver of labour productivity growth, together with capital deepening. One of its main drawbacks, however, is that it reflects several factors that cannot be distinguished from one another. In addition, the accurate measurement of TFP is a difficult task, since it is generally calculated as a *residual* obtained after the contributions to output from labour and capital are computed in standard production functions. This in turn implies that TFP may reflect factors other than pure productivity gains. These factors chiefly include market failures such as imperfect competition, rents associated with market power, and the role of other inputs (for example, intangible and/or natural capital) not incorporated in standard production functions. In the standard approaches to estimating it, TFP can also capture the utilization intensity of inputs such as capital and labour; for example, one might wrongly attribute an increase in the capital stock already installed in an economy to an increase in efficiency. Furthermore, there is a significant lack of comprehensive TFP panel data at the global level.

Labour productivity is not entirely exempt from its own measurement problems. These problems also relate to the measurement of output and labour input, the more contested issues being the correct pricing of output and the degree of harmonization of labour inputs. Nevertheless, labour productivity is regarded as the main determinant of living standards, income and material well-being. Moreover, the empirical evidence shows that labour productivity is also the most important economic factor in setting wages at a level that allows enterprises to retain workers and create jobs while paying decent wages (ILO 2020). From a technical point of view, labour productivity does not rely on strong assumptions about the specific production function governing how output is generated, such as are needed to estimate TFP.

In productivity studies, labour input is most appropriately measured as the total number of hours actually worked, that is, effectively used in production, and whether paid or not.[1] Although data on hours worked are available, they span relatively short periods of time and hence are unsuitable to illustrate the secular stagnation in productivity growth. Figure E1 shows the breakdown of growth

1 For a thorough discussion see https://www.oecd-ilibrary.org/sites/pdtvy-2017-5-en/index.html?itemId=/content/component/pdtvy-2017-5-en.

Figure E1. Breakdown of growth in GDP per worker into growth in GDP per hour and hours worked per worker
(percentages)



in GDP per worker into growth in GDP per hour and hours worked per worker. The former reflects the expansion of productivity that can be attributed to greater efficiency in production per hour worked, while the latter reflects the expansion that can be attributed to the change in the number of hours worked per worker.

Figure E1 reveals that, for the world as a whole, both hours worked and GDP per hour contributed to the slowdown of growth of GDP per worker observed between the – relatively short – periods of 2005–12 and 2012–19. The role played by GDP per hour was, however, much larger for upper-middle-income countries, and the intensity of work measured in hours worked per worker remained unchanged between the two seven-year periods in the case of high-income countries.

Since the analysis adopts mostly a long-term perspective, necessitating as long a time series as possible, Chapter 3 uses data on productivity per worker as opposed to productivity per hour worked, acknowledging the caveats and limitations associated with this choice.[2]

Data sources used

Chapter 3 combines data from different sources. The data used for the analyses at the country and regional levels are sourced from either ILOSTAT, The Conference Board or the Penn World Table 10.0, whereas all the analyses at the sectoral level are carried out using the Economic Transformation Database (ETD) as well as the OECD's Structural Analysis (STAN) Database.[3] The three sources of data provide roughly the same values for the variables used throughout Chapter 3 at the aggregate level, confirming consistency at this level of analysis.[4]

ILOSTAT data have the advantage of covering a larger number of countries (189), thereby providing wider coverage of both regional and income groupings. The Conference Board data cover 133 countries across the globe and are preferred when it comes to demonstrating the productivity growth slowdowns afflicting the world economy, since the series starts in the 1950s. It also includes (estimated) data up to 2022. As with the other data sets, productivity data are comparable across countries. The main advantage of the Penn World Table 10.0 is that it features national account data, which are needed for physical capital investment. It comprises data for 183 countries.

For the more fine-grained examinations at the one-digit industry level featuring in Appendix F, the

2 The most relevant of which is that changes in labour productivity measured using employment levels may reflect changes in employment intensity rather than changes in value added produced per hour.

3 https://ilostat.ilo.org/; https://www.conference-board.org/data; https://www.rug.nl/ggdc/productivity/pwt/?lang=en; https://www.rug.nl/ggdc/structuralchange/etd/?lang=en; https://www.oecd.org/sti/ind/stanstructuralanalysisdatabase.htm. For extensive information on this data set see https://www.rug.nl/ggdc/structuralchange/etd/?lang=en.

4 The main variables we use are GDP in constant national currency as well as in international dollars, value added in constant national currency, and employment in thousands of people.

ETD data set is used, since it was built to ensure comparability across time and across the countries included. The ETD contains nominal and real value added and corresponding employment data at the industry level for 51 countries in Africa, Asia and Latin America. The data set features 12 industries and annual data from 1990 to 2018. To gain a broader country coverage, these data are combined with the STAN database, which contains the same variables for 38 countries, most of them high-income economies.[5]

The choice of these databases is grounded on their comprehensiveness in terms of capturing value added and employment data at the one-digit sector level, as well as on their well-known advantages in international comparability.[6] Whereas the ETD captures a blend of mostly low- and middle-income economies, the STAN database provides information for all OECD Members, which represent upper-middle-income and high-income countries.[7] Both sources of data have been widely used in cross-country analyses of labour productivity performance, in terms of both growth rates and levels.[8]

The EU KLEMS data set is a well-known resource for comparative investigations of productivity performance in high-income countries.[9] Since the analysis in this report only exploits data on value added and employment at the one-digit sector level, EU KLEMS data do not offer any further advantage than the OECD's STAN data set, inasmuch as the indicators in both cases are sourced from the same harmonized system of national accounts.[10] Thus, when it comes to these basic sector-level indicators, no further data-processing is undertaken by either the OECD or the group of researchers who maintain the EU KLEMS database.[11] The use of the ETD and STAN databases ensures that growth rates are comparable at the sectoral level when calculated using data on value added defined in constant units of national currencies. To undertake the aggregate productivity growth decomposition analysis in Appendix F, we use industry-level employment shares as weights.

Finally, it is worth noting that, since our main focus is on comparing labour productivity growth performance across countries over time, we rely on data in real terms to compute real labour productivity growth rates. At the sectoral level we only conduct growth comparisons, utilizing data on real value added and employment, the former expressed in constant national currency terms. At the economy-wide level, we also make comparisons of labour productivity levels, for which we employ real value added data adjusted for PPP differences across countries.[12]

5 For extensive information on this data set see https://www.oecd.org/sti/ind/stanstructuralanalysisdatabase.htm.

6 See Herrendorf, Rogerson and Valentinyi (2022) and De Vries et al. (2021) for a discussion of the merits of the ETD for comparative international analyses on productivity matters.

7 Although only 12 per cent of the observations in our final sample belong to low-income countries, the ETD remains, to our knowledge, the only reliable database for cross-country labour productivity comparisons involving these economies. See Herrendorf, Rogerson and Valentinyi (2022) for a discussion.

8 Recent examples of empirical studies utilizing the ETD include Herrendorf, Rogerson and Valentinyi (2022) and Xinshen, McMillan and Rodrik (2019). For a recent example of analysis based on the STAN database, see European Commission (2020).

9 For more information on this database see https://euklems-intanprod-llee.luiss.it/.

10 The original national account data are published by each country's respective national statistical office.

11 The major advantage of the EU KLEMS data lies in its modelling of the sources of productivity growth at the sector level. By employing a growth-accounting methodology, it estimates the contribution of a diverse set of drivers of productivity growth, such as physical capital, skills and intangible assets, in delivering labour and TFP growth. For the latest information on this database, see https://euklems-intanprod-llee.luiss.it/.

12 The use of PPPs is advised against when comparing labour productivity at the industry level across countries. See, among others, OECD (2021), for an explicit example.

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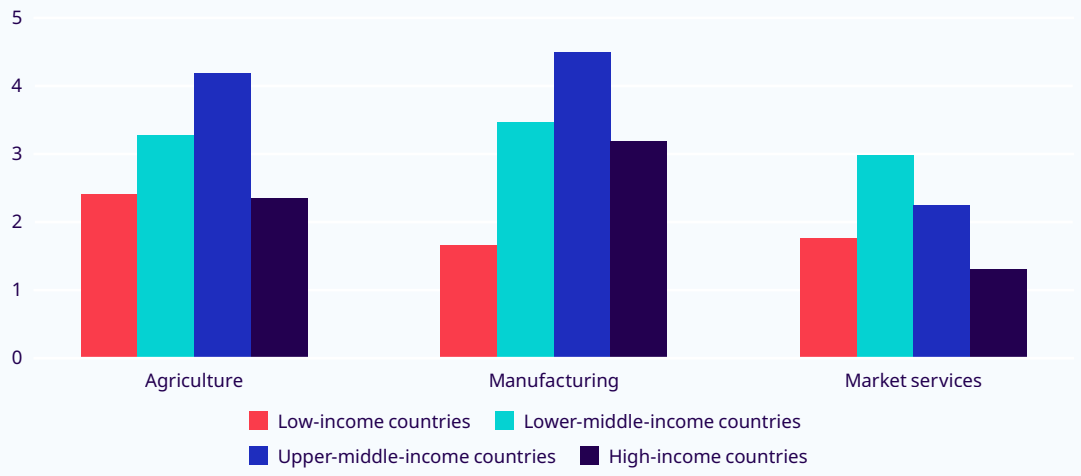
Appendix F. Productivity growth and structural change

This appendix contains a simple analysis of labour productivity growth in the main economic sectors as well as the implications of shifts in the sectoral composition of economies (structural change) for long-term aggregate labour productivity growth.

The patterns of labour productivity growth observed in the period 1992–2018 across the three main sectors are rather similar across the four different country income groups (figure F1). The well-established fact that the services sector is more sluggish in general than the primary and secondary sectors, regardless of countries' income level, is also confirmed. Interestingly, though, services seem to demonstrate better productivity growth in the lower-middle-income group, while the upper-middle-income countries have seen higher labour productivity growth rates in the agricultural and manufacturing sectors. Importantly for development purposes, the pace of productivity gains in the primary sector in the lowest income group is rather similar to that in the highest income group, implying that convergence in that sector is far from having materialized.[1]

Next, we turn to investigating the role played by the different drivers of labour productivity growth. This analysis is based on the methodology originally developed by Foster, Haltiwanger and Krizan (2001). These authors proposed an industry-wide decomposition of labour productivity growth when firm-level data sets are used. Their methodology is applied to the industry-level data to obtain analogous results applicable to aggregate labour productivity performance.

Figure F1. Average labour productivity growth in the main economic sectors, 1992–2018 (percentages)



Note: Growth rates for each group are obtained by computing the weighted average labour productivity growth rate of the countries in that group, the weights being given by each country's share of the total real GDP (PPP in constant international 2017 dollars) of the country income group. Labour productivity at the sectoral level is constructed using gross value added at constant 2015 prices (millions of local currency) and the total number of people engaged. Market services include trade and transport, information and communication, professional, scientific and technical activities, and administrative and support service activities.

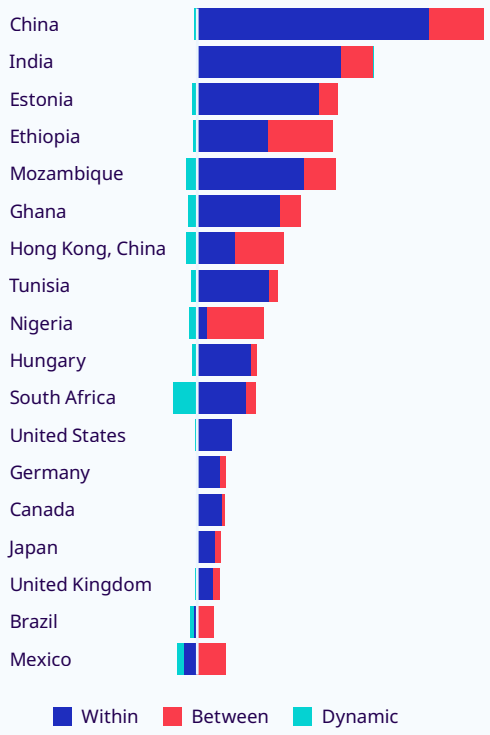
Source: Authors' calculations based on data from STAN, ETD and ILOSTAT.

1 For a deep investigation into the role played by agriculture in convergence across economies, see Dieppe and Matsuoka (2021).

This methodology consists of breaking economy-wide labour productivity growth down into three main components: the *within*, the *between* and the *dynamic* or *cross-term* effects. The first of these captures the effect of productivity growth within the different industries while holding sectoral employment shares constant. It is usually interpreted as capturing the intrinsic contribution of each industry to overall productivity growth, which can include factors such as technological progress and other types of efficiency gains at the sectoral level. The second component provides a measure of the part of aggregate labour productivity growth that owes to the shift of labour towards sectors with lower or higher labour productivity levels (the term "between" alludes to that flow of labour that takes place *between* industries). Finally, the dynamic effect measures the interaction of changes in industry-level labour productivity and employment across sectors over time. Therefore, it measures the extent to which positive/negative efficiency gains interact with the expansion/contraction of different industries.[2] Figure F2 shows various breakdowns of labour productivity growth, for selected countries, into these three different components.

Figure F2 shows that the *within* component, capturing the part of labour productivity growth that owes to intrinsic labour productivity growth at the sectoral level, has been the largest contributor to average labour productivity growth across the countries shown.[3] Exceptions include Brazil, Mexico and Nigeria, where the main driver of labour productivity growth has been the *between* component, which reflects shifts of labour across industries. In these three countries, the decomposition shows that these shifts have been in favour of industries with higher productivity levels per worker. It is also worth noting that in several countries – including Nigeria, Mexico and South Africa – the contribution of the *dynamic* component was negative, meaning that employment did not flow to the sectors with the highest average labour productivity growth profiles.

▶ **Figure F2. Decomposition of labour productivity growth, selected economies** (percentages)



Note: Contributions are expressed in percentage points of the actual average annual labour productivity growth rate. For more details on the methodology behind this decomposition, see Foster, Haltiwanger and Krizan (2001). Labour productivity at the sectoral level is constructed using gross value added at constant 2015 prices (millions of local currency) and the total number of people engaged.

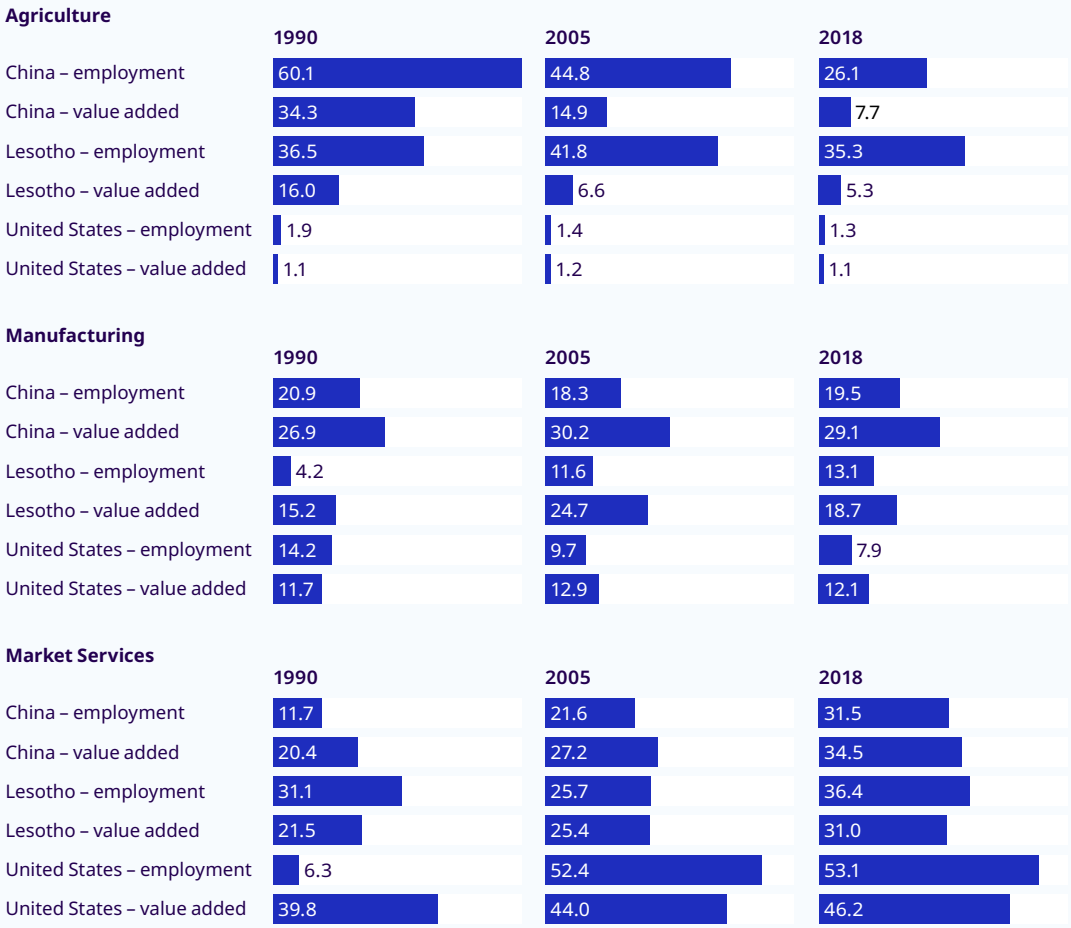
Source: STAN and ETD.

In countries at the bottom of the distribution of income per worker, it is worth emphasizing, dynamic labour reallocations across sectors have been detrimental to overall labour productivity growth, whereas the within and between

2 For a very clear explanation of this methodology, including the mathematical details behind it, see https://www.oecd-ilibrary.org/sites/pdtvy-2018-4-en/index.html?itemId=/content/component/pdtvy-2018-4-en#:~:text=The%20shift%2Dshare%20analysis%20is,by%20resource%20reallocation%20among%20sectors.

3 This is consistent with recent evidence indicating that, between 1995 and 2018, within-sector increases in labour productivity can explain at least two thirds of average economy-wide labour productivity growth in every region of the world (Nayyar, Hallward-Driemeier and Davies 2021).

Figure F3. Real value added and employment shares across sectors (percentages)



Note: Value added shares are expressed in real terms. Shares may not add up to 100, since these sectors only represent a (large) proportion of the whole economy. The composition of market services is defined at https://ilostat.ilo.org/resources/concepts-and-definitions/description-labour-force-statistics/.

Source: ETD and STAN.

components have had the largest positive contributions. This is exemplified by all the sub-Saharan African economies shown. Moreover, the flow of labour resources to sectors with higher productivity levels has been a marked characteristic of the labour productivity growth experience of Ethiopia, one of the least developed countries in the sample. The same applies to upper-middle-income economies such as Hong Kong (China) and Mexico.

Figure F3 shows the evolution of real value added and employment shares for three major sectors: agriculture, manufacturing and market services. The graph reproduces well-known facts about the different sectoral structures of economies with different levels of development. Lesotho, the least developed country represented in the whole data set, exhibits an economic structure marked by the agricultural sector's strong presence, especially in terms of employment. The sectoral composition of the United States has changed only very slightly, the progressive drop in the employment share of the manufacturing sector being an implicit sign of the relatively strong performance of labour productivity in that sector. Meanwhile, China's economic transformation has been characterized by the well-known process of

expanding export-based manufacturing to the detriment of employment in the primary sector.

The three sectors' shares of real employment have changed comparatively little in Lesotho over the last two decades. This partly reflects a lack of rapid structural transformation, which has been both a cause and a consequence of the lack of overall economic growth. Value added shares, by contrast, have declined significantly in the agricultural sector and increased in the market services sector. This observation points to the possibility that Baumol's cost disease is at play in this country (Baumol 1967). In addition, the stagnation of manufacturing employment at a relatively low share is consistent with findings that recent trends in structural transformation in lower-middle-income countries have not been following the same path of industrialization that most of today's high-income countries did when they developed to achieve their high-income status (Nayyar, Hallward-Driemeier and Davies 2021).

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