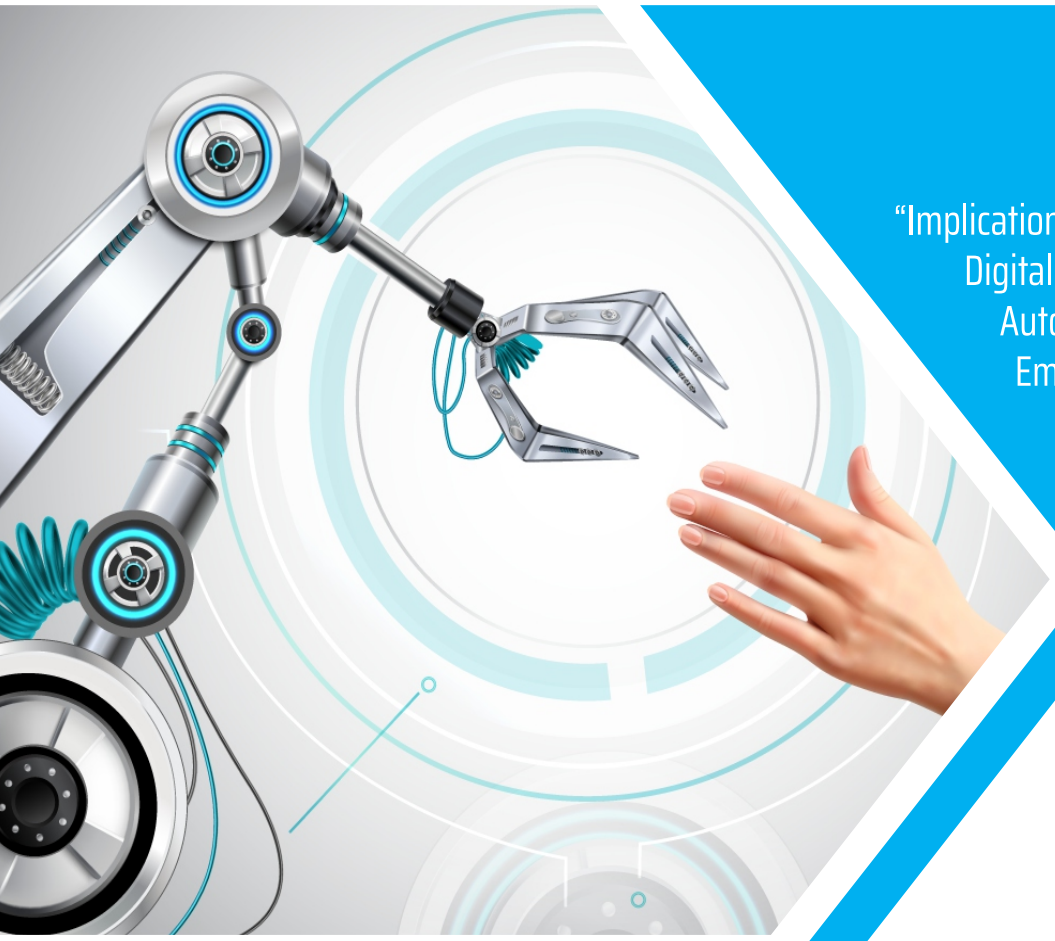
OIC LABOUR MARKET REPORT 2023



"Implications of Rising Digitalization and Automation on Employment"

ORGANISATION OF ISLAMIC COOPERATION

STATISTICAL, ECONOMIC AND SOCIAL RESEARCH AND TRAINING CENTRE FOR ISLAMIC COUNTRIES

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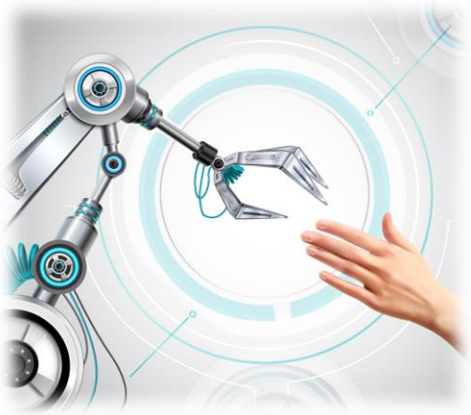

Organisation of Islamic Cooperation

Statistical, Economic and Social Research and Training Centre for Islamic Countries

Kudüs Cad. No: 9, Diplomatik Site, 06450 Oran, Ankara –Türkiye

Telephone +90–312–468 6172

Internet www.sesric.org

E-mail pubs@sesric.org

This report is authored by Kenan Bağcı (SESRIC). Davron Ishnazarov (SESRIC) provided assistance in the preparation of section 4.3.

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For additional information, contact Research Department, SESRIC through: research@sesric.org

CONTENTS

ACRONYMS

ALMP	Active Labour Market Policy
CRLU	Composite Rate of Labour Underutilization
DSGI	Digital Skills Gap Index
EPR	Employment-to-Population Ratio
ECA	Europe and Central Asia
GDP	Gross Domestic Product
ICLM	Islamic Conference of Labour Ministers
ICT	Information and Communication Technologies
ILO	International Labour Organization
ISCO	International Standard Classification of Occupations
JGR	Job Gap Rate
KPI	Key Performance Indicator
LFPR	Labour Force Participation Rate
LMP	Labour Market Policy
LMS	Labour Market Strategy
MENA	Middle East and North Africa
NEET	Not in Education, Employment or Training
OECD	Organization of Economic Cooperation and Development
OIC	Organization of Islamic Cooperation
OSH	Occupational Safety and Health
PES	Public Employment Services
PPP	Purchasing Power Parity
SME	Small- and Medium-sized Enterprise
SSA	Sub-Saharan Africa
STEM	Science, Technology, Engineering and Mathematics
TA	Thematic Area
TVET	Technical and Vocational Education and Training
WB	World Bank
WEF	World Economic Forum

FOREWORD

In a world marked by rapid technological advancements, the digitalization and automation of industries has emerged as a transformative force, reshaping the landscape of work and employment. The impact of this digital revolution is both profound and multifaceted, bringing with it a wave of opportunities and challenges that demand careful consideration. This edition of the OIC Labour Market Report delves deep into the intricate web of consequences that digitalization and automation bring to the global workforce, with a particular focus on OIC countries.

The report starts by offering invaluable insights into the dynamics of labour force participation and employment across OIC countries. Notably, we witness the constant rise in the share of OIC countries in global labour force, even though the participation rates are not increasing across the OIC region. Amid these shifts, the report underscores the critical importance of gender parity and youth engagement, who enjoy fewer opportunities in labour markets. This dichotomy calls for targeted efforts to unlock the potential of a significant segment of the population. In tandem with these insights, the report underscores the imperative of social protection and income equity. While strides have been made in reducing poverty rates, there remains a call for enhanced social safety nets that ensure the well-being of all workers. The evolution of labour productivity and income levels underscores the need for inclusive growth strategies that uplift the entire workforce.

A centrepiece of this report is the exploration of digitalization and automation, and their implications for OIC countries. As industries digitize, jobs are being redefined, tasks are being reshuffled, and skills are taking on new dimensions. Even though the digital age offers the promise of heightened productivity, unprecedented innovation, and an evolving job market, it also poses risks, particularly for those whose skills and roles are most vulnerable to automation. Central to this report's narrative is the urgency of equipping individuals with the skills and capabilities required for the future of work. The task ahead is not only about safeguarding jobs but also about harnessing the full potential of emerging technologies to drive economic growth, create new avenues for prosperity, and forge pathways towards inclusive development. The blueprint for success lies in proactive measures that address the digital divide, promote education and training, foster innovation, and cultivate an ecosystem that thrives on collaboration and partnerships.

As the digital age is redefining the boundaries of work, skills, and opportunities, the unique challenges faced by OIC countries come also into sharp focus. In the face of redesigning of traditional economic structures with digitalization, OIC countries have the potential to leapfrog into a future characterized by innovation, inclusivity, and economic diversification. Yet, this transformation requires strategic planning, bold policy reforms, and concerted efforts to upskill and reskill their workforce. The Islamic ethos of learning and knowledge acquisition resonates strongly in the context of preparing the workforce for the challenges of automation. By embracing the changes brought forth by digitalization, OIC countries can not only secure their place in the global economy, but also pave the way for a future where technology is harnessed to uplift societies and drive progress.

Zehra Zümrüt SELÇUK
Director General
SESRIC

EXECUTIVE SUMMARY

This report provides an update on the current state of labour market in OIC countries and a comprehensive assessment on the rise of digitalization and automation as well as their impacts on labour markets. The report also provides a brief assessment on the progress made towards the implementation of OIC Labour Market Strategy 2025 based on key performance indicators and survey responses.

Main findings of the report are as follows:

Labour force participation and employment

- OIC countries have constantly increased their share in the world **total labour force** from 18.5% in 2010 to 20.6% in 2022. On the other hand, the increase in the share of youth labour force is even more striking, which increased from 22.1% in 2010 to 26.1% in 2022.
- Despite some fluctuations, **labour force participation rate** in OIC countries remained rather stable at around 56% over the last decade, which was estimated at 56.2% as of 2022. However, with female participation rate of 38.2%, OIC countries are significantly lagging behind the world average of 47.3% in 2022.
- **Youth labour force participation** in OIC countries decreased from 37.1% to 36.7% during 2015-2022. Meanwhile, this ratio decreased even more significantly in non-OIC developing countries from 43.7% to 40.7%. The world average was recorded at 40.1% in 2022.
- The global **employment-to-population ratio** (EPR) has been constantly falling over the last decade. It fell to 56.9% in 2019 compared to 58.1% in 2010 and further declined to 54.5% in 2020 due to the pandemic, before increasing back to 56.4% in 2022. This ratio for the OIC group was estimated at 52.9% in 2010, which slightly fell to 52.7% in 2022 following the pandemic. The EPR for female remained only half of the ratio for male population in OIC countries in 2022, and youth EPR (31.7%) remained lowest in OIC countries as compared to other country groups.
- OIC countries recorded significantly higher average **unemployment rates** compared to the world, developed and non-OIC developing countries. Total unemployment rate in 2022 was on average 6.3% in OIC countries, 5.9% in non-OIC developing countries and 4.5% in

developed countries. The rate of female unemployment remains highest in OIC countries with 7.4% in 2022.

- Youth people (aged 15 to 24 years) continue to suffer from lack of decent job opportunities across the globe, where global **youth unemployment** reached 14% in 2022. It is estimated to reach 13.7% in OIC countries, 9.7% in developed countries and 15.0% in non-OIC developing countries.
- Globally, almost one-fourth (23.5%) of young people are currently **not in employment, education or training (NEET)**. In 2022, 28.8% of youth are estimated to be in NEET status in OIC countries. This ratio is 23.2% in non-OIC developing countries and 9.7% in developed countries.

Labour productivity, income and social protection

- **Educational level of labour force** in OIC countries is relatively low. Around 27% of labour force is estimated to have less than basic education, which is 20.5% in non-OIC developing countries and only 0.3% in developed countries. Moreover, 31.3% of OIC labour force has only basic level of education. The shares of labour force with intermediate and advanced education in OIC countries are only 25.3% and 15.3%, respectively.
- The **level of skills** and qualifications of a person is a critical factor in enhancing the employability in the labour market and promoting productivity. The share of workers with low skills is 12.7% in OIC countries, which is lower than the average of non-OIC developing countries (19.8%). When compared with other country groups, OIC countries display a smaller share of high skilled employees (17.6%) than the group of developed countries (45.3%), but similar shares with non-OIC developing countries (17.9%). Moreover, skills match was only at 37% in OIC countries, as compared to 57% in developed countries and 45% in non-OIC developing countries.
- When total employment is disaggregated into three broad sectors, namely agriculture, industry and services, the share of employment in **agriculture** in OIC countries is estimated at 31.7%, **industry** at 21.1% and **services** at 47.2% in 2021.
- At the global level, **labour productivity** continue to witness an increasing trend over time. Output per worker in OIC countries has increased from US$ 24,500 in 2010 to US$ 29,700 in 2022, as measured in constant international prices based on purchasing power parity (PPP). However, an average worker in the group of OIC countries produced only 27.7% of the output produced by an average worker in the developed countries in 2022.
- With respect to **income levels**, the share of “extremely poor” in OIC countries decreased from 16.6% in 2010 to 10.8% in 2022. The share of “moderately poor” employed also showed a declining trend and estimated to reach 19.1% in 2022 compared to 24.8% in 2010. Average income share of workers in OIC countries was at around 42% in 2020, whereas this share was at 57% in developed countries and 48% in non-OIC developing countries.

- In OIC countries, 46.2% of the employed people were wage and salary workers, 38.4% own-account workers, 11.9% contributing family workers and 3.5% employers in 2021. With the increasing shares of wage and salary workers and employers in OIC countries, share of **vulnerable employment** has continuously declined to reach 50.3% in 2022 compared to 55.1% in 2010. However, the level of vulnerability of female employed remained high at 61.9% as compared to male employed (44.6%).
- **Social protection** measures are crucial for workers as they provide a safety net, ensuring their well-being and safeguarding against risks. The proportion of population covered by at least one social protection benefit is lower than the world average of 46.9% in 37 OIC countries - with less than 10% of the population covered in 13 OIC countries.

Implementation of OIC Labour Market Strategy

- Assessment of key performance indicators (KPIs) reveal that while some progress has been made in reducing working poverty rate, improving productivity, and skills levels, total unemployment rate continued to rise.
- Based on the response to the implementation survey of SESRIC from 23 OIC countries, 32% of all actions recommended in the strategy document were completed, 40% were initiated but not completed and 28% were not initiated yet. Moreover, in 67% of cases, countries are willing to engage in knowledge sharing activity. This reflects a relatively strong initial conditions to move forward and achieve the strategic goals suggested in the OIC Labour Market Strategy 2025 document.
- The highest rate of completion or initiation were observed in thematic areas 3 and 5. On the other hand, the highest share of actions that are not initiated yet are in thematic areas 1 and 2.

Automation, Sectoral Transformation and Changing Nature of World

- The impact of digitalization on jobs is complex and varies across industries. It can lead to the disappearance, digitization, or creation of tasks within job profiles. Digitalization also affects wage levels and the demand for different skills. While higher-skilled workers can benefit from new opportunities, low-skilled routine workers are at risk of job loss and need to adapt to the digital age.
- The impacts of digitalization and automation are diverse, with both positive and negative implications. Negative impacts include concerns about structural unemployment, reduced job opportunities, and the need for new skills. However, positive findings highlight the potential for increased free time, rising productivity, and the creation of new jobs.
- Public debate often focuses on the potential job-replacing aspect of automation, but research suggests a lower share of jobs being automatable. Workers in emerging markets have a more positive view of automation, while negative perceptions are prevalent among older, poorer, and more job-volatile workers.

have a more positive view of automation, while negative perceptions are prevalent among older, poorer, and more job-volatile workers.

- While there are various perspectives and findings on the impact of automation, there is a general consensus that routine tasks are highly susceptible to automation and are likely to be automated over time. This poses a risk to workers in countries that rely heavily on low-skilled labour, as they face a higher likelihood of becoming redundant due to the adoption of new technologies.
- In particular, low-skilled workers in OIC countries that rely on offshored activities are in direct competition with automation technologies in high-income countries. These technologies provide an alternative to low wages for companies seeking to lower their labour costs. This creates a challenge for developing countries, including OIC countries, as they face the risk of losing their competitive advantage in terms of low labour costs.
- Digitalization and automation have led to the emergence of non-traditional forms of employment and remote working, with over 80% of employers planning to digitalize working processes and potentially move a significant portion of their workforce to remote operations.
- There is an increasing demand for workers with digital skills, but there is a shortage of digitally skilled workers worldwide. The digital divide between groups of workers has widened, with significant disparities in internet access and resources for learning digital skills. It is crucial to provide training and reskilling opportunities to bridge the digital skills gap and prepare workers for the changing technological landscape.
- Digitalization and automation will lead to the emergence of new skills while certain existing skills may decline in relevance. Employers expect that 44% of workers' skills will be disrupted in the next five years. Skills related to data analysis, artificial intelligence, cybersecurity, and digital marketing will be in demand, while manual tasks and basic data entry may become less relevant or automated. Cognitive skills such as analytical thinking and creative thinking are highly valued, along with technological literacy.
- OIC countries demonstrate higher rates of labour market churn compared to the world average, with significant movement of workers expected in countries such as Pakistan, Indonesia, Bahrain, Türkiye, and Malaysia.

Planning for the Next Generation of Jobs and Employment

- In the light of significant transformations and disruptions that emerging technologies and automation bring to the job market, it is imperative for the OIC countries to get prepared for the future of work. They can mitigate the potential negative impacts of these changes and harness the opportunities they present by proactively equipping individuals with the necessary skills and capabilities.
- Getting prepared for the next generation of work is also crucial for the overall economic growth and societal well-being. Countries that prioritize the development of skills and

adapt their labour markets to technological advancements will be better positioned to attract investments, foster innovation, and remain competitive in the global economy.

- OIC countries face challenges such as the digital divide, skills gaps, job displacement, limited fiscal space, regulatory environment, and cybersecurity concerns, hindering their adaptation to rising digitalization. Addressing these challenges requires investments in digital infrastructure, education and skills development, policy reforms, public-private partnerships, and targeted support for vulnerable populations, as well as international cooperation and knowledge-sharing.
- OIC countries have the opportunity to leapfrog traditional infrastructure development and adopt advanced technologies, enabling faster implementation of digital solutions and greater efficiency. This requires investment in mobile and internet technologies, digital skills, innovation, and a favourable policy environment.
- Digitalization offers opportunities for inclusive growth, industrial upgrading, and economic diversification in OIC countries. It can enhance access to education, healthcare, financial services, and information, improve government efficiency and social services, and drive innovation and competitiveness in global markets.
- OIC countries should prioritize strategic workforce planning, skills development, sector-specific strategies, regulatory policies, innovation, and collaboration to prepare for the future of work.
- Key recommendations include understanding workforce trends, promoting digital literacy and STEM education, diversifying the economy, implementing flexible regulations, fostering innovation and entrepreneurship, strengthening social protection, improving digital infrastructure, empowering youth, and fostering collaboration and partnerships.

Overall, the report found that labour force participation rate, employment to population ratio, the share of labour force with tertiary education are lower, but female unemployment rate, the share of vulnerable employment, the share of employment in agriculture, inactivity rate, and share of labour force primary education are higher in OIC countries compared to other developing and developed countries.

As a long-standing problem in OIC countries, inactivity creates major economic problems by hampering economic growth and poverty alleviation, raising economic dependency and contributing to increased economic pressure on public resources. Addressing this challenge would contribute to achieving a more inclusive and productive economy across the OIC member countries. In addition to great potential impacts on economic development, reducing economic inactivity will also contribute to solving diverse social problems.

The implementation of an overall framework will be affected by a wide range of factors, including macroeconomic conditions, the ability of the economy to create new jobs, fiscal space to cover the costs of skills development and specific incentives, the ability of the labour market to utilize long-term unemployed or still inexperienced workforce, among others. Country specific

strategies should be designed in a way that takes into account these diverse factors. It is often challenging to allocate limited resources across priority areas in different sectors, but efficient use of resources is the only way to achieve developmental goals.

The future of work is expected to undergo profound transformations due to various factors such as climate change, technological advancements, the impact of the pandemic, and the need to address social tensions and inequality. These changes will have significant implications for both formal and informal workers, necessitating a shift in policies towards a novel paradigm of inclusive and sustainable development.

Chapter 1

LABOUR MARKET PARTICIPATION AND UNEMPLOYMENT

The demographic structure of a society plays a crucial role in shaping economic activities and outcomes. The proportion of the population in different age groups has significant implications for various aspects of the economy. The behaviour of different age groups regarding savings, labour market participation, investment decisions, and expenditure patterns can directly influence economic growth, productivity levels, inflation rates, and interest rates. Young people, who make up a significant portion of the population in OIC countries, play a critical role in economic development. They are more likely to invest in their own skills and other productive assets in order to secure a better future. A well-educated and skilled young population can contribute significantly to overall economic growth and development. Their active participation in the labour market and ability to adapt to changing economic conditions can boost productivity and innovation.

The labour market structure within an economy is a reflection of its existing capabilities and challenges. Many OIC countries face specific labour market characteristics such as low skill levels, high unemployment rates, a lack of investment in new skills, a high prevalence of informal employment, and a significant mismatch between available skills and job requirements. These factors pose significant hurdles to achieving economic progress and inclusive growth. Moreover, various internal and external challenges further complicate the task of policymakers in OIC countries, with implications not only for immediate income losses but also for the formation of skills and human capital. While the COVID-19 pandemic is not a major concern anymore, rising digitalization and automation represent a significant challenge for policymakers in both OIC countries as well as the rest of the world. The consequences of these challenges are complex and require comprehensive strategies that address both internal and external factors to promote sustainable economic development, job creation, and skills enhancement.

Today, as technology advances and automation becomes more prevalent, it is crucial to anticipate the tasks that will be automated and identify the skills that will remain valuable. Cultivating skills such as critical thinking, problem-solving, creativity, adaptability, emotional intelligence, and digital literacy will be essential for success in the future of work. Additionally, expertise in emerging technologies like data analysis, artificial intelligence, machine learning, robotics, and cybersecurity will be in high demand. Digitalization is also facilitating non-traditional forms of employment which provide greater flexibility. New patterns of employment such as ICT-based mobile work and digitally-enabled forms of self-employment are gaining traction around the world. By focusing on development of new skills for both traditional and emerging tasks, individuals and societies in OIC countries can thrive in an automated and technologically advanced world.

Against this background, and to guide the discussions in later chapters, this section provides a detailed account of labour market conditions in OIC countries by looking into labour market participation, employment-to-population ratio, and unemployment rate. The data used in this section and the next section are mainly obtained from the International Labour Organization (ILO) Modelled Estimates database for the sake of completeness. Box 1.1 provides some information on the advantages and disadvantages of this particular database.

BOX 1.1: ILO Modelled Estimates

The statistics provided in this report largely rely on the ILO modelled estimates. The ILO modelled estimates series provides a complete set of internationally comparable labour statistics, including both nationally-reported observations and imputed data for countries with missing data. The imputations are produced through a series of econometric models maintained by the ILO. 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. Estimates for countries with very limited labour market information have a high degree of uncertainty. Hence, estimates of labour market indicators for countries with limited nationally reported data should not be considered as "observed" data, and great care needs to be applied when using these data for analysis, especially at the country level.

For more information, please visit, https://ilostat.ilo.org/resources/methods/ilo-modelled-estimates/

1.1 Labour Force Participation

Labour force participation rate (LFPR) measures the proportion of people aged 15 and above that engages actively in the labour market, either by working or actively searching for a job. People who are neither employed nor unemployed are not considered a part of the labour force. For example, someone who would like to work but has given up looking for a job is not considered unemployed and is therefore not part of the labour force. A person in this situation is referred to

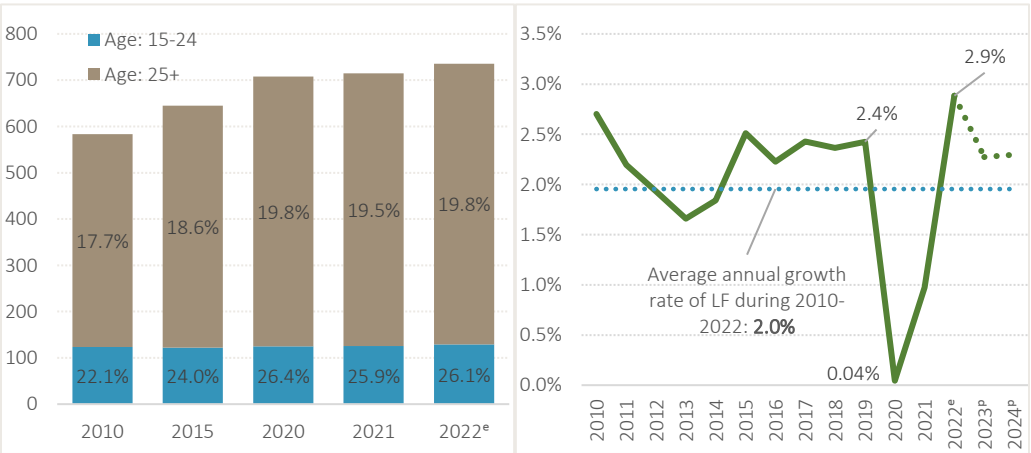
as a discouraged worker. Overall, LFPR provides an indication of the relative size of the supply of labour available to engage in the production of goods and services.

There are many factors affecting the LFPR, among them are demographics and economic trends. Demographics currently constitute a major challenge in developed countries, where aging population reduces the supply of labour. Economic trends affect labour demand all around the world. Slowing economic activities reduce the demand for labour and discourage more labour to exit the labour force. Many countries experienced sharp decline in labour force participation during the COVID-19 pandemic as a result of weakening economic activities and falling demand for labour. Technological advancements is another factor affecting the LFPR. While automation can lead to job displacement and reduce the need for certain types of labour in specific industries, it can also create new job opportunities and increase labour force participation in emerging sectors (see chapter 3 for more discussion on the impacts of automation and digitalization on labour markets).

Figure 1.1 shows the growth of the labour force in OIC countries disaggregated by age group. As of 2022, the total labour force of the OIC countries exceeded 735 million. About 82.5% of the total labour force in OIC countries is estimated to be adult and the remaining 17.5% is youth. Total labour force in OIC countries have been growing at an average annual rate of 2% since 2010 (Figure 1.1, right). Even during the COVID-19 pandemic, the growth in labour force remained positive, albeit trivial. Growth in total labour force in OIC countries is expected to remain at around 2.3% during 2023-24.

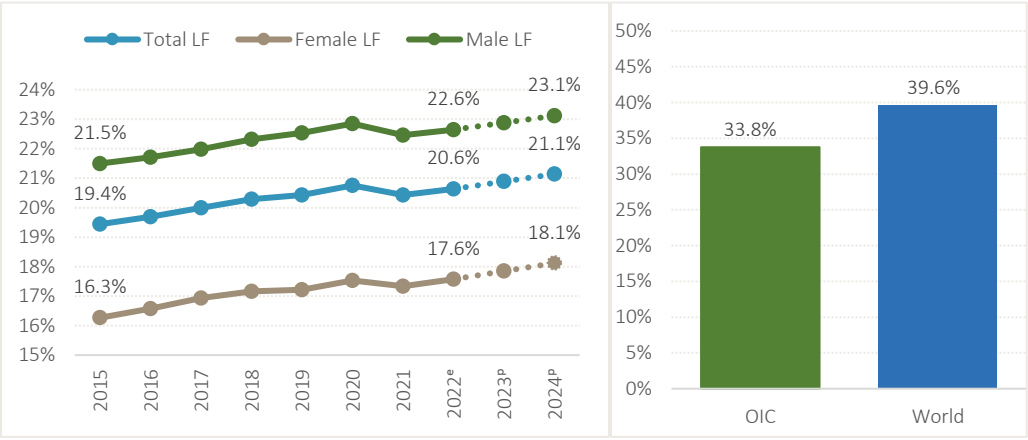
Considering the fact that the global labour force has increased only at a rate of 1.1% during 2010-2022, the share of OIC countries in global labour force has been growing over the years. As shown in Figure 1.2, this share increased from 19.4% in 2015 (or 18.5% in 2010) to 20.6% in 2022. Yet, relatively lower levels of women participation to labour force is reflected in lower share in global female labour force, which is estimated to be at 17.6% in 2022, as compared to 22.6% share for

Figure 1.1: Growth in Total Labour Force (Left) and Percentage Change (Right) in OIC Countries



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected. Percentages in the left figure show the share of OIC countries in global labour force by age group.

Figure 1.2: Share of OIC Countries in Global Labour Force (2015-2024, left) and Share of Women in Total labour Force in the OIC and the World (2022, right)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

male labour force. Overall, while women labour force accounts almost 40% of total labour force in the world, this share is 33.8% in the OIC region (Figure 1.2, right).

While the share of OIC countries in world total labour force is increasing, their labour force participation rate is not particularly promising. As shown in Figure 1.3, the average LFPR in OIC countries has not improved over the last decade, mainly due to adverse impacts of the COVID-19 pandemic. It has been steadily increasing from 55.6% in 2014 to 56.4% in 2019, yet the pandemic caused a sharp fall in LFPR in OIC countries, like in other parts of the world (Figure 1.4), and dropped significantly to 55.3% during the first year of the pandemic. It is estimated to reach 56.2% in 2022 and expected to reach its pre-pandemic level only in 2024. A comparison of LFPR in OIC countries with other comparison groups reveals that LFPR in OIC countries in 2022 remain

Figure 1.3: LFPR in OIC Countries

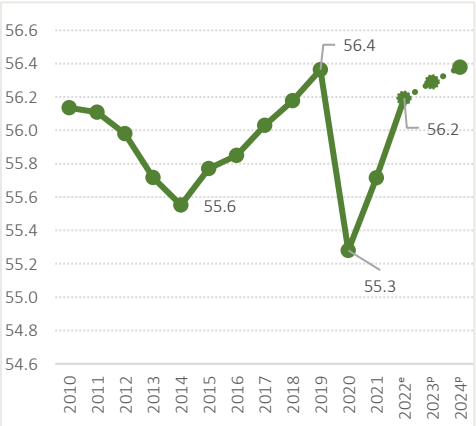
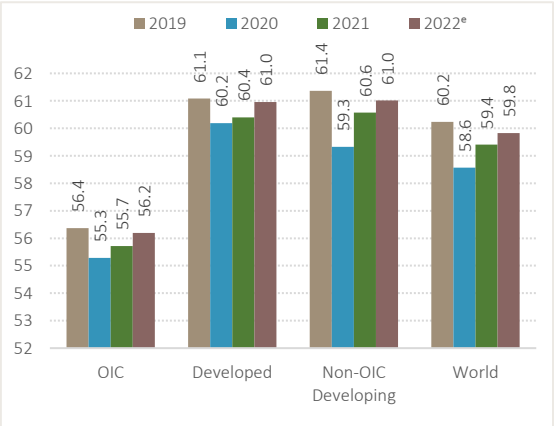


Figure 1.4: LFPR in Comparison, Pandemic Years

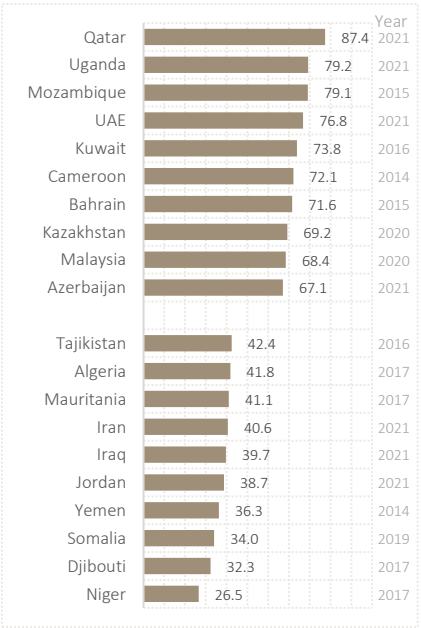


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

significantly below the averages of developed (61%) and non-OIC developing countries (61%) as well as the world average (59.8%).

At the individual country level, Qatar registered the highest labour force participation rate with 87.4%, followed by Uganda (79.2%), Mozambique (79.1%), United Arab Emirates (76.8%) and Kuwait (76.8%) (Figure 1.5), according to the national statistics available for the latest year after 2014. On the other hand, the lowest participation rate was recorded in Niger with 26.5%. It is followed by Djibouti (32.3%), Somalia (34.0%), Yemen (36.3%) and Jordan (38.7%). At the global level, while Qatar is ranked at 1st position, Niger, Djibouti and Somalia have also the lowest LFPR in the world. According to the ILO estimations, it is also worth mentioning that 17 out of the world 20 countries with the lowest participation rates in 2022 are OIC countries, demonstrating the severity of participation problem for the OIC region.

Figure 1.5: OIC Countries with Highest and Lowest Labour Force Participation Rates (15+, Total, LYA)

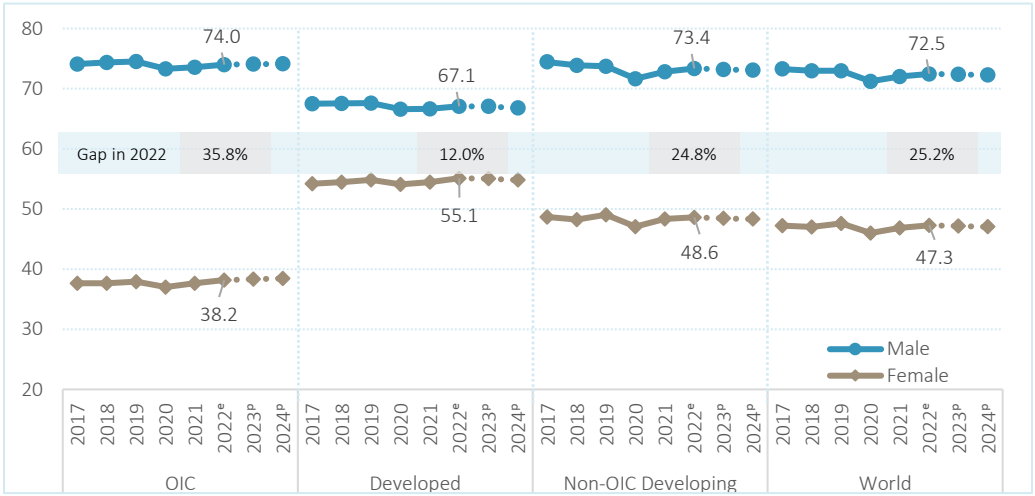


Source: ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023.

Female labour force participation is the lowest in OIC countries

As for the LFPR of the male population, OIC countries have a participation rate of 74.0% compared to 73.4% in non-OIC developing countries and 67.1% in developed countries in 2022 (Figure 1.6).

Figure 1.6: Labour Force Participation Rate, by Gender



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

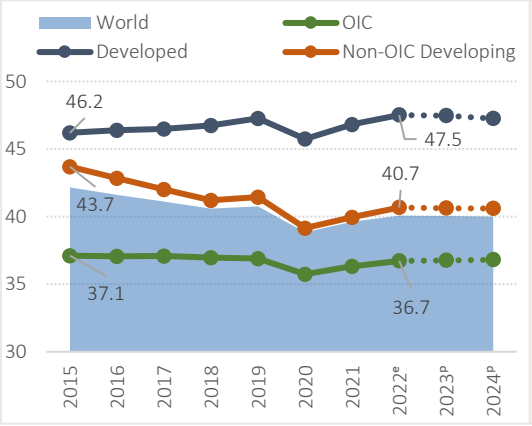
Although OIC countries registered globally comparable performance in terms of male LFPR, their performance in the case of female LFPR remained significantly poorer, which is estimated at 38.2% in 2022. This rate is already above the pre-pandemic levels and it is further expected to increase to 38.4% in 2024. Despite these improvements, average female LFPR in OIC countries remains significantly lower than the average of non-OIC developing countries (48.6%) and the average of developed countries (55.1%) during the post-pandemic period. It is noteworthy to mention that the world average male LFPR follow a declining trend over the last three decades, falling from over 78% during 1990s to below 72% in 2020. During the same period, global female LFPR fell from 50% to 46%. Global average stood at 72.5% for male and at 47.3% for female in 2022.

Youth labour force participation is falling in many parts of the world

With respect to young population aged 15-24 in OIC countries, a rather stable trend is observed in terms of participation to the labour force, where there is no indication that a greater share of young people seek opportunities to find a job matching their skills and qualifications. Youth LFPR in OIC countries fell from 37.1% in 2015 to 35.7% in 2020, which bounced back to 36.7% in 2022 (Figure 1.7). The global youth LFPR followed a declining trend, falling to 38.8% in 2020 as compared to 42.2% in 2015, which is expected to stay at around 40% during 2023-2024. The LFPR in non-OIC countries decreased even more significantly in non-OIC developing countries, which recorded a decrease from 43.7% in 2015 to 40.7% in 2022. Falling participation of youth across the world can largely be explained by the rising participation of young people to education and vocational training programmes, longer stay in school, tough labour market policies avoiding the work of teenagers and deterring impacts of the pandemic on the labour markets.

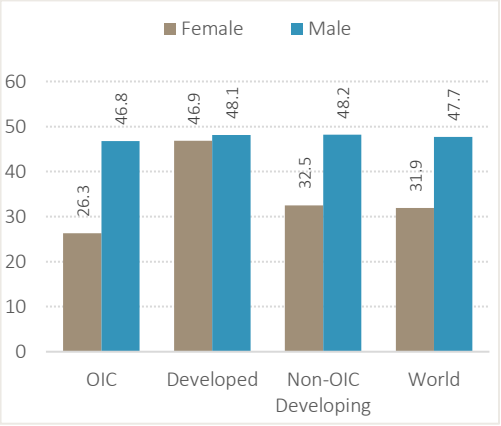
The declining trend in youth labour force participation is observed in both male and female populations in the world, which expands the gap between youth and adult LFPRs. While the participation rate of the young female population in OIC countries slightly stood at 26.3% in 2022,

Figure 1.7: Youth LFPR in Comparison



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

Figure 1.8: Youth LFPR in 2022, by Gender

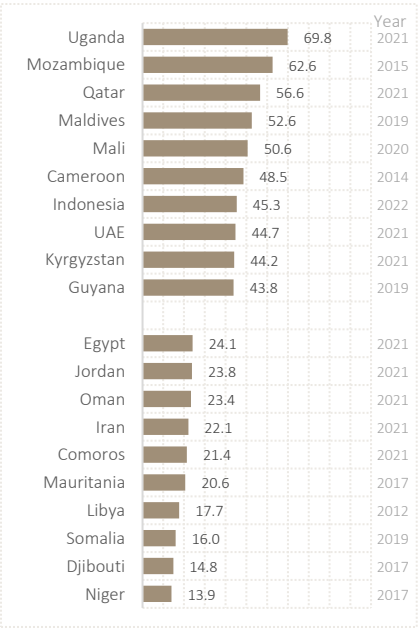


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

this rate was 46.8% among young male in OIC countries (Figure 1.8). Thereby, youth female participation in OIC countries continued to remain significantly below the averages of other country groups. Male participation in OIC countries is comparable to the world average. The largest gap between young male and female LFPR was observed in OIC countries, while this gap was the smallest in the group of developed countries.

At the individual country level, the highest youth labour force participation rate was reported in Uganda (69.8%), Mozambique (62.6%) and Qatar (56.6%). On the bottom side, Niger was the country with the lowest participation of young people to labour force with a rate of 13.9% only. Djibouti (14.8%), Somalia (16.0%), Libya (17.7%) and Mauritania (20.6%) were the other OIC countries with the lowest youth participation in labour force (Figure 1.9). The seven out of ten countries with the lowest youth LFPR in the world are OIC countries.

Figure 1.9: OIC Countries with Highest and Lowest Labour Force Participation Rates (15-24, Total, LYA)



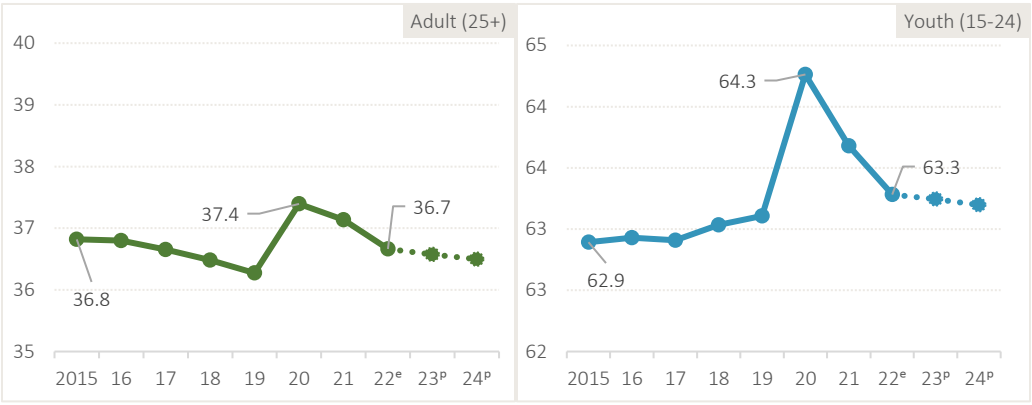
Source: ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023.

Inactivity remain a major concern in OIC countries

There is a variety of reasons why some individuals do not participate in the labour force. Among these reasons are caring for family members, retirement, sickness, disability, education, unavailability of suitable jobs, and unwillingness to work. Increases in the number of people who are inactive, for whatever reason, can have an impact on the unemployment rate as it can reduce the number employed, unemployed or both. It creates a major economic problem by hampering economic growth and poverty alleviation, raising economic dependency and contributing to increased economic pressure on public resources. The stubbornly high inactivity rates imply that this is rather a structural problem instead of a cyclical one and not significantly affected from prevailing socio-economic developments.

Inactivity rate among adult population was falling slightly over the years before the pandemic to reach at 36.3% in 2019 before surging to 37.4% during the pandemic. Recovery is expected to take longer for adult population, as the inactivity rate is expected to fall only to 36.5% in 2024. Inactivity among young people was slightly increasing during the pre-pandemic period to reach 63.1% in 2019. After a sharp increase to 64.3% during the pandemic, youth inactivity rate in OIC countries is expected to be fell back to 63.2% in 2024 (Figure 1.10).

Figure 1.10: Inactivity Rate in OIC Countries (%), by Age Groups

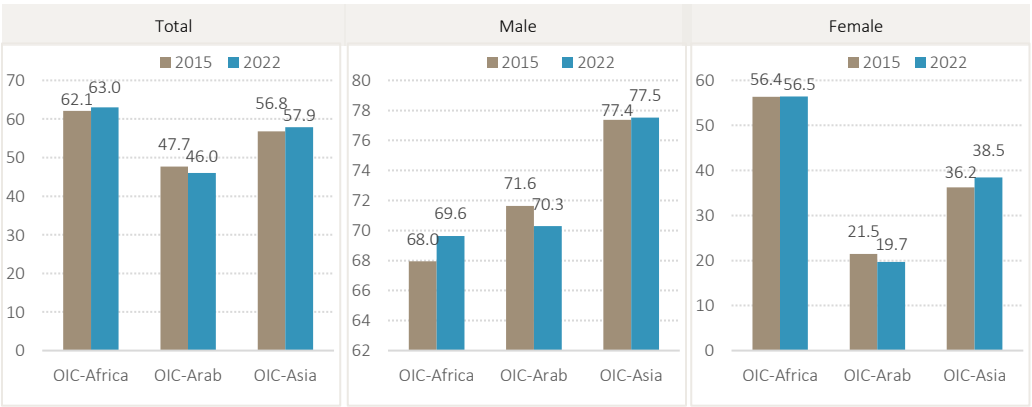


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

There are significant disparity across regions

As in the case of many economic and social indicators, there is significant heterogeneity across OIC countries in terms of labour market dynamics. Grouped based on their geographic locations (see Annex 1 for the country classification), the average LFPR is measured the highest among African OIC countries (63.0%) and the lowest rate in the OIC countries was in the Arab region (46.0%) (Figure 1.11). When disaggregated by gender, the lowest male LFPR was measured in the Africa region (69.6%), and Asian OIC countries demonstrate the highest LFPR among male population (76.3%) in 2022. On the other hand, there is a huge discrepancy across groups in terms of female LFPRs, where African OIC countries demonstrate the highest LFPR among female population (54.7%) but it is as low as 19.7% in Arab region. Accordingly, OIC countries in the Arab region perform below the OIC average in terms of both male and female labour force participation.

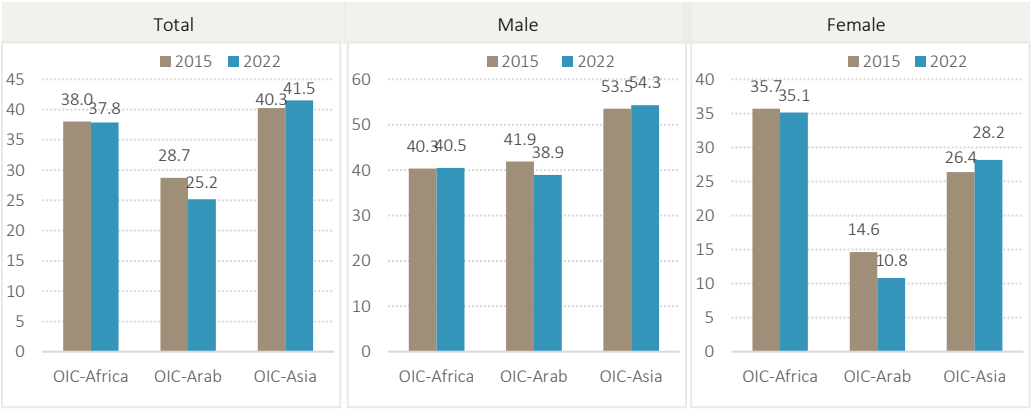
Figure 1.11: Labour Force Participation Rate in OIC Countries, by Region



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

Regional disparities are also visible in relation to the participation rates of young people. OIC countries in Asia region has an average youth LFPR at 41.5%, but this rate is as low as 25.2% in the Arab region, which is again largely to be explained by significantly low level of participation by female labour force at 10.6% (Figure 1.12).

Figure 1.12: Youth Labour Force Participation Rate in OIC Countries, by Region



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

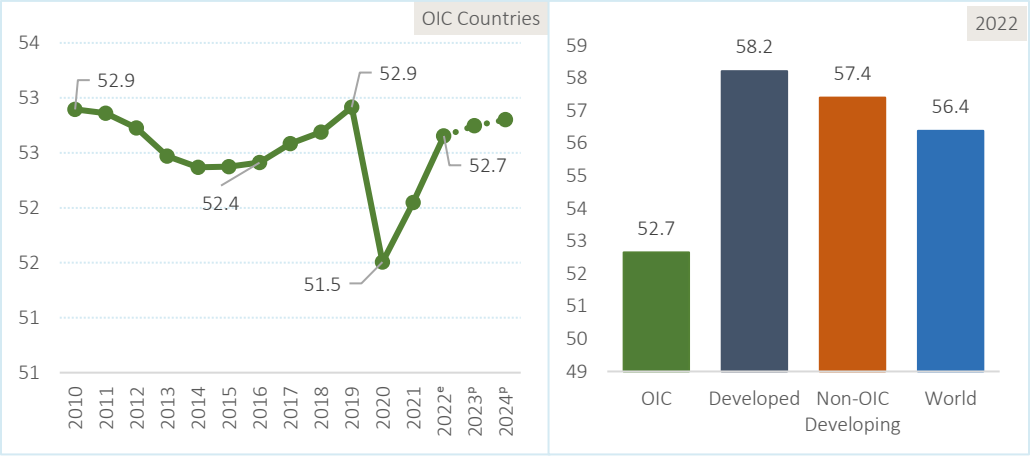
The analyses on labour force participation clearly demonstrate higher inactivity rates in OIC countries as compared to other county groups. Although this is to a large extend driven by female and youth inactivity rates, the overall picture reflects a great proportion of population being disengaged from working life, which can have detrimental impacts on social inclusion, wellbeing and economic productivity. Therefore, it is crucial to address this longstanding and quite often neglected problem in order to fully utilize the capacities and achieve the developmental goals. This requires developing a strategy through targeted incentives, skills development programmes and job creation.

1.2 Employment to Population

The employment-to-population ratio (EPR) is defined by ILO as the proportion of a country's working-age population that is employed. A high ratio means that a large proportion of a country's population is employed, while a low ratio means that a large share of the population is not involved directly in market-related activities, because they are either unemployed or out of the labour force altogether. The global EPR has been constantly falling over the last decade. It fell to 56.9% in 2019 compared to 58.1% in 2010 and further declined to 54.5% in 2020 due to the pandemic, before increasing back to 56.4% in 2022. The male EPR at global level stood at 68.3% and the female ratio at 44.5% in 2022.

The EPR in OIC countries was estimated at 52.9% in 2010, which climbed back to the same level after falling as low as 52.4% in 2014. The pandemic hit again to bring the ration down to 51.5% in 2020 and it is expected to increase only up to 52.8% in 2024, still below the pre-pandemic levels (Figure 1.13). As a result, the EPR ratio in OIC countries remained significantly below the

Figure 1.13: Employment to Population Ratio

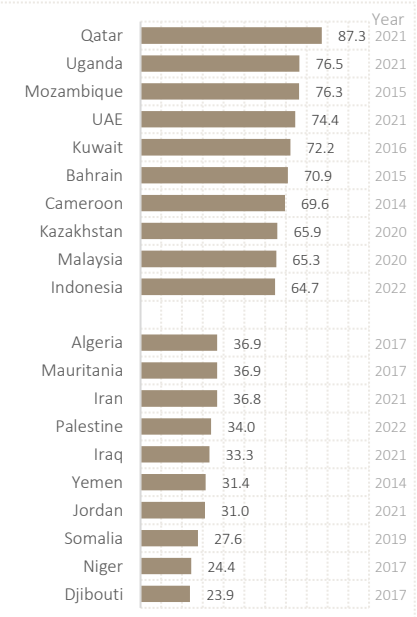


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

world average and average of other country groups. This ratio was 58.2% in the group of developed countries and 57.4% in non-OIC developing countries in 2022. The gap between the OIC average and the world average was approximately 3.7 percentage points.

The highest ratio of employment to total working age population within the OIC group was recorded in Qatar with 87.3%, which was also the third highest ratio in the world (Figure 1.14). It was followed by Uganda (76.5%), Mozambique (76.3%), United Arab Emirates (74.4%) and Kuwait (72.2%). This reflects the fact that these countries have relatively high shares of labour force participation and low levels of unemployment. On the other hand, the lowest proportion of employed population to total working age population was observed in Djibouti with 23.9%, which was also the lowest in the world. Other countries with low proportion ratio were Niger (24.4%), Somalia (33.5%), Jordan (36.3%) and Yemen (37.4%). Niger and Somali have the second and fourth lowest rates in the world. Lower EPR in these countries is an outcome of a combination of low labour force participation and/or high unemployment in the labour market, which requires them to address both challenges at the same in order to raise the EPR.

Figure 1.14: OIC Countries with Highest and Lowest Employment to Population Ratios (15+, Total, LYA)

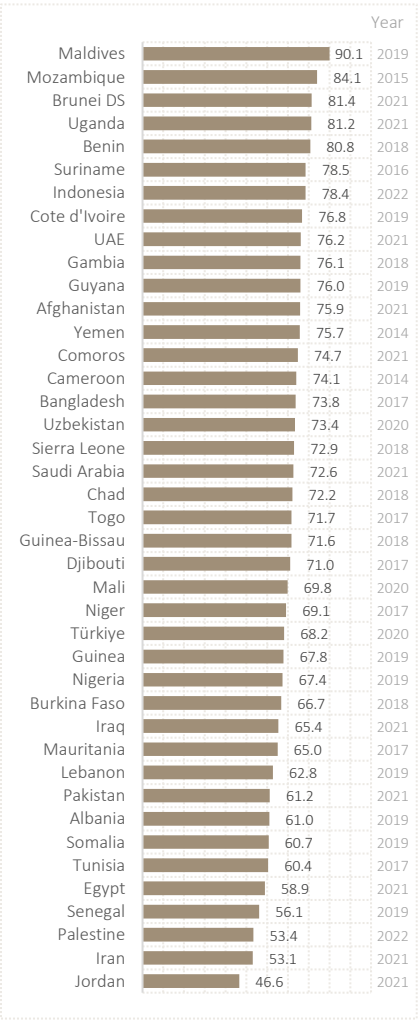


Source: ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023.

Investment in skills through education system is an important policy direction for supporting the active and productive participation of the labour force to

economic activities. Many OIC countries achieved a significantly high EPR for people with advanced education. This ratio is as high as 90.1% in Maldives, 84.1% in Mozambique and 81.4% in Brunei Darussalam. On the other hand, in some other OIC countries, active participation to economic activities continue to remain a challenge even for people with advanced education. For example, the EPR ratio for people with advanced eudcation is only 46.6% in Jordan (Figure 1.15). A likely explanation would be either insufficient job creation or significant skills mismatch for such people or both. Therefore, policies are needed to address the potential challenges and support the proper economic participation of people with advanced education, who accumulated knowledge and skills to effective participate in the labour market.

Figure 1.15: Employment to Population Ratio for People with Advanced Education (15+, Total)

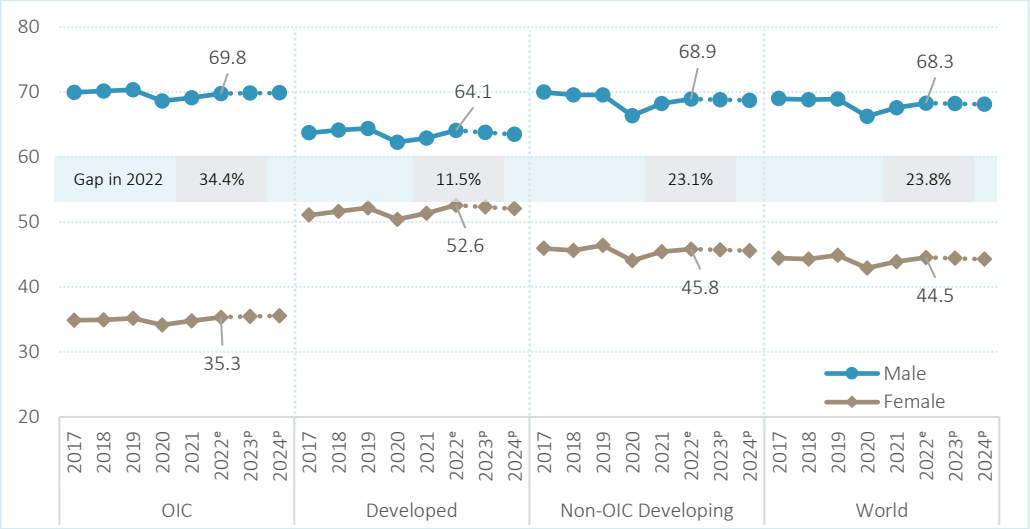


Source: ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023.

The employment-to-population ratio for female is only half of the ratio for male population in OIC countries (Figure 1.16). Despite a slight increase in the ratio for female, the ratio remained at 35.3% in 2022, whereas the ratio for male is as high as 69.8% in the same year. However, male EPR is still its pre-pandemic levels, female EPR ratio is already above its level before the pandemic, demonstrating relatively stronger recovery in female EPR. Nevertheless, the gender gap in OIC countries (34.4%) remains considerably above the levels observed in other country groups and the world average, where the gender gap was 23.1% in non-OIC developing countries, but only 11.5% in developed countries.

In contrary to the labour force participation of young people aged 15-24 that followed a rather stable trend (see Figure 1.7), the EPR for young people in OIC countries has been constantly falling during the period under consideration. It fell from 34.4% in 2010 to 30.4% with the additional impacts of the pandemic. As of 2022, OIC countries as a group have the lowest EPR with a value of 31.7% (Figure 1.17). A sharp fall was however observed in case of non-OIC developing countries with EPR declining from 42.2% in 2010 to 35.6% in 2019. On the other hand, EPR among the youth population in developed countries increased constantly to reach 42.5% in 2019.

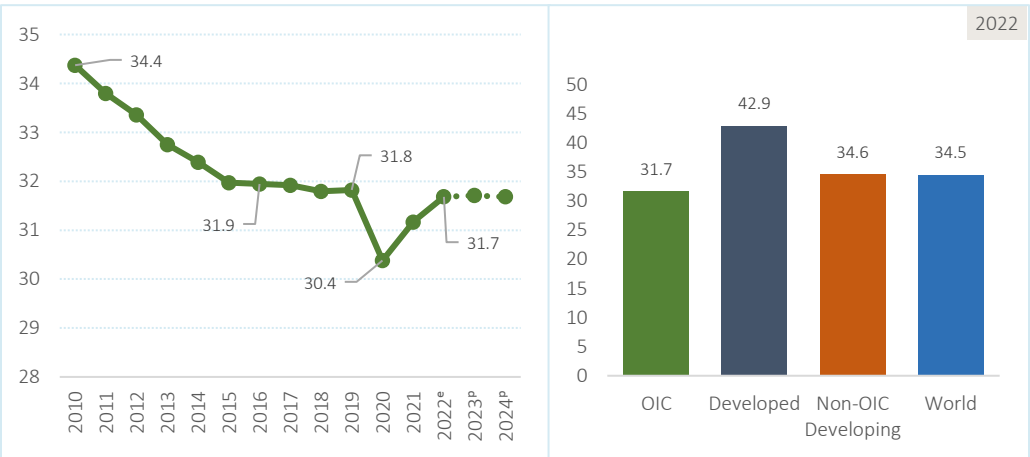
Figure 1.16: Employment to Population Ratio, by Gender



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

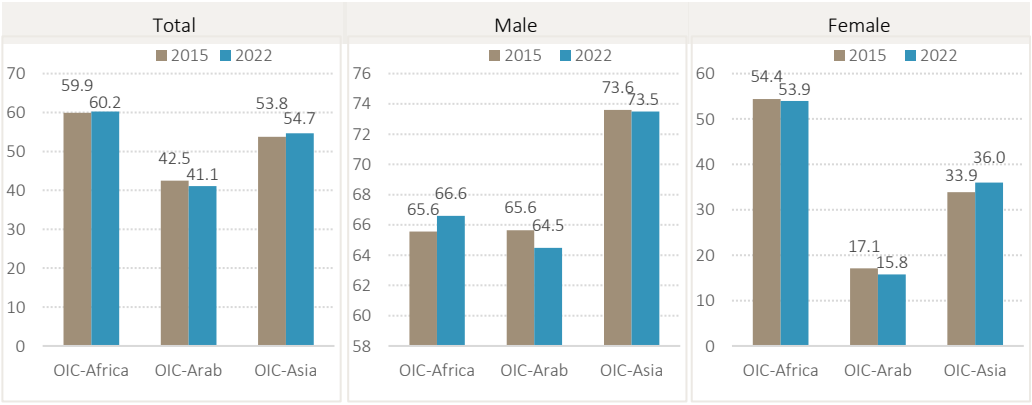
At regional level within the OIC, OIC countries in the Africa region demonstrate a higher EPR with an avarege value of 60.2%, which is even above the average of developed countries. This ratio is also relatively strong in OIC countries in Asia region (54.7%), but rather low in Arab region (Figure 1.18). When compared with 2015, the average EPR in Africa and Asia regions increased while it fell in Arab region. In fact, male EPR ratios in Africa and Arab regions are very close to each other, but female EPR is very strong in Africa region, even stronger than that of developed countries, and comparably weaker in Arab region (15.8%). This is largely to be explained by sociocultural norms, but not educational, legal or economic restrictions, that reduce the expectations from women to make economic contribution to their families.

Figure 1.17: Employment to Population Ratio, Youth (15-24)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

Figure 1.18: Employment to Population Ratio in OIC Countries, by Region



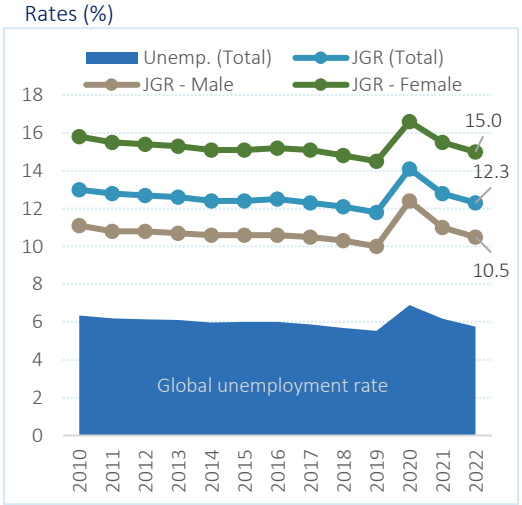
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

1.3 Unemployment

The COVID-19 pandemic has disrupted the world of work with massive consequences on employment, income and productivity. It has put millions of workers and enterprises into extreme vulnerability. Unemployment was already among the most challenging issues across the globe. The global labour market recovery is being hindered by various global shocks and risks, particularly in low- and middle-income countries. These countries face challenges in responding to the multiple crises, including high inflation, high interest rates, and a growing risk of debt distress. The ILO projects that low-income countries, Africa, and the Arab States are unlikely to recover to pre-pandemic levels of unemployment in 2023.

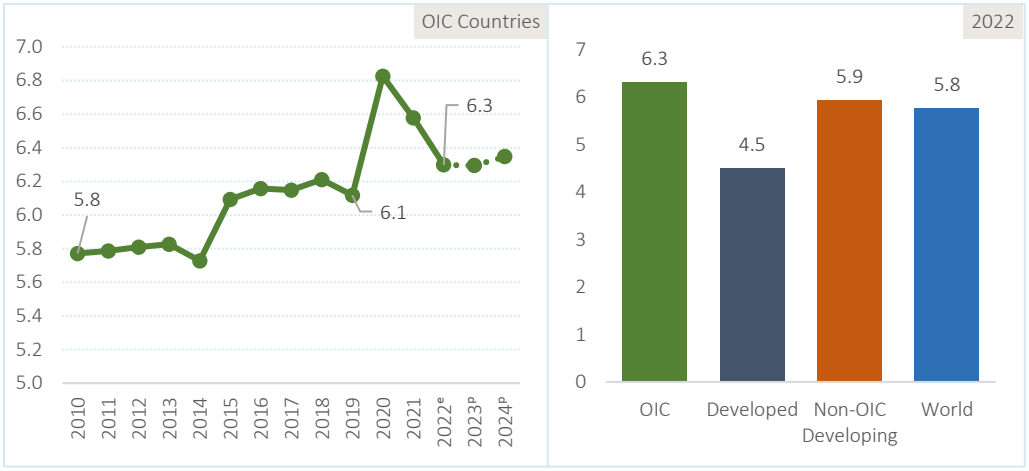
Global unemployment is projected to rise slightly in 2023 to reach 208 million, corresponding to an unemployment rate of 5.8%. The global jobs gap, a new measure developed by the ILO to measure the unmet need for employment in the world, stood at 473 million people in 2022, corresponding to a jobs gap rate of 12.3% (ILO, 2023a) and projected to fall to 453 million people in 2023 (ILO, 2023b). It consists of the 205 million unemployed 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 gap is more than double the level of unemployment (Figure 1.19). Women face a higher jobs gap rate (JGR) compared to men. Countries in

Figure 1.19: Global Unemployment and Job Gap Rates (%)



Source: ILOStat. JGR: Job gap rate.

Figure 1.20: Unemployment Rate, Total (15+)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

debt distress have significantly higher JGR, indicating that financial and fiscal constraints worsen labour market conditions (ILO, 2023b).

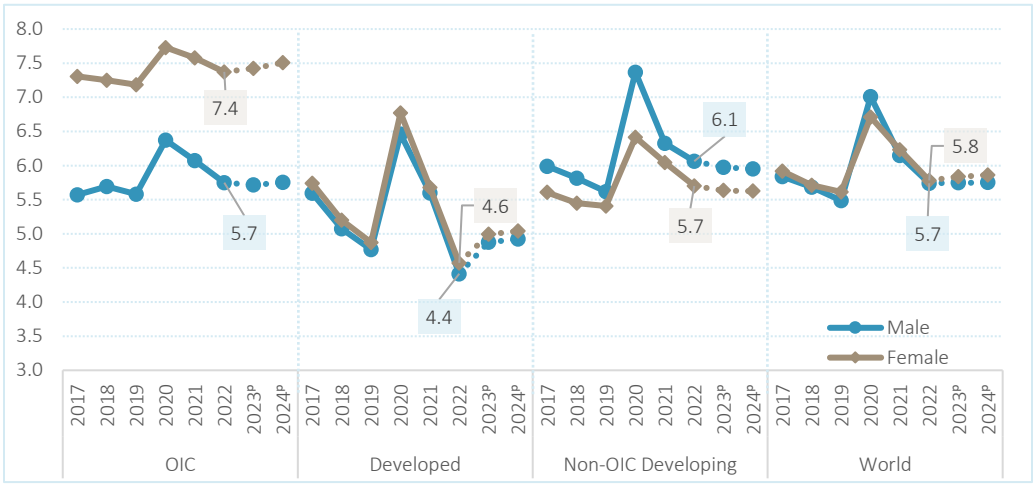
Unemployment rate in OIC countries has been following a rising trend over time. It increased from 5.8% in 2010 up till 6.8% during the pandemic. With a partial recovery during the post-pandemic period, average unemployment rate fell back to 6.3% in 2022, but it is still above the pre-pandemic level of 6.1%, and it is not expected to return to that level over the next two years (Figure 1.20). As of 2022, OIC countries have on average a higher unemployment rate than developed (4.5%) and non-OIC developing countries (5.9%). Total number of unemployed people fell from 48.3 million in 2020 to 46.3 million in 2022, but it is still well above the pre-pandemic level of 43.3 million observed in 2019. Yet, it is further expected to increase to 48.8 million in 2024.

There are multiple reasons for persistently high unemployment rates in OIC countries, including population growth, skills mismatch, limited job opportunities and weak labour market institutions. Moreover, some OIC countries are facing complex crises, such as the recent major earthquakes hitting Türkiye and Syria as well as economic distress in some OIC countries, which interact with global challenges and further impact labour markets.

Average unemployment rate for male labour force is significantly higher than female labour force in OIC countries. In 2020, male unemployment rate was 7.4%, while female unemployment rate was 5.7% (Figure 1.21). Female unemployment rate in OIC countries appears to be at the same level with the global average and even lower than the average of non-OIC developing countries (6.1%). Gender gap in unemployment rate is not that visible in other country groups, where the difference between the unemployment rates for both sexes are pretty much similar.

At the individual country level, unemployment rates greatly varied among OIC countries (Figure 1.22). The unemployed people constituted less than 1% of total labour force in Qatar (0.1%),

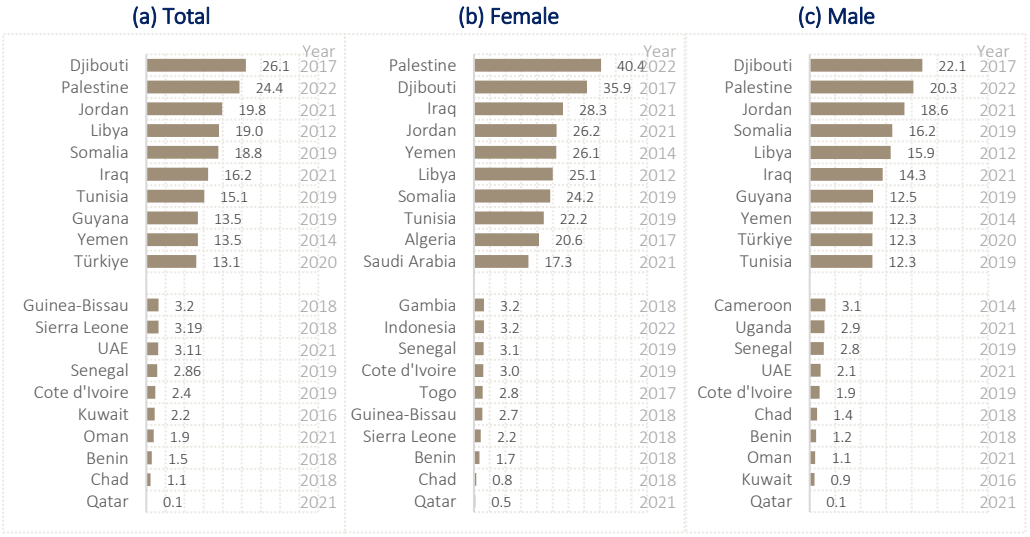
Figure 1.21: Unemployment Rate, by Gender (Total, 15+)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

which was also the lowest rate in the world. Chad (1.1%) and Benin (1.5%) were also among the ten countries in the world with the lowest unemployment rates. However, unemployment remained a serious concern in Djibouti (26.1%, second highest in the world), Palestine (24.4%), Jordan (19.8%), Libya (19.0%) and Somalia (18.8%). Disaggregated by gender, significant heterogeneity across the OIC region continues to persist. There are 18 OIC countries where female unemployment rate is below 5%, but there are also 20 OIC countries where the rate is above 1%. In the case of male unemployment, rates are significantly lower; where the number of OIC counties with unemployment rate below 5% is 27 and with unemployment rate above 10% is 12.

Figure 1.22: OIC Countries with Highest and Lowest Unemployment Rates (15+, Total)

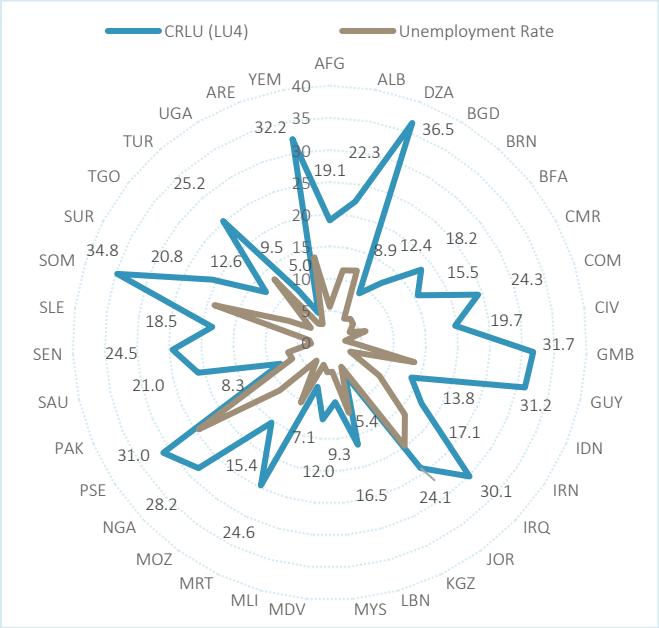


Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023. OIC countries with highest and lowest unemployment rates for female labour force above 15.

Labour underutilization

The unemployment rate provides a good depiction of the extent to which people who are ready to work are actually able to find and start a job. However, there are people who are not working enough or not in the right job that match their skills, resulting in labour underutilization. It refers to mismatches between labour supply and demand, leading to an unmet need for employment among the population (ILO, 2018). Measures of labour underutilization include, but may not be restricted to time-related underemployment (persons in employment whose working time is insufficient in relation to alternative employment situations), unemployment and potential labour force (persons not in employment who express an interest in it, but for whom existing conditions limit their active job search and/or their availability). Composite measure of labour underutilization of ILO consists of all these three elements.

Figure 1.23: Labour Underutilization vs Unemployment in OIC Countries, Total (15+)



Source: ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023. See the annex for country codes. CRLU: Composite rate of labour underutilization.

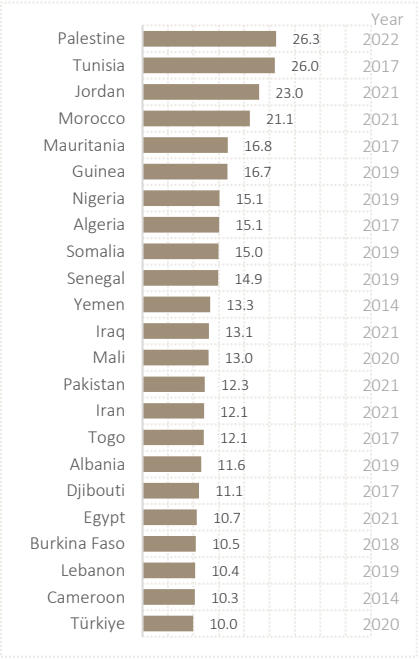
Accordingly, countries with higher unemployment rates are also facing the challenge of greater labour underutilization. However, in some countries, although the unemployment rate is low, labour underutilization is very high. In Algeria, for example, while the unemployment rate was 12% in 2017, combined rate of time-related underemployment and unemployment was as high as 28.5%, whereas the composite rate of labour underutilization (including also potential labour force) was 36.5% (Figure 1.23). Similarly, the unemployment rate in Senegal is estimated at 2.9% in 2019, but the composite rate of labour underutilization is 24.5%, reflecting a great share of potential labour force remaining outside of the labour market or ineffectively contributing to economic activities.

In this regard, unemployment rates alone may be misleading in understanding the labour market dynamics, particularly if time-related underemployment and potential labour force are high. Lack of sufficient unemployment benefit schemes, ineffective employment services and prevalence of informality are some of the factors leading to higher labour underutilization among the employed (time-related underemployment) and persons outside the labour force (the potential labour

force). Labour markets are also affected by qualitative labour underutilization, where people hold jobs for which they are overeducated or overqualified (ILO, 2018). This too represents an underutilization of workers' skills and abilities.

If there is enough job creation for skilled labour, there would be lower rates of unemployment for people with advanced education. However, lack of coordination among education institutions and business communities results, combined with lack of sufficient job creation, result in high unemployment rates for people even with advanced education. Two OIC countries particularly suffer from lack of employment opportunities for skilled labour, where unemployment rate of people with advanced education is 26.3% in Palestine and 26.0% in Tunisia. In 23 OIC countries, this rate is above 10% (Figure 1.24).

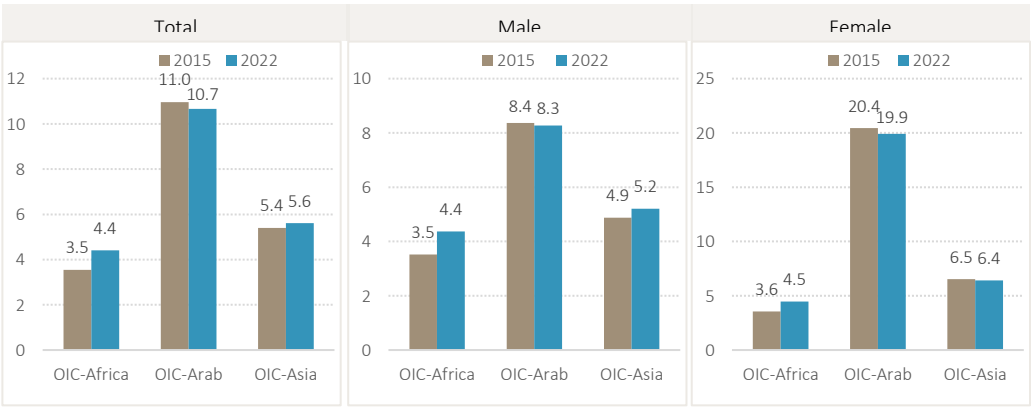
Figure 1.24: Unemployment Rate for Persons with Advanced Education (25+, Total)



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023. OIC countries with unemployment rate above 10% only.

At regional level within the OIC, unemployment rate is relatively low in African OIC countries, which stands at 4.4% in 2022 as compared to 3.5% in 2015. It is also below the world average for the OIC countries in Asia region, where the rate is currently at 5.6%. Although a slight improvement is observed in Arab OIC countries from 11.0% in 2015 to 10.7% in 2022, it is still significantly high. While male and female unemployment rates in African OIC countries do not differ much and only slightly differ in Asian OIC countries, there is a huge difference for the OIC countries in the Arab region, where female unemployment rate stands at almost 20% (Figure 1.25).

Figure 1.25: Unemployment Rate in OIC Countries, by Region (Total, 15+)



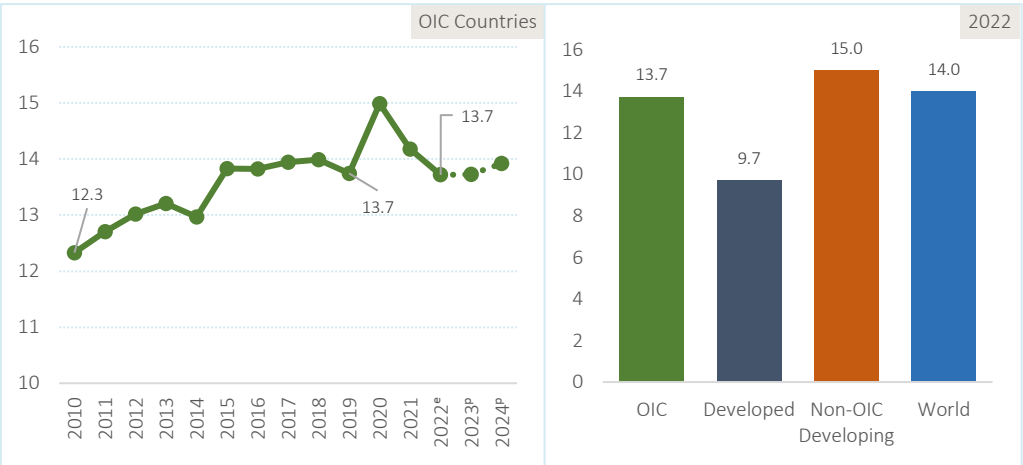
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

Youth unemployment

Youth (aged 15 to 24 years) continue to suffer from lack of decent job opportunities across the globe. Globally, they are three times as likely as adults to be unemployed, the global youth unemployment rate being about 14% in 2022. This translates into 69 million young people who were looking for a job but unable to find one (ILO, 2023a). Considering the total number of youth who are not in employment, education or training (289 million globally), youth unemployment appears to be only one of multiple problems faced by young people in the labour market. In fact, according to the ILO, 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 (ILO, 2023a).

Global challenges aside, OIC countries also struggle to address the challenge of youth unemployment, where the rate remained constantly above 12%. What is worse, the trend is rather upward, where the rate increased from 12.3% in 2010 to 15% in 2020, before falling back to 13.7% in 2022. It is expected to rise even further to 13.9% in 2024 (Figure 1.26). Nevertheless, average youth unemployment in OIC countries is estimated to be below the average of non-OIC developing countries (15.0) and the world average.

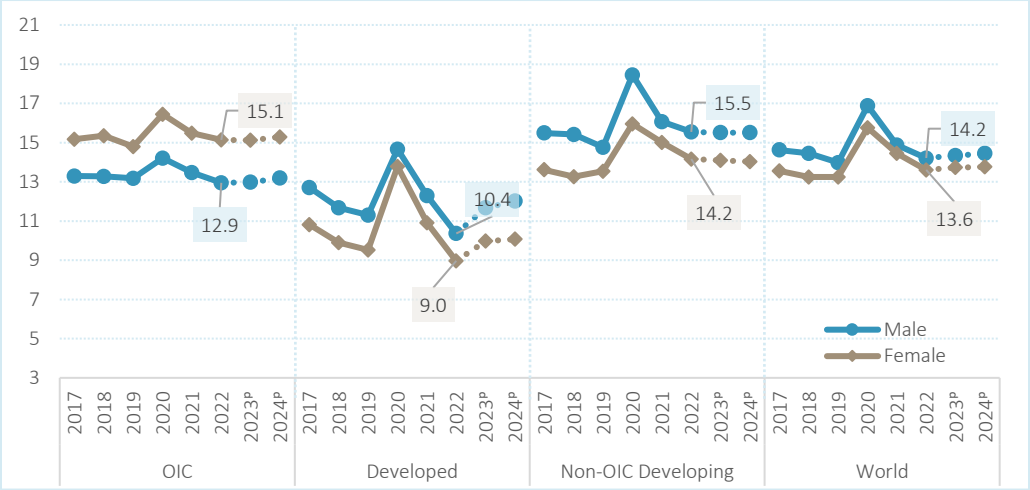
Figure 1.26: Unemployment Rate, Youth (15-24)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

As in other major labour market indicators, despite some improvements over time, female unemployment rate among young people is highest in OIC countries and it is getting worse over the years. It is estimated to decline to 15.1% in 2022 from its level of 16.5% in 2020, but it will remain above the world average (13.6%) and average of other country groups (Figure 1.27). On the other hand, male unemployment rate among youth is at around 12.9%, which is well below the world average of 14.2%. In fact, male unemployment among youth is even higher in other country groups than female unemployment.

Figure 1.27: Unemployment Rate, by Gender (Youth, 15-24)



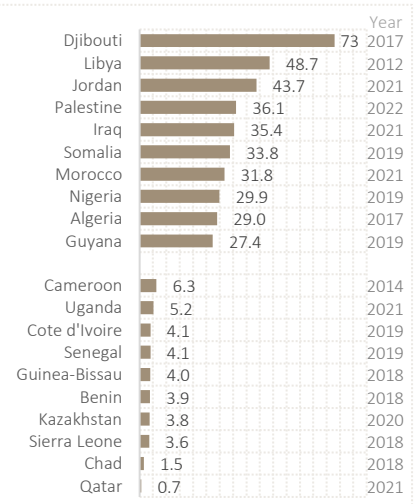
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated, p: projected.

There are again wide discrepancies in youth unemployment rates across OIC countries. Qatar (0.7%) and Chad (1.5%) are the countries with the lowest unemployment rates, which are also among the top three countries in the world (Figure 1.28). In contrast, the highest youth unemployment rate was estimated in Djibouti (73.0%, the highest in the world), followed by Libya (48.7%), Jordan (43.7%), Palestine (36.1%) and Iraq (35.4%). According to the most recent statistics, youth unemployment rate was above 20% in 16 OIC countries and above the world average of 14.0% in 23 OIC countries.

As in the case of total unemployment, regional comparison of youth unemployment within the OIC reveals that African countries perform fairly better, even better than the world average, in total as well as in male and female unemployment rates. Asian OIC countries also have youth unemployment rates that is lower than the world average. On the other hand, both male and female unemployment rate in the Arab region is significantly high at 22.3% and 41.5%, respectively (Figure 1.29).

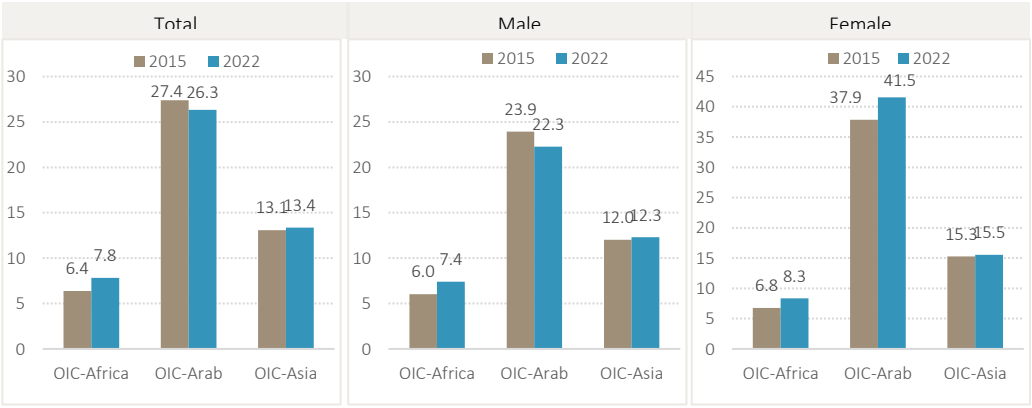
Higher youth unemployment is to some extent a result of their limited work experience, which counts against them when they are competing for entry-level jobs. It is also due to the relatively high turnover rate among youth as they attempt to access better positions – those who can rely on their families for financial

Figure 1.28: OIC Countries with Highest and Lowest Youth Unemployment Rates (15-24, Total)



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available after 2014, as of May 2023. OIC countries with highest and lowest youth unemployment rates.

Figure 1.29: Youth Unemployment Rate in OIC Countries, by Region (Youth, 15-24)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

support may opt for unemployment while searching for jobs that are in line with their aspirations (ILO, 2020; UNDESA, 2018). Moreover, young people often lack both labour market information and job search experience. Adults, on the other hand, might have the possibility of finding work through references from previous employers or colleagues.

All in all, notwithstanding the extent to which the economies of the OIC countries are being affected by the global economic, political and health crises, it is clear that unemployment, both youth and adult, is one of the major economic and social problems that many OIC countries are still facing and requiring urgent solutions. Moreover, unemployment figures understate the true extent of youth labour market challenges since large numbers of young people are working, but not earning enough to lift themselves out of poverty. Even worse, a significant share of them is not actively seeking a job though they are also not participating in education or training. Therefore, greater emphasis should be given to young people through promoting their participation into labour market, providing required skills and facilitating to find decent jobs.

Youth not in employment, education or training (NEET)

Globally, 23.5% of young people are currently not in employment, education or training (NEET), which means they are neither gaining experience in the labour market, nor receiving an income from work, nor enhancing their education and skills (ILO, 2023a). Clearly, their full potential is not being realized, though many may be contributing to the economy through unpaid work. Moreover, young women are twice as likely as young men to have NEET status. According to the ILO, the youth NEET rate has not decreased significantly in any region in the world since 2005, suggesting that target 8.6 of the Sustainable Development Goals (SDGs), namely a substantial reduction in the proportion of NEET youth by 2020, could not be met. While progress has been made in most advanced countries, the situation of young people categorized as NEET in many developing countries, including the OIC countries, has worsened over the past ten years. All these forms of labour underutilization in the early stages of a young person's career can reduce the prospects for future employment and earnings.

OIC countries as a group have once again the worst outcomes in terms of NEET status of youth. It increased from 27.7% in 2015 to 28.8% in 2022, ignoring the peak level of 30.2% during the COVID-19 pandemic. In 2022, this ratio is 23.2% in non-OIC developing countries and 9.7% in developed countries (Figure 1.30). The NEET status of the female population is more than two times higher than the male population, reaching almost 40% as compared to 18.2% for male

BOX 1.2: The Vocational Education and Training Programme for the Member States of the Organization of Islamic Cooperation (OIC-VET)

The Vocational Education and Training Programme for the Member States of the Organization of Islamic Cooperation (OIC-VET) is a programme developed by the SESRIC in order to support and supplement the OIC Member States' efforts to overcome the current challenges and limitations faced in the area of technical and vocational education and training (TVET).

The programme also aims to enhance the quality of TVET systems in the OIC Member States, and thus to contribute to the development and competitiveness of their economies.

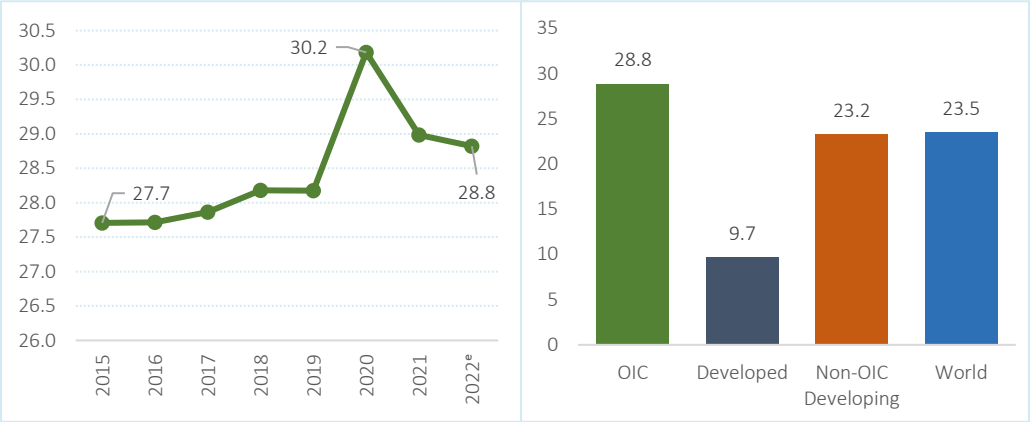
The OIC-VET Programme, operating within the framework of its mission, seeks to elevate the quality of Technical and Vocational Education and Training (TVET) systems in the OIC Member States. The main objectives of the OIC-VET Programme are as follows:

- *to enhance the quality and innovation capacity of the OIC Member States' TVET systems and to facilitate the transfer of innovative practices, knowledge and experiences from one country to another;*
- *to strengthen cooperation among TVET institutions, enterprises, social partners and other relevant bodies throughout the OIC Member States;*
- *to expand the transparency and recognition of qualifications and competencies, including those acquired through formal and informal learning among the OIC Member States;*
- *to support the development of innovative Information and Communication Technology (ICT) based content, services, pedagogies and practice for lifelong learning; and*
- *to facilitate the participants' personal development and employability by acquiring and using knowledge, skills and qualifications.*

Additionally, it addresses the enhancement of TVET teacher education, the development of occupational standards and qualification systems, and the implementation of rigorous quality assurance measures. Furthermore, the programme emphasizes the creation of certification processes and modular training programmes, aiming to elevate the standards and effectiveness of TVET systems across OIC Member States. To successfully promote its goals for vocational education and training among member nations, the OIC_VET Programme uses a variety of modalities, including training of trainers (ToT) courses, training courses, workshops, seminars, and so on. These methods support empowering people and organizations engaged in vocational education and training within the OIC community by facilitating knowledge diffusion, capacity building, and skill upgrading.

As the Executing Organ of the OIC-VET Programme, SESRIC is considering exploring some new ways and means of improving the overall quality and impact of the programme to increase its contribution to improving the TVET systems of OIC member countries. SESRIC organized a series of workshops and working group meetings to assess the current needs of the OIC member countries' technical and vocational education systems and developed the OIC-TVET Strategic Roadmap 2020-2025 in close collaboration with the National Focal Points of the OIC-VET Programme and ISESCO.

Figure 1.30: Youth Not in Employment, Education or Training (NEET)

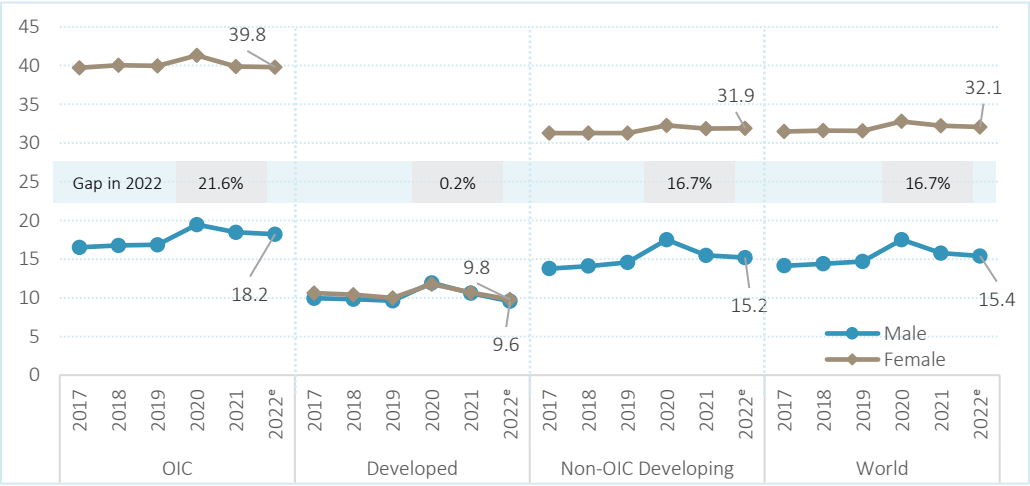


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2021. e: estimated.

population in OIC countries. A similar observation can also be made in the case of non-OIC developing countries and the world average, while male and female NEET rates are almost the same in developed countries (Figure 1.31). Evidently, high youth NEET rates are driven mainly by the inactivity of female youth in developing countries.

As a broad measure of youth underutilization, the NEET rate highlights various challenges faced by young people, including leaving school at an early age, discouragement and unemployment. When young people are NEET, they are unable to develop skills that are valued in the labour market, which reduces their future employment prospects and, in the long run, negatively affects national economic growth potentials and social cohesion (ILO, 2017). This problem is particularly acute for some OIC countries including Niger (68.7%) and Afghanistan (62.8%), but many other OIC countries in Sub-Saharan Africa region and some conflict-affected OIC countries appear to

Figure 1.31: Youth Not in Employment, Education or Training (NEET), by Gender

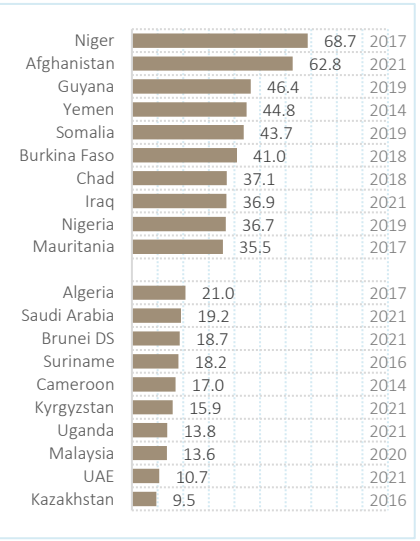


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. e: estimated.

have considerably higher NEET rates (Figure 1.32). On the other hand, there is only one OIC country where this rate is below 10%, namely Kazakhstan (9.5%), but still above the average of developed countries.

Even though youth population is considered as among the most important strengths of the OIC region, a growing share of youth NEET can create major socio-economic challenges. Addressing high NEET rates requires a multi-faceted approach that includes improving educational systems, enhancing vocational training programs, creating more job opportunities, promoting entrepreneurship, providing career guidance and support, and addressing social and cultural barriers. It is essential to focus on empowering young people, equipping them with relevant skills, and creating an enabling environment that supports their successful transition into education, employment, or training.

Figure 1.32: OIC Countries with Highest and Lowest NEET Rates



Source: ILO SDG Labour Market Indicators Database (SDG 8.6.1). Latest year available data during 2013-2022.

Chapter 2

SKILLS, PRODUCTIVITY, INCOME AND SOCIAL PROTECTION

The level of skills and qualifications plays a vital role in enhancing employability and productivity in the labour market. By acquiring relevant skills and qualifications, individuals become more attractive to employers, increasing their chances of finding suitable employment opportunities and retaining their jobs. Developing the skills of workers with lower qualifications can increase productivity, which then contributes to the overall competitiveness of businesses and industries, enabling them to thrive in a global marketplace. Additionally, individuals with better skills and training tend to earn higher wages. Therefore, it is essential to continuously maintain and upgrade the skills and competences of the workforce to meet the changing demands of the labour market.

Skills development is necessary to improve employability, enhance productivity, ensure a match between skills supply and labour market needs, and facilitate adaptation to technological advancements and market changes. It is crucial to anticipate and prepare for future skills needs and design strategies that address the specific requirements of different target groups, such as youth, the elderly, and rural populations. As technology advances and market conditions change, certain skills become obsolete, while new skills emerge. By identifying emerging trends and anticipating future skills requirements, policymakers, educational institutions, and employers can align their efforts to ensure that the labour force is equipped with the relevant skills for future employment opportunities. Providing adequate vocational education and training opportunities for young people can help bridge the skills gap, facilitate their smooth transition from school to work and promote inclusive economic growth

Negative shocks to employment, such as the COVID-19 pandemic, lead to a reduction in job opportunities and an increase in unemployment rates. Prolonged periods of unemployment can

result in the loss of skills, making it more difficult for individuals to find new jobs. Therefore, it is crucial to take necessary measures to prevent skill erosion during times of crisis. Enhancing the skills and capabilities of the labour force through capacity building activities is vital for facilitating a quick recovery of the job market.

In this connection, this section reviews the educational attainment of the labour force, skills levels, labour productivity, distribution of employment across economic sectors, income levels of the workers and social protection measures in OIC countries in comparison with the averages of non-OIC developing and developed countries as well as the world average.

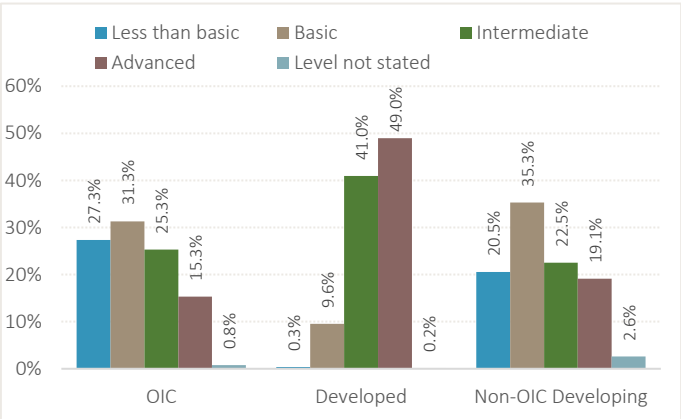
2.1 Skills and Occupations

This section discusses the educational attainment, skills levels and occupations of the labour force. Educational attainment is an important indicator of skills level and productivity and strongly associated with income status of employed people.

Employment by Educational Attainment and Skills

Formal education is highly instrumental to improve the production capacity of a society. Better education improves the production process in several ways. Educated, or skilled, workers are able to perform complex tasks and thereby contribute to producing more technologically sophisticated products. Especially in developing countries, skilled workers increase the absorptive capacity of the country by acquiring and making efficient use of rapid technological advances, which is of crucial importance in successful economic diversification and development as well as to compete successfully in world markets. This ability is essential for successful economic diversification, development, and global competitiveness. The classification of the skills level of the labour force is often based on the specific level of education attained. As the proportion of the labour force with intermediate and advanced education increases, so does their capacity to acquire new skills and absorb new knowledge, fostering innovation and adaptability.

Figure 2.1: Employment by Education Levels (25+)

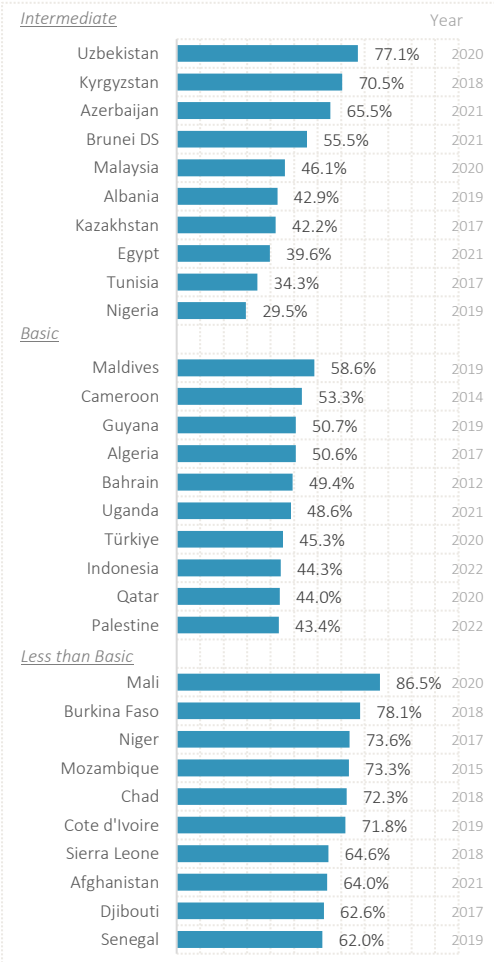


Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023. Data includes 48 OIC, 37 developed and 90 non-OIC developing countries.

According to the latest data available, educational level of labour force in OIC countries is relatively low. Around 27% of labour force is estimated to have less than basic education, which is 20.5% in non-OIC developing countries and only 0.3% in developed countries. Moreover, 31.3% of labour force in OIC countries has only basic level of education (Figure 2.1).

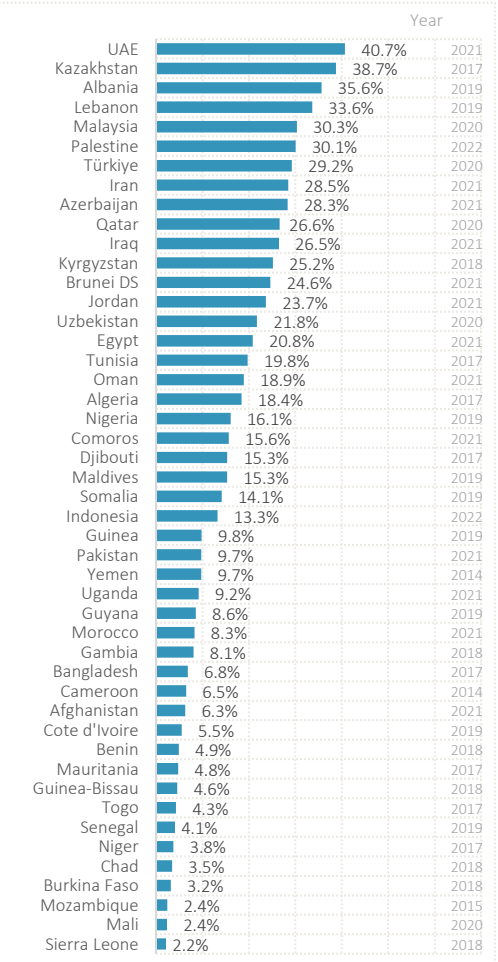
Having 58.6% of labour force with only basic or less than basic education reflects the development challenges faced by the OIC countries in promoting learning, innovation and productivity. The shares of labour force with intermediate and advanced education are only 23.5% and 12.3%, respectively. Non-OIC developing countries have a slightly better picture, where the shares of labour force with intermediate and advanced level education are 25.3% and 15.3%, respectively. Developed countries, on the other hand, are well endowed with skilled labour force, where 41% of all their labour force has already completed intermediate level of education and another 49% has completed advanced level of education. Around 9% have their primary level of education completed and there is almost no labour force without their primary level of education.

Figure 2.2: OIC Countries with Highest Level of Education (Intermediate, Basic and Less than Basic)



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023.

Figure 2.3: Share of Workers with Advanced Level of Education, All OIC Countries



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023.

Countries with the highest shares of labour force with less than basic, basic, intermediate and advanced education in the OIC region are presented in Figure 2.2 and Figure 2.3. OIC countries with highest share of labour force with less than basic education are mostly from the sub-Saharan African region, where this share is 86.5% in Mali, 78.1% in Burkina Faso and 73.6% in Niger. In 17 OIC countries, more than 50% of labour force does not have even their basic education completed, demonstrating challenges in improving labour productivity and economic diversification. The share of labour force with basic education is highest in Maldives (58.6%), followed by Cameroon (53.3%) and Guyana (50.7%). In intermediate level of education, central and south-eastern Asian countries appear to have the highest shares. Uzbekistan (77.1%), Kyrgyzstan (70.5%) and Azerbaijan (65.5%) occupy the first three positions in rank.

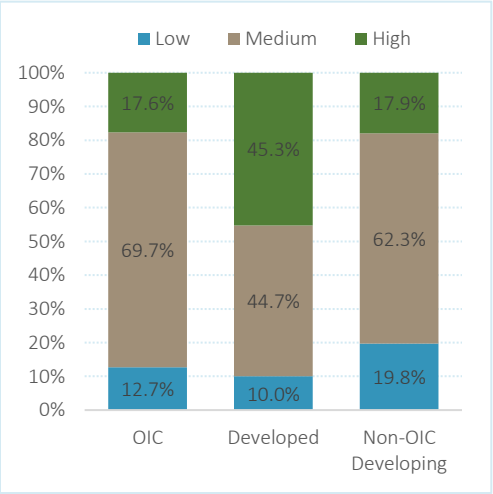
Figure 2.3 shows the share of workers with advanced education for all OIC countries for which data are available. There is a considerable discrepancy among OIC countries, where this share is as high as 40.7% in United Arab Emirates, but barely above 2% in Sierra Leone. There are 12 OIC countries in which the share of workers with advanced education above 25%, but there are 22 OIC countries in which this share is below 10%. This gap in educational attainment among OIC countries are also reflected in their productivity and development indicators.

Employment by Skills Levels and Occupation

The level of skills and qualifications of a person is a critical factor in enhancing the employability in the labour market and promoting productivity. Therefore, maintaining and upgrading the skills and competences of the labour force to meet and adapt the continuously changing working environments are all crucial for employees, employers as well as the whole economy.

Figure 2.4 shows the distribution of workers in OIC countries by their skills levels based on their occupations under three categories: low skills, medium skills and high skills. According to the latest available data, the share of workers with low skills is 12.7% in OIC countries, which is lower than the average of non-OIC developing countries (19.8%). When compared with other country groups, OIC countries display a smaller share of high skilled employees (17.6%) than the group of developed countries (45.3%), but similar shares with non-OIC developing countries (17.9%). In order to narrow the productivity gap with developed countries, OIC countries need to exert more efforts in increasing the share of occupations with high skill requirements. Insufficient investment in

Figure 2.4: Employment by Skills Level in OIC Countries



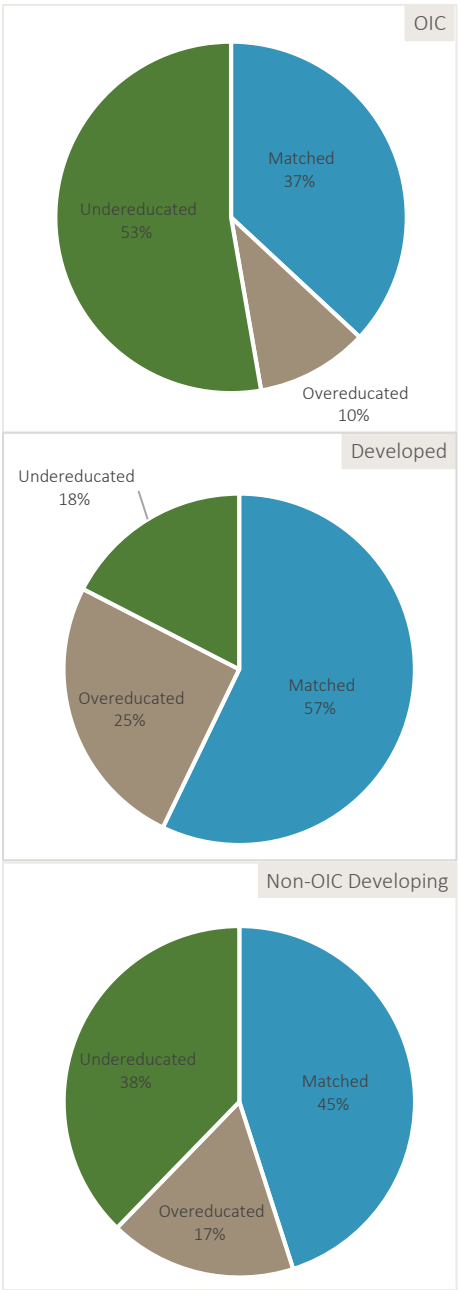
Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023. Data consists of 39 OIC, 16 developed and 82 non-OIC developing countries.

human capital development and a lack of economic sophistication hinder the promotion of skills upgrading necessary for jobs that involve complex technical and practical knowledge and tasks.

Lack of coordination among education institutions, business representatives and policy makers result in skills mismatch, which occurs when there is a discrepancy between the skills possessed by individuals in the labour market and the skills demanded by employers. There a number of factors contributing to this mismatch. Firstly, rapid technological advancements can render certain skills obsolete and create a gap between the skills required for new jobs and the skills available in the labour market. Inadequacies in education and training systems, such as outdated curricula and limited access to quality education, can also result in graduates who lack the necessary skills that employers seek. Additionally, a lack of accurate labour market information and demographic changes, such as population aging or shifts in migration patterns, can further exacerbate skills mismatch. Finally, the failure of individuals to engage in continuous learning and upskilling can lead to a detachment their skills from the evolving demands of the job market.

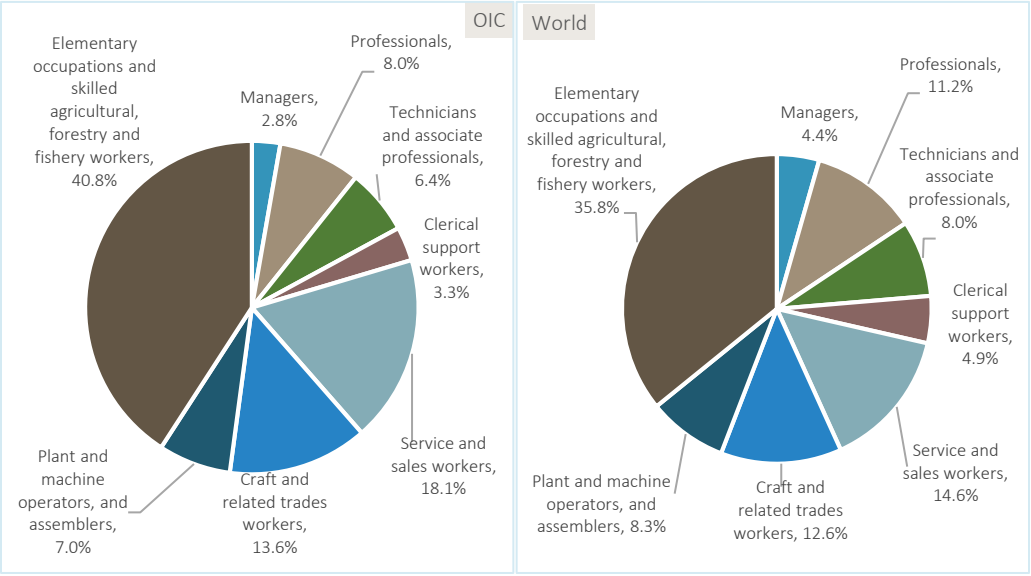
According to the latest data, skills match was only at 37% in OIC countries, whereas this share is estimated to be at 57% in developed countries and 45% in non-OIC developing countries (Figure 2.5). 10% of workers in OIC countries were overeducated, but remaining 53% of the workforce is considered to be undereducated. This reflects the extent of skills gap that needs to be address to improve productivity and competitiveness in OIC countries. Overeducated workers is another aspect of skills mismatch, where the available skills and competencies of the workforce is not effectively utilized. This problem is more visible in developed countries (25%), but non-OIC developing countries also face certain challenges with regards to overeducated workforce.

Figure 2.5: Skills Mismatch



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023. Data includes 37 OIC, 79 non-OIC developing and 30 developed countries.

Figure 2.6: Employment by Occupation (2021)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

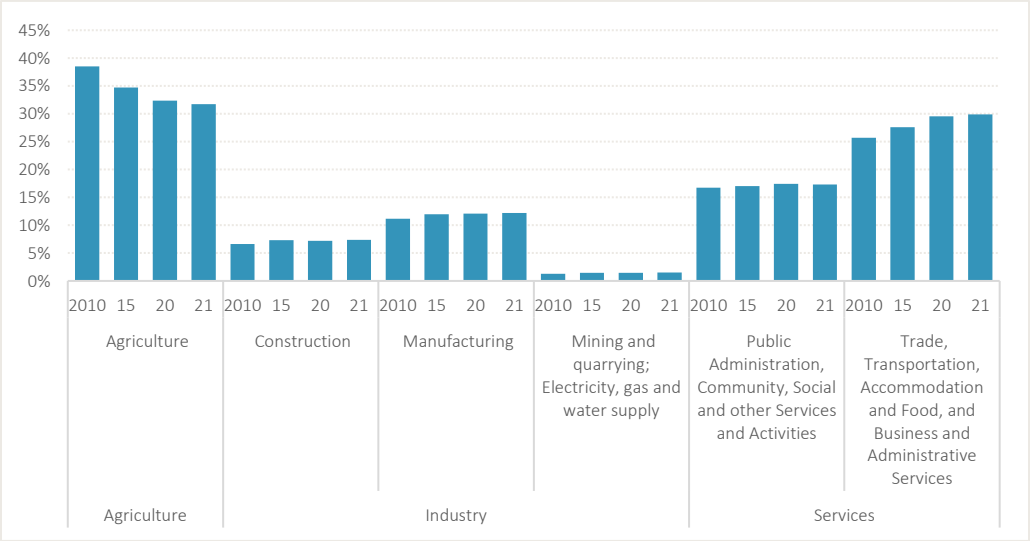
Disaggregation of workers by occupation reveals that a significant share of employed people in OIC countries is classified under the category of elementary occupations and skilled agricultural, forestry and fishery workers (40.8%) (Figure 2.6). It is followed by service and sales workers (18.1%) and craft and related trade workers (13.6%). Occupations requiring relatively higher skills, including managers (2.8%), professionals (8.0%), and technicians and associate professionals (6.4%), collectively account for 17.2% of employment. Total share of these jobs in the world is 23.6%.

Employment by Sector

As a result of economic development and rising living standards, a shift in employment from agriculture to industry and services sectors is being observed with a corresponding increase in wage and salary workers and decrease in self-employed and contributing family workers. When total employment is disaggregated into three broad sectors, namely agriculture, industry and services,[1] a falling share of agriculture from 38.5% in 2010 to 31.7% in 2021 is observed. Total share of industry sector increased from 19.1% to 21.1% during the same period and this growth was driven by all major subcategories of the sector, where the share of which construction sector increased from 6.6% to 7.4%, manufacturing sector from 11.1% to 12.2% and the rest of the industry sector from 1.3% to 1.5%. The largest growth was observed in services sector, whose

[1] Agriculture here refers to crop cultivation, livestock production, forestry, fishing, and hunting. Industry includes manufacturing, mining, construction, electricity, water, and gas. Services cover all other economic activities, including trade, transport, and communications; government, financial, and business services; and personal, social, and community services.

Figure 2.7: Distribution of Employment by Economic Activity in OIC Countries (2010-2021)

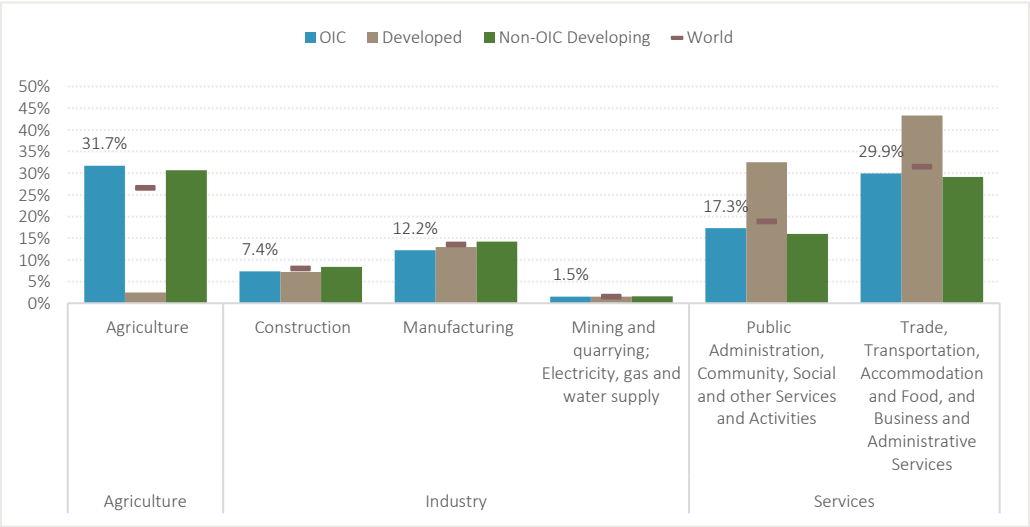


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

share in total employment increased from 42.4% in 2010 to 47.2% in 2021. This growth was driven mainly by the growth in employment in trade, transportation, accommodation and food, and business and administrative services (Figure 2.7).

When compared with other country groups, the share of employment in agriculture in OIC countries (31.7%) is slightly higher than the share in non-OIC developing countries (30.7%), whereas only 2.5% of total workers are engaged in agricultural activities in developed countries as of 2021 (Figure 2.8). Having a more vibrant manufacturing sector, industry sector in non-OIC

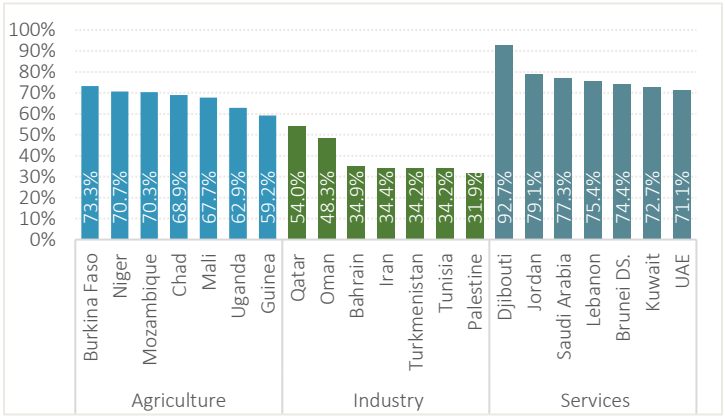
Figure 2.8: Distribution of Employment by Economic Activity (2021)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

developing countries accounts a relatively higher share of employment (24.2%) as opposed to that in OIC countries (21.2%) and developed countries (21.6%). 75.9% of total employment in developed countries is concentrated in the services sector, while this share is around 47.2% in OIC countries and 45.1% in non-OIC developing countries. Overall, while the share of agriculture in total employment is declining in OIC countries as well as in other developing countries, the shares of industry and services sectors are rising.

Figure 2.9: Distribution of Employment by Economic Activity (2021)

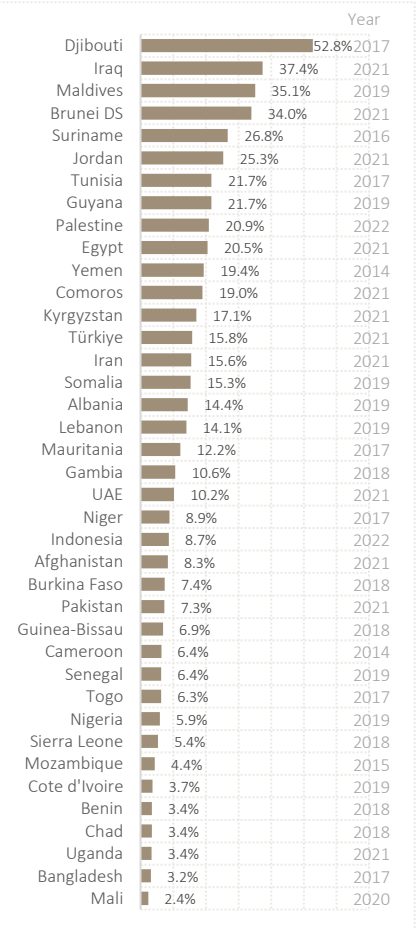


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

At the individual country level, agriculture sector has the highest share in Burkina Faso (73.3%), Niger (70.7%) and Mozambique (70.3%), as depicted in Figure 2.9. The share of industry sector in total employment is highest in Qatar (54.0%), Oman (48.3%) and Bahrain (34.9%). Finally, the share of services sector is highest in Djibouti (92.7%), Jordan (79.1%) and Saudi Arabia (77.3%) in 2021.

Another disaggregation of employment by sectors can be made between public and private sectors. According to the most recent data, the share of employment in public sector is the highest in Djibouti (52.8%), followed by Iraq (37.4%), Maldives (35.1) and Brunei Darussalam (34.0%). This share is below 5% in seven OIC countries (Figure 2.10). A high share of employment in the public sector can have significant implications for an economy. It can exert fiscal pressure on the government as public sector salaries and benefits contribute to government spending, potentially leading to fiscal deficits. This can strain public budgets and limit the government's ability to allocate funds to other important sectors. A large public sector can also crowd

Figure 2.10: Share of Employment in Public Sector



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023.

out opportunities for private sector growth. It may indicate a larger role of the state in the economy, which can hinder job creation and entrepreneurial activity in the private sector. This, in turn, can impact economic dynamism, innovation, and productivity. Additionally, a high reliance on public sector jobs can lead to limited job flexibility and dependency on government employment, making it challenging for individuals to transition to other sectors or respond to changing economic needs. Striking a balance between the public and private sectors and ensuring efficient resource allocation is crucial for sustainable economic growth and a diverse labour market.

Employment by Citizenship

International migration today is one of the central features of globalization, providing major opportunities for development. Greater economic integration and increasing level of liberalization in flows of goods and services have contributed to the ease of movement of labour. It is estimated that the main motivation for the majority of migrants is to work abroad and have access to better economic opportunities. Conflicts and disasters are also among the factors that lead to an increase in cross-border movement of persons who seek a safer place to live. Moreover, migrant workers face major challenges in accessing social protection measures, including health care and income security, making them more vulnerable than the locals to a variety of socio-economic shocks, including the latest COVID-19 pandemic (ILO, 2020b).

Today, migrant workers represent a considerable share of the workforce in major high-income countries and make important contributions to societies and economies. Almost 10% of total employment in developed countries is estimated to be foreign citizens. This share is only 1.6% in OIC countries and 3.9% in non-OIC developing countries (Figure 2.11). Economic impacts on origin countries are mainly related to remittances. On the other hand, migrant workers make

Figure 2.11: Share of Foreign Workers in Total Employment

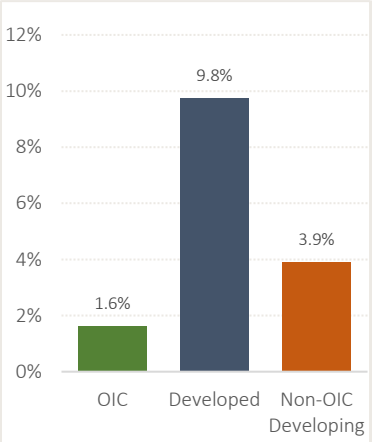
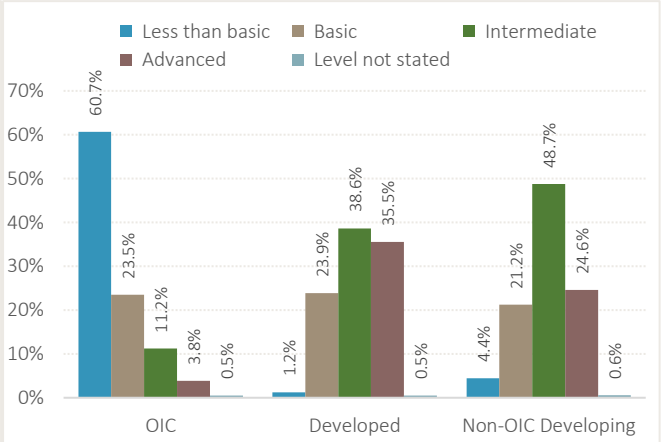


Figure 2.12: Education Levels of Foreign Employed Citizens



Source: SESRIC staff calculations based on ILOStat database collated from national employment surveys, latest year available as of May 2023. Data includes 25 OIC, 27 developed and 53 non-OIC developing countries.

important contributions to destination countries by providing needed skills for their labour market. While migrants with higher levels of education and skills are beneficial for the host countries, it is not necessarily a desirable situation for the origin countries, implying a brain drain. More than 60% of migrant workers in OIC countries do not have even their basic education completed and the share of migrant workers with advanced education is only 3.8% in OIC countries (2.12). On the other hand, this share is 35.5% in developed countries and 24.6% in non-OIC developing countries. Evidently, OIC countries do not offer much opportunity attract skilled workforce with advanced education.

BOX 2.1: Public Employment Services Capacity Building Programme (PES-CaB)

The OIC-2025 Programme of Action acknowledges the pivotal role of labour markets in improving the quality of life, fostering productive employment, and establishing comprehensive social protection for the people of OIC nations. This involves enhancing workforce competitiveness, cultivating an inclusive and forward-looking work environment, and advocating for equitable employment opportunities.

In pursuit of these objectives, it is imperative for OIC Member States to collaborate closely, facilitating the exchange of expertise across various domains essential for national strategies aimed at reducing unemployment. This collaboration encompasses capacity-building support, strategy formulation, project and programme development, resource mobilization, and mentorship capabilities.

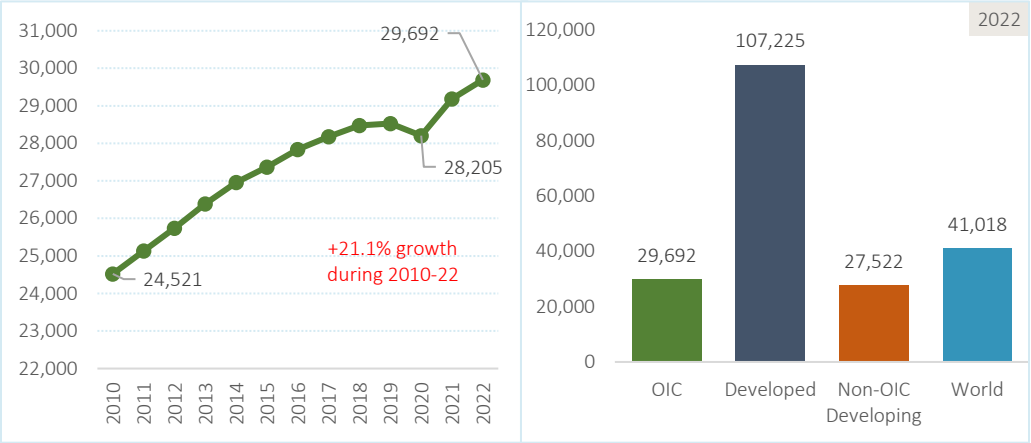
In this context, SESRIC initiated the Public Employment Services Capacity Building Programme (PES-CaB) in 2014. This programme is designed to enhance the quality and effectiveness of public employment services within the OIC Member States. The SESRIC Public Employment Services Capacity Building Programme (PES-CaB) encompasses a comprehensive range of subjects aimed at enhancing the proficiency of public employment services across OIC Member States. These subjects cover various crucial areas, including labour market analysis, job placement and matching, combating informal employment, vocational training, unemployment insurance and employment protection, and the utilization of information and communication technologies in employment services. By offering diverse educational resources and activities in the form of training courses and workshops, SESRIC seeks to empower OIC Member States to strengthen their public employment services, ultimately promoting employment opportunities and social inclusion within their respective nations.

Between 2014 and 2023, within the framework of this programme, 20 capacity-building activities were organized on the theme of Optimal Design of Unemployment Insurance and Employment Protection, Role of Digital Solutions for Effective Delivery of Public Employment Services, Managing information on the labour market, etc.

2.2 Labour Productivity

Productivity plays a pivotal role in the development of an economy. It helps to increase real income and improve living standards by catalysing the economic growth. Labour productivity is usually defined as the output per unit of labour input or output per hour worked. It helps to identify the contribution of labour to the GDP of a country and provides a base for cross country comparison and explanation of income disparities.

Figure 2.13: Labour Productivity in OIC Countries (based on PPP)

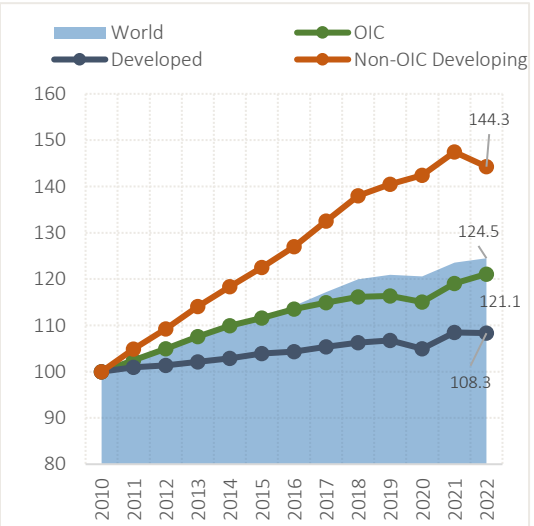


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

At the global level, labour productivity has witnessed an increasing trend during the period 2010-2022. As shown in Figure 2.13, output per worker in OIC countries has increased from US$ 24,521 in 2010 to US$ 29,692 in 2022, as measured in constant international prices based on purchasing power parity (PPP), corresponding to a 21.1% growth in labour productivity. This upward trend was interrupted only in 2020 due to the COVID-19 pandemic, but it quickly surpassed its pre-pandemic level in 2021. The labour productivity gap between the developed and developing countries remained substantial throughout this period as output per worker in developed countries is estimated at US$ 107,225 in 2022 as compared to just US$ 29,692 in OIC countries and US$ 27,522 in non-OIC developing countries. This means that an average worker in the group of OIC countries produces only 27.7% of the output produced by an average worker in the developed countries and an average worker in non-OIC developing countries produces only 25.7% of the output produced by an average worker in the developed countries.

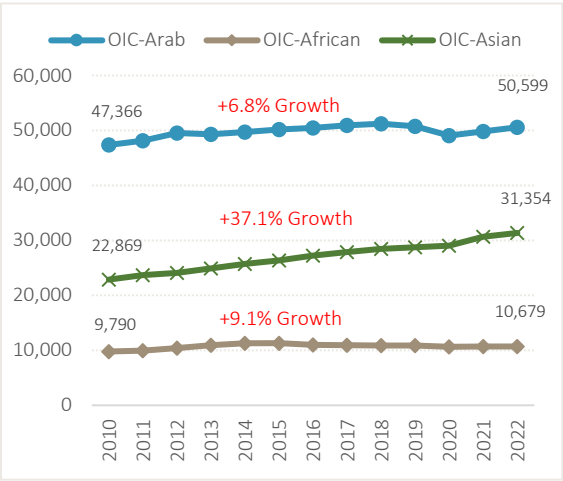
However, when the performance of different country groups is evaluated since 2010, it is observed that non-OIC developing countries have made the largest improvement in labour productivity levels. By considering the year 2010 as the base year, Figure 2.14 shows the improvements in the productivity levels in each country groups. By attaining 44.3% increase, non-OIC developing countries have increased their level of labour productivity most over the period 2010-2022. On the other hand,

Figure 2.14: Labour Productivity Index (2010=100)



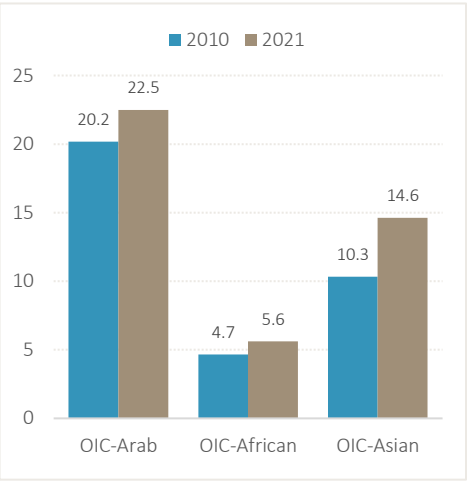
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

Figure 2.15: Labour Productivity in OIC Groups



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

Figure 2.16: Labour Productivity per Hour Worked



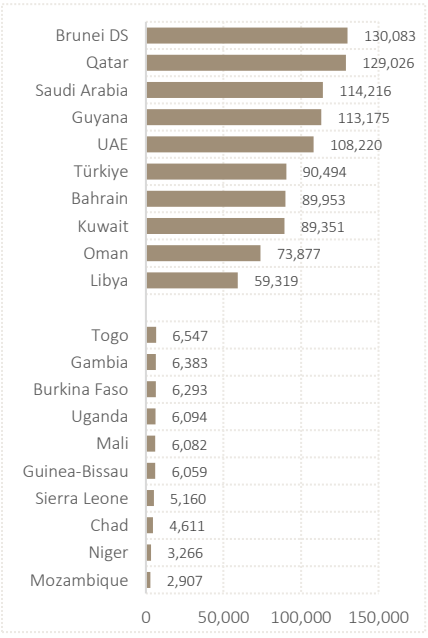
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. Output per hour worked (GDP constant 2017 international $ at PPP)

workers in OIC countries could increase their productivity by 21.1%. This figure is only 8.3% in developed countries, whereas the world average is 24.5% aggregate growth in labour productivity.

At regional level within the OIC, the Arab region countries have on average the highest level of labour productivity, which is measured at almost US$ 50,600 in 2022. This value was US$ 31,354 for the OIC countries in Asia group and US$ 10,679 for the OIC countries in Africa group (Figure 2.15). Although there is a significant gap in productivity levels among the three regions of the OIC, Asian countries experience a rapid growth (37.1%) in their productivity to catch up with the Arab region countries during 2010-2022. This rate was only 6.8% for the Arab countries and 9.1% for the African countries of the OIC. The productivity gap is also obvious from Figure 2.16, which shows the labour productivity per hour worked for the years 2010 and 2021. Again, OIC-Asian countries are on track to close the productivity gap with OIC-Arab countries, and despite improvements, OIC-African countries remain left behind.

At the individual country level, Brunei Darussalam registered the highest output per worker (US$ 130,083) in 2022, followed by Qatar (US$ 129,026),

Figure 2.17: OIC Countries with Highest and Lowest Labour Productivity (US$), 2022



Source: ILO Modelled Estimates, November 2022.

Saudi Arabia (US$ 114,216), Guyana (US$ 113,175) and United Arab Emirates (US$ 108,220). Among the OIC member countries, the lowest labour productivity level was recorded in Mozambique (US$ 2,907) followed by Niger (US$ 3,266) and Chad (US$ 4,611) (Figure 2.17). Only five member countries recorded output per worker higher than the average of developed countries.

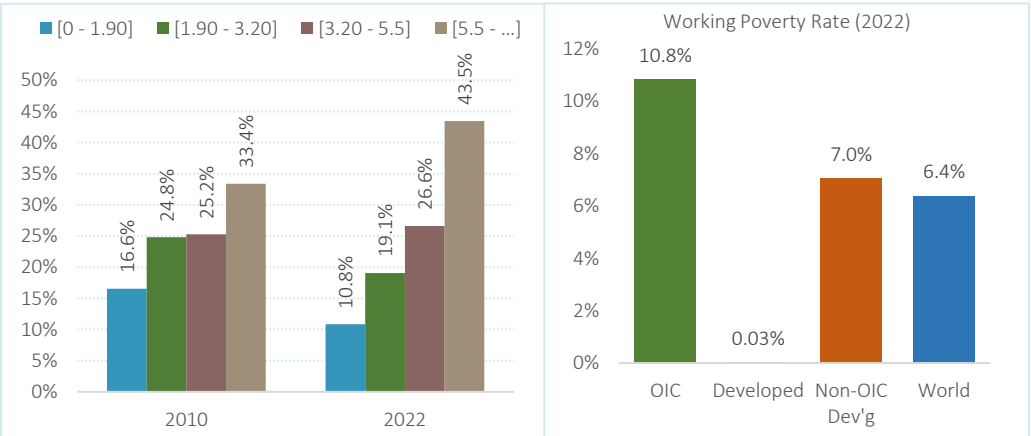
2.3 Income

Another interesting aspect of labour market analysis is the classification of employed people with respect to their level of income or economic class. ILO provides estimations on four different income groups based on per-capita household consumption:

- Extremely poor (less than US$1.90, PPP)
- Moderately poor (between US$1.90 and US$3.20 PPP)
- Near poor (between US$3.2 and US$5.5 PPP)
- Middle class and above (above US$5.5 PPP)

Figure 2.18 (left) shows the trends in OIC countries with respect to the shares of different income groups in total employment. The most striking observation is on the rapidly growing share of employed people with average income level above US$ 5.5, or “middle class and above”. Their share increased from 33.4% in 2010 to 43.5% in 2022. The share of employed people with average income level between US$ 3.2 and US$ 5.5 (classified as “near poor”) increased slightly from 25.2% to 26.6% during the same period. The share of employed in other income groups have been falling during the period under consideration. The share of “extremely poor” decreased from 16.6% to 10.8%, which also shows the working poverty rate for OIC countries. The share of “moderately poor” employed also showed a declining trend and estimated to reach 19.1% in 2022 as compared to 24.8% in 2010. The aggregate share of employed classified as

Figure 2.18: Distribution of Workers based on Income Levels in OIC Countries (left) and Comparison of Working Poverty Rate (right)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022. Income groups are based on USD PPP. [0 - 1.90]: Extremely poor; [1.90 - 3.20]: Moderately poor; [3.20 - 5.50]; Near poor.

extreme poor or moderately poor (or income levels below US$ 3.2) fell from 41.4% in 2010 to 29.9% in 2022, demonstrating an important improvement for OIC countries.

When compared with other country groups, however, the working poverty rate (percentage of employed living below USD 1.90 PPP) is still significantly high in OIC countries (Figure 2.18, right). Working poverty rate is at 7% in non-OIC developing countries and the world average stands at 6.4%. It is almost eliminated in developed countries. Apparently, unemployment figures understate the true extent of labour market challenges in OIC countries since large numbers of people are working, but do not earn enough to lift themselves out of poverty. In fact, working poverty rate is below 1% in 18 OIC countries, but roughly 199 million workers in OIC countries live in extreme poverty (72 million) or in moderate poverty (127 million) despite being in employment in 2022. Having still relatively higher share of employed persons living in households with a per capita income under US$1.90 PPP per day requires OIC countries to pay greater attention to improving the living conditions of the labour force.

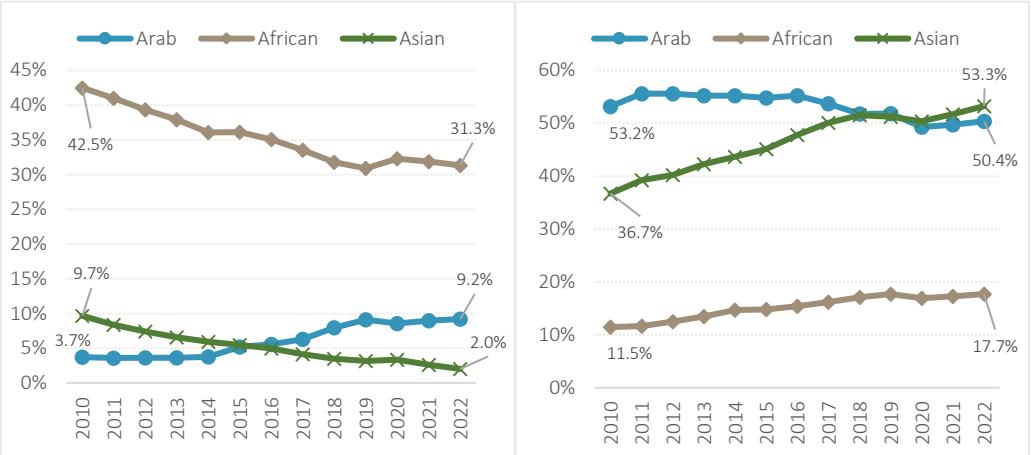
At regional level within the OIC, the working poverty rate is highest in Africa region, which fell from 42.5% in 2010 to 31.3% in 2022. Asian OIC countries are progressing towards eliminating the working poverty rate, which is measured at 2% in 2022 (Figure 2.19, left). On the other hand, OIC countries in the Arab region experienced a rise in working poverty rates over the years to reach 9.2% in 2022 as compared to 3.7% in 2010. This is mainly due to the rise in working poverty in conflict affecting countries of the region, namely Syria, Sudan and Yemen. When it comes to the share of employed persons living above US$ 5.50 PPP income level, Asian countries again

BOX 2.2: Social Security Institutions (SSI-CaB)

SESRIC introduced the Capacity Building Programme for Social Security Institutions (SSI-CaB) in November 2014 with the objective of bolstering both the institutional and human capabilities within OIC Member States in the critical field of social security. The programme is designed to actively promote the exchange of knowledge, sharing of experiences, and dissemination of best practices among the Social Security Institutions operating within OIC Member States.

Under this initiative, the Centre orchestrates capacity-building initiatives, employing diverse methods such as training courses, workshops, and study visits, tailored to the requirements and capabilities of the improvement of human capital within the OIC Member States. The SESRIC Capacity Building Programme for Social Security Institutions (SSI-CaB) encompasses a comprehensive array of subjects dedicated to strengthening the capacities of Social Security Institutions within OIC Member States. These subjects encompass diverse domains, including pension system management, healthcare financing, actuarial services, IT infrastructure for social security, and governance and risk management. Through a range of specialized training and knowledge-sharing activities, SESRIC aims to foster expertise and facilitate the exchange of best practices among Social Security Institutions in OIC Member States, thereby advancing their ability to provide robust and sustainable social security services to their citizens. Between 2014 and 2023, 4 capacity building activities were organized within the framework of this programme.

Figure 2.19: Share of Workers with Income Levels below USD 1.90 PPP (left) and above USD 5.50 PPP (right) in OIC Countries, by Region

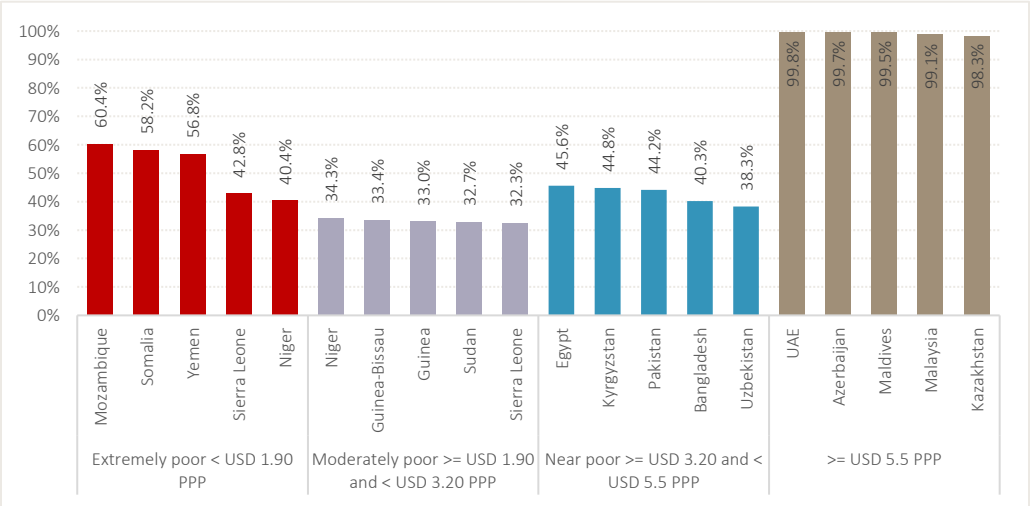


Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

managed to increase the share significantly from 36.7% in 2010 to 53.3% in 2022 (Figure 2.19, right). OIC countries in Africa region could also increase this share by 6.2 percentage points during the same period, but Arab countries experienced on aggregate a fall by 2.8 percentage points again due to the developments in conflict affected countries in the region.

At the individual country level, the top OIC countries in each income groups are presented in Figure 2.20. More than 60% of all employed people in Mozambique and more than half in Somalia and Yemen are "extremely poor". Around one third of all employed people in Niger and Guinea Bissau are "moderately poor". More than 40% of the employed people in Egypt, Kyrgyzstan, Pakistan and Bangladesh are "near poor". On the other hand, more than 99% of all employed

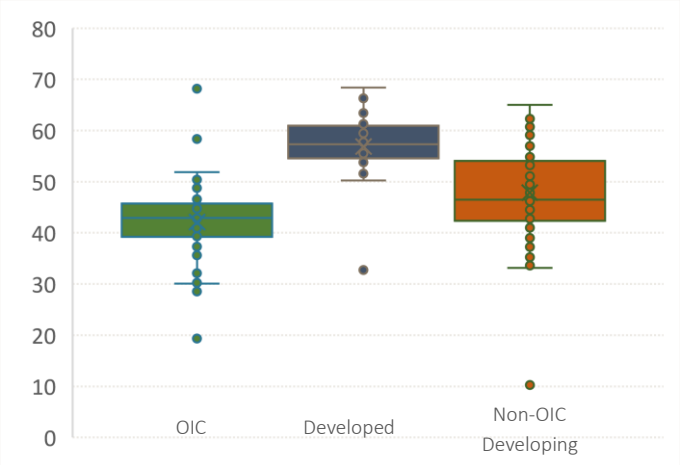
Figure 2.20: OIC Countries with Highest Share of Employed Persons by Economic Class (2022)



Source: ILO Modelled Estimates, November 2022.

people in United Arab Emirates, Azerbaijan, Maldives and Malaysia have income levels that exceed US$ 5.5 per day as listed under the "middle class and above" category.

Figure 2.21: Income Share of Workers in Total GDP (2020)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2021.

The income share of labour in total GDP is relevant as it indicates the portion of national income allocated to workers and has implications for income distribution, economic inequality, consumer demand, and social stability. A higher income share of labour signifies a more equitable distribution of income, stimulates consumer spending, and promotes social cohesion. Conversely, a lower income share of labour exacerbates income disparities, dampens consumer demand, and can lead to social and economic challenges. As shown in Figure 2.21, average income share of workers in OIC countries is at around 42%, whereas this share is at 57% in developed countries and 48% in non-OIC developing countries. Workers in OIC countries appear to receive relatively lower proportion of national income than other country groups. Measures that promote fair wages, labour rights, and inclusive economic growth can help ensure a more equitable distribution of income and a healthier balance between labour and capital in the overall economy.

Figure 2.22: Labour Income Distribution in OIC Countries, by Decile (2020)

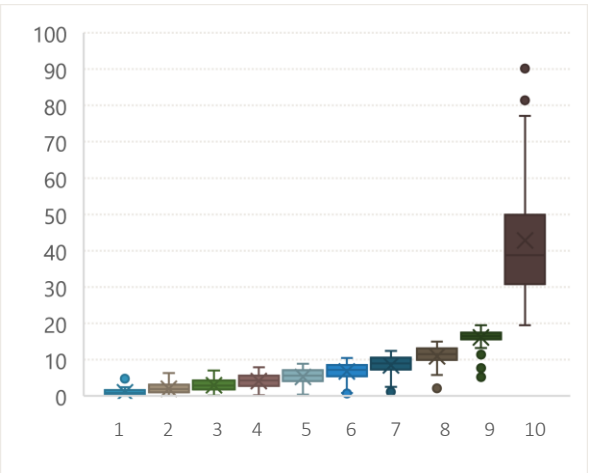
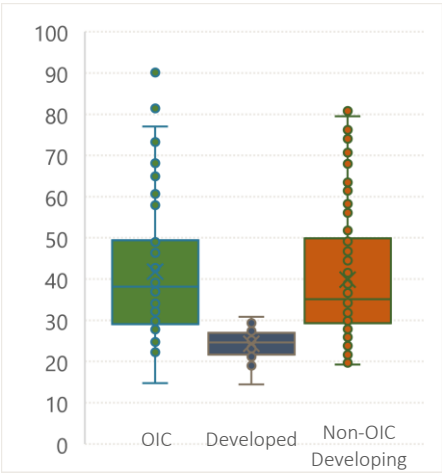


Figure 2.23: Income Gap between Workers with Income Levels in the Lowest 10% and Highest 10% (2020)



Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2021.

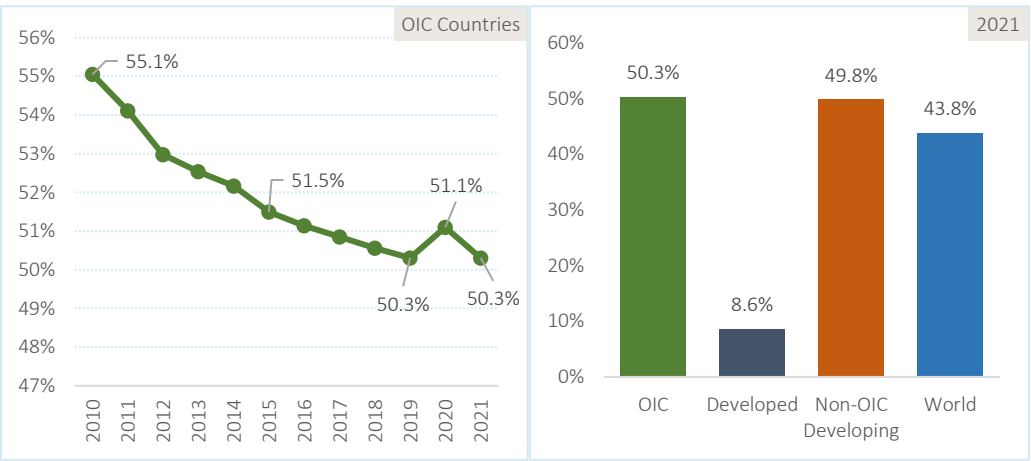
Finally, to better understand the inequality, the share of income received by workers at each decile (Figure 2.22) as well as income gap between workers with income levels in the lowest and the highest deciles (Figure 2.23) are presented. While the income share of poorest 10% is around 1%, the richest 10% gets usually more than 40% of the labour income in OIC countries (Figure 2.22). This reaches as much as 90.2% in Niger, 81.5% in Chad and 77.1% in Uganda. In total, the share received by the richest 10% is above 50% in 14 OIC countries. On the other hand, this share is below 25% in Jordan, Kuwait, Qatar, United Arab Emirates, Saudi Arabia and Bahrain. Apparently, labour income distribution in lower income OIC countries is worse than higher income OIC countries. A lower gap between these two ends would imply greater equality of earning among employed persons. This gap is relatively small in developed countries at around 25 percentage points and do not diverge too much among themselves (Figure 2.23). In OIC countries and non-OIC developing countries, the average gap widens to around 36-38 percentage points, reflecting greater inequality in earnings.

2.4 Vulnerable and Informal Employment

Categorization of employed people by their employment status can help in understanding both the dynamics of the labour market and the level of development of countries. In this context, ILO distinguishes between two categories of the employed people: (a) employees (wage and salaried workers) and (b) self-employed workers, with the latter further sub-divided into self-employed with employees (employers), self-employed without employees (own-account workers), members of producers' cooperatives and contributing family workers. Own-account workers and contributing family workers together represent the vulnerable employment.

In 2010, wage and salary workers in OIC countries were accounting 41.7%, own-account workers 38.1%, contributing family workers 17.0% and employers 3.2%. Over the years, the shares of wage and salary workers, and employers have increased, but the share contributing family

Figure 2.24: Share of Vulnerable Employment



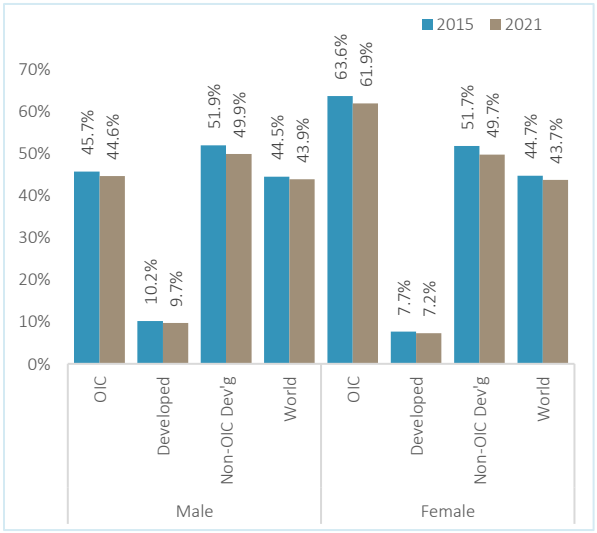
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

workers decreased. As of 2021, 46.2% of the employed people were wage and salary workers, 38.4% own-account workers, 11.9% contributing family workers and 3.5% employers. A relatively higher share of employers as compared to the world (3.2%) indicates growing entrepreneurship in OIC countries. It is also a positive development to observe that a larger share of the population in OIC countries has a regular job with wages and salaries. However, it should be noted that 88.1% of the employed in developed countries are wage and salary workers.

Vulnerable employment reflects working under inappropriate conditions and persons in vulnerable employment are more likely to have limited or no access to social security or secure income. According to the ILO, almost 1.44 billion people in the world were in vulnerable employment in 2021, accounting for almost 44% of total employment. With the increasing shares of wage and salary workers and employers in OIC countries, share of vulnerable employment has continuously declined to reach 50.3% in 2021 compared to 55.1% in 2010 (Figure 2.24). Despite this improvement, vulnerable employment is significantly above the average of developed countries (8.6%). OIC countries and non-OIC countries had similar rates of vulnerable employment in 2021. Overall, the share of vulnerable employment remains excessively high in developing countries.

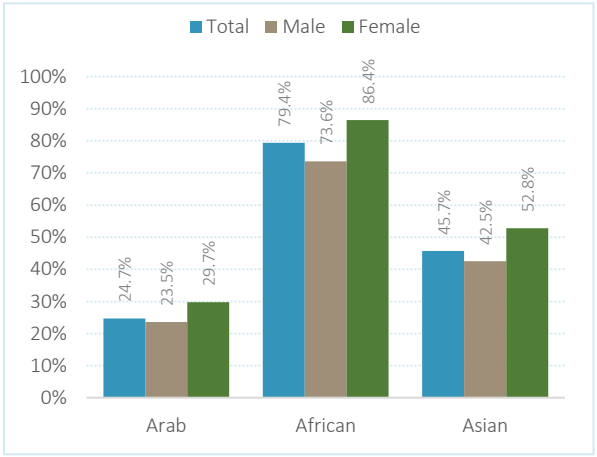
On the other hand, as shown in Figure 2.25, the share of vulnerable employment for female workers (61.9%) in OIC countries is significantly above the share for male workers (44.6%). In other country groups, this share is slightly higher for male workers. At regional level within the OIC, the share of vulnerable employment is lowest in the Arab

Figure 2.25: Share of Vulnerable Employment by Gender (2015 vs 2021)



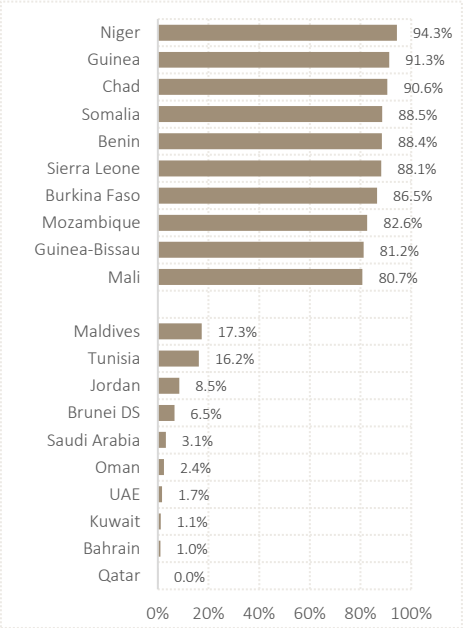
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

Figure 2.26: Share of Vulnerable Employment in OIC Countries, by Region (2021)



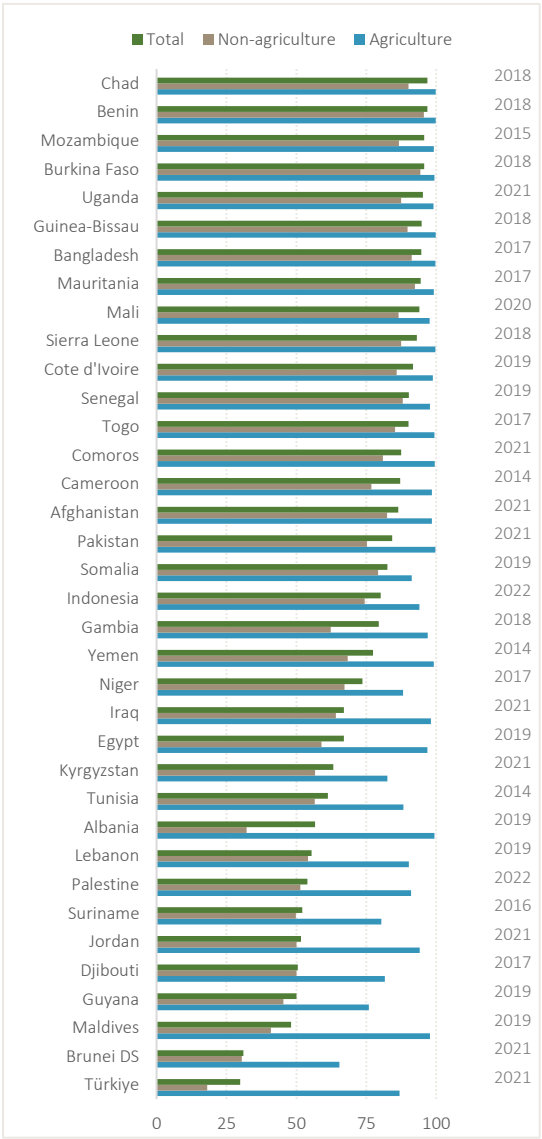
Source: SESRIC staff calculations based on ILO Modelled Estimates, November 2022.

Figure 2.27: OIC Countries with Highest and Lowest Vulnerable Employment (2022)



Source: ILO Modelled Estimates, November 2022.

Figure 2.28: Proportion of Informal Employment in Total Employment, by Sector (%)



Source: ILO SDG Labour Market Indicators Database (SDG 8.3.1).

region (24.7%) and highest in the African region (79.4%). In all groups of the OIC, female workers experience a higher share of vulnerability than male workers (Figure 2.26).

At individual country level, sub-Saharan African countries have the highest shares of vulnerable employment, reaching up to 94.3% in Niger, 91.3% in Guinea and 90.6% in Chad in 2021 (Figure 2.27). Countries in the Gulf region have generally lower shares of vulnerable employment. With only 0.05% share of vulnerable employment, Qatar provides the most appropriate conditions to its workers, followed by Bahrain (1.0%), Kuwait (1.1%) and United Arab Emirates (1.7%). These countries have also among the lowest share of vulnerable employment in the world.

Informal employment is another challenge faced by many OIC countries. Informal employment, characterized by the lack of formal contracts, social protection, and legal recognition, has significant implications for both workers and economies. It can lead to precarious working conditions and vulnerability for workers, as they lack access to social security benefits and legal protections. This can result in low wages, long working hours, and limited job security,

perpetuating poverty and hindering upward social mobility. Informal workers are also more susceptible to exploitation and have limited avenues for career advancement or skills development.

According to latest data available, informality rate is highest in Chad and Benin, which is measured at 69.9% in both countries. This rate is above 90% in 11 other OIC countries. In fact, there are only three OIC countries, out of 36 OIC countries for which data are available, with informality rate below 50%. The lowest rate was observed in Türkiye with a rate of 29.9% (Figure 2.28). Higher levels of informal employment in OIC countries poses many challenges. It often constitutes a substantial portion of the economy where formal job opportunities may be limited. The prevalence of informal employment can hinder economic growth and productivity, as it is often associated with lower levels of efficiency and informality discourages investment and innovation. Additionally, the lack of tax contributions from the informal sector reduces government revenues, limiting the availability of public funds for essential services and social welfare programs.

OIC countries need policies and interventions that promote the transition from informal to formal employment. Formalizing the informal sector can lead to improved labour standards, increased worker protections, and better access to social benefits. As discussed in the next subsection, social protection systems have already lower coverage in OIC countries.

2.5 Occupational Safety and Health, and Social Protection

Occupational safety and health (OSH) is of utmost importance as it ensures the well-being and protection of workers in their work environments. It is vital for preventing work-related accidents, injuries, and illnesses. By implementing safety measures, providing appropriate training, and maintaining safe working conditions, employers can significantly reduce the risk of workplace

Figure 2.29a: OSH: Fatal Occupational Injuries (per 100'000 workers)

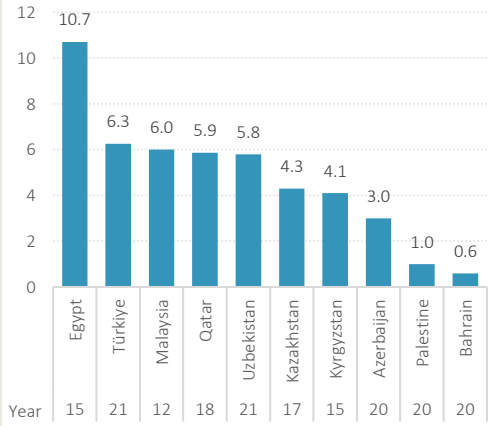
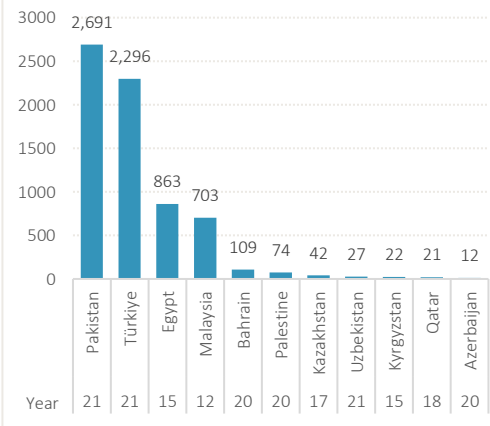


Figure 2.29b: OSH: Non-Fatal Occupational Injuries (per 100'000 workers)



Source: ILO SDG Labour Market Indicators Database (SDG 8.8.1).

accidents and protect workers from harm. This not only preserves the physical and mental health of employees but also improves productivity by minimizing work disruptions caused by injuries and illnesses.

Annually, an estimated 2.9 million workers die globally due to occupational accidents and diseases, and at least 402 million workers are injured at work. Work-related diseases are responsible for 81% of all work-related deaths, with fatalities due to occupational injuries accounting for the remaining 19% (ILO, 2022). Data at individual OIC countries are available only for a few countries. Accordingly, Egypt suffers relatively higher number of fatal occupational injuries, followed by Türkiye and Malaysia (Figure 2.29a). In terms of non-fatal occupational injuries, Pakistan suffers the most with 2691 injuries per 100 thousand workers (Figure 2.29b).

Investing in OSH is a win-win situation for both employers and employees. It not only protects the well-being of workers but also enhances business productivity, reduces costs related to accidents and illnesses, and contributes to overall economic prosperity. According to ILO (2022), occupational accidents and diseases result in a loss of 5.4% of annual GDP. Therefore, investing in OSH can generate important economic benefits for the economies. Furthermore, OSH is a fundamental human right that ensures every worker's right to a safe and healthy workplace, creating a foundation for social justice and sustainable development.

BOX 2.3: Occupational Safety and Health Capacity Building Programme (OSH-CaB)

Occupational Safety and Health (OSH) is dedicated to safeguarding the well-being, safety, and welfare of employees within their workplace environments. The paramount objective of OSH lies in proactively mitigating potential hazards. Over the last five decades, numerous developing Islamic nations have prioritized hazard management and prevention strategies, striving to ensure a safe and secure working environment for all employed individuals.

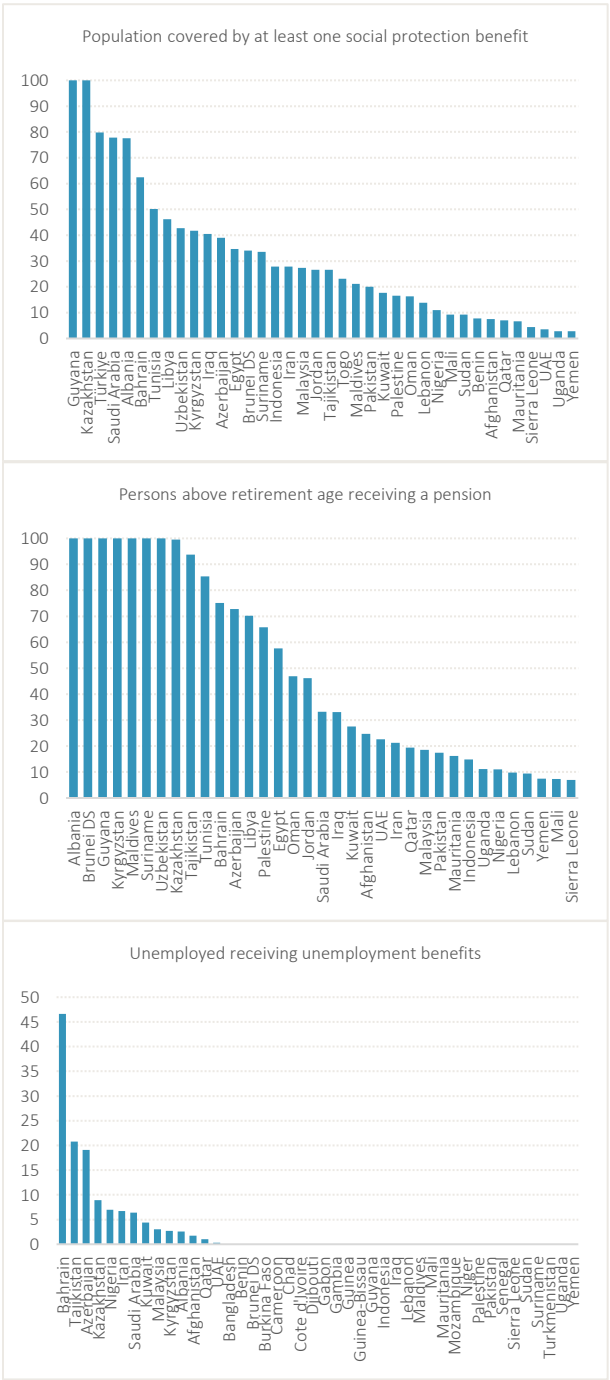
With this objective in mind, SESRIC launched the Occupational Health and Safety Capacity Building Programme (OSH-CaB) in 2010, aiming to bolster the endeavours of the Organization of Islamic Cooperation (OIC) Member States in enhancing workplace safety and health standards. Under this initiative, the Centre orchestrates capacity-building initiatives, employing diverse methods such as training courses, workshops, and study visits tailored to the requirements and capabilities of the occupational health and safety institutions within the OIC Member States. The SESRIC Occupational Health and Safety Capacity Building Programme (OSH-CaB) encompasses various subjects designed to fortify workplace safety and health within OIC Member States. These subjects span diverse areas, including risk assessment and management, occupational health services, emergency response planning, promoting safety cultures, occupational hygiene, and the effective implementation of international OSH standards.

Between 2010 and 2023, within the framework of this programme, 51 capacity-building activities were organized on the theme of Occupational Hygiene, International OSH Regulations, Occupational Safety, etc.

Social protection measures are crucial for workers as they provide a safety net, ensuring their well-being and safeguarding against risks and vulnerabilities. These measures, such as unemployment benefits, healthcare coverage, pensions, and disability support, offer financial security during periods of unemployment, illness, old age, or other life circumstances. Social protection promotes social justice by reducing poverty, inequality, and social exclusion, while also enhancing workers' resilience, enabling them to maintain a decent standard of living, access healthcare, and retire with dignity. By providing a sense of security and stability, social protection measures contribute to the overall welfare and economic stability of workers, fostering social cohesion and sustainable development.

The scope of social protection programmes, the coverage of such programmes and the expenditure on social protection are all quite varied in OIC countries. According to the ILO SDG Labour Market Indicators Database, the proportion of population covered by at least one social protection benefit (excluding health) is lower than the world average of 46.9% in 37 OIC countries - with less than 10% of the population covered in 13 OIC countries (Figure 2.30a). There are only six OIC countries where this proportion is

Figure 2.30: Social Protection Coverage in OIC Countries



Source: ILO SDG Labour Market Indicators Database (SDG 1.3.1) & SESRIC OICStat Database.

higher than the world average and only 2 OIC countries (Kazakhstan and Guyana) where 100% of the population is covered by social protection programmes.

In terms of persons above retirement age receiving a pension, there are seven OIC countries with 100% coverage. However, this ratio is below 20% in 13 OIC countries out of 36 OIC countries for which data are available (Figure 2.30b). One of the social protection indicator where OIC countries show a poor performance is the share of unemployed people receiving unemployment benefits. Out of 44 OIC countries for which data are available, 30 OIC countries do not provide any unemployment benefit at all. In Bahrain, almost 45% of workers can get unemployment benefits when they become unemployed. On the other hand, although it is not covered by the ILO database, Türkiye provides an unemployment benefit based on a contributory insurance scheme according to its Unemployment Insurance Law, which guarantees unemployment benefits for all workers who lost their job against their own wish and without any fault on behalf of them. Such mechanisms can be used in other OIC countries to protect the workers from involuntary loss of jobs.

BOX 2.4: OIC Occupational Safety and Health Network (OIC-OSHNET) Portal

OIC Occupational Safety and Health Network (OIC-OSHNET) is an OIC platform established to create closer cooperation among the national Occupational Safety and Health (OSH) Institutions of the OIC Member States through sharing knowledge, experience and best practices. The Network was launched with a kick-off meeting, jointly organized by SESRIC and the Directorate General of Occupational Safety and Health (DGOSH) of the Republic of Türkiye on 16-17 May 2011 in Ankara, with the participation of representatives of national OSH institutions of 15 OIC Member Countries, namely, Albania, Bangladesh, Egypt, Iraq, Jordan, Kyrgyz Republic, Lebanon, Malaysia, Morocco, Oman, Pakistan, Palestine, Senegal, Türkiye and United Arab Emirates.

The establishment of OIC-OSHNET was welcomed by the First Session of Islamic Conference of Labour Ministers held during the 19th World Congress on Safety and Health at Work on 10 September 2011 in Istanbul, Republic of Türkiye. OIC-OSHNET aims at establishing an international network for systematic sharing of information and experience in the domain of OSH among the national OSH institutions of the OIC Member States with a view to improving the quality of the OSH services and standards of these institutions. This platform, made available by SESRIC, plays a pivotal role in advancing workplace safety standards within the Organization of Islamic Cooperation (OIC) Member States.

In addition, SESRIC has recently launched the new version of the OIC-OSHNET Portal, which is an active platform and knowledge hub for all national OSH institutions and professionals in our member countries. Through the OIC OSHNET portal, professionals, and stakeholders in the OSH domain gain access to a wealth of knowledge, research, and best practices, promoting collaboration and knowledge-sharing among OIC Member Countries to ensure safer and healthier working environments.

Chapter 3

PROGRESS TOWARDS THE IMPLEMENTATION OF THE OIC LABOUR MARKET STRATEGY 2025

The OIC Ten Year Programme of Action 2016-2025 (OIC-2025), which was adopted by the 13th Islamic Summit held in Istanbul during 10-15 April 2016, aims at fostering cooperation for exchange of expertise and manpower and promoting the transfer of knowledge, experiences and best practices. In the area of labour, it aims at conducting joint action and training programmes with a view to generating considerable improvements in labour market conditions in OIC countries, thereby reducing unemployment, increasing labour productivity, and improving the state of occupational health and safety.

Given the common labour market challenges faced by the member countries and the need for enhancing cooperation to address some of these challenges, the 3rd Islamic Conference of Labour Ministers requested from SESRIC to prepare a Labour Market Strategy proposal for the next session of the conference. SESRIC prepared the OIC Labour Market Strategy which was submitted to and adopted by the 4th Islamic Conference of Labour Ministers held on 21-22 February 2018 in Jeddah, Kingdom of Saudi Arabia.

This strategy document proposes 21 strategic goals with 162 actions under five different thematic areas: (1) Encouraging participation to labour market; (2) Enhancing employability; (3) Protecting the workers' safety and well-being; (4) Promoting labour productivity; (5) Reducing unemployment. There are 2 key performance indicators (KPIs) under each thematic area, with a total of 10 KPIs. Effective implementation of the proposed actions will facilitate the achievement of the targets measured by 10 KPIs by 2025.

The strategy is based on four main principles: participation, protection, productivity and partnership. It strongly promotes participation of all working age population to labour market as well as services provided by national or local institutions in enhancing their employability. It also advocates for protecting workers from unhealthy working conditions and relations, discrimination of any kind, and any other conditions that may push the workers into vulnerable and disadvantaged conditions. Moreover, the strategy firmly supports the efforts to increase the productivity of workers by encouraging investments in skills development and actions to avoid skills mismatch. Dealing with the problem of skills mismatch will also address one of the common causes of unemployment. Finally, the strategy is all about partnership. The member states of the OIC are highly heterogeneous in terms of levels of development, resources, capabilities and challenges. Some members may have already achieved some of the goals identified in the strategy document, but others may be considerably lacking resources and capabilities to achieve the same goals. The spirit of this document is to identify which countries are doing well in very specific labour market policies and which others would benefit from the experience of external partners, and then to promote partnership and knowledge sharing among the countries in these specific policy areas.

Based on the above understanding, the strategy document proposed an implementation approach where implementation of actions relies on national level commitments. Some countries may be already effectively implementing some actions, but some others may be facing challenges to implement them. In this regard, SESRIC was assigned to conduct online surveys regularly to collect information about the actions that are completed, partially completed or not initiated yet.

Thematic Areas of Cooperation of OIC Labour Market Strategy 2025

As part of the survey, SESRIC was requested to ask member countries whether they are ready to transfer their knowledge and experience in actions that they completed as well as whether they are willing to benefit from the knowledge and experience of other OIC members in initiating or completing a specific action.

This chapter provides an update on the status of implementation of the actions proposed by the OIC Labour Market Strategy 2025. It starts with an overview of key performance indicators and then continues with a summary of survey findings. The progress report is prepared based on the outcomes of the three online surveys conducted by SESRIC. The survey results show the completion rate of actions under each thematic area at OIC level, top performing OIC countries in terms of completing the actions and their readiness to share the knowledge. The previous edition of the OIC Labour Market Report also included a section on best practices in different thematic areas, as shared by member countries (see SESRIC, 2020).

3.1 Assessment of Key Performance Indicators

The OIC Labour Market Strategy identified several key performance indicators (KPIs) to evaluate the progress based on actual data. There are 10 KPIs identified in the strategy document, two of which could not be measured due to the lack of data (Table 3.1). The remaining 8 KPI were already discussed in the previous sections of this report. In this sub-section, a brief summary of these indicators is provided to facilitate the assessment of progress made by OIC member countries.

Table 3.1: Key Performance Indicators of OIC LMS

KPI Code	KPI Description
A. Encouraging Participation to Labour Market	
KPI 1.1	Labour force participation rate
KPI 1.2	Gender gap in LFPR
B. Enhancing Employability	
KPI 2.1	Employment to Population Ratio
KPI 2.2*	Share of Public Expenditure on ALMPs *(No data)*
C. Protecting the Workers' Safety and Well-being	
KPI 3.1*	Public social protection expenditure as percentage of GDP *(No data)*
KPI 3.2	Working Poverty Rate
D. Promoting Labour Productivity	
KPI 4.1	Labour Productivity (USD)
KPI 4.2	Share of High Skilled Labour Force
E. Reducing Unemployment	
KPI 5.1	Unemployment rate (total)
KPI 5.2	Youth unemployment rate

Labour force participation rate (LFPR) in OIC countries has not improved over the last decade, mainly due to adverse impacts of the COVID-19 pandemic. As of 2022, LFPR in OIC countries was estimated at 56.2%, while this ratio was 61.0% in both developed and non-OIC developing countries. The world average was 59.8%. Apparently, new policies are needed to encourage the participation of labour force to the labour market. When very low levels of participation of youth and women are considered, it becomes evident that special attention should be paid towards supporting the participation of these groups.

Gender gap in LFPR decreased from 37.1% in 2015 to 35.8% in 2022. This is mainly driven by an increase in female LFPR. There is obviously a trend towards lower gender gap in participation to labour market, but given the 25.2% gender gap in the world

and 12.0% in the group of developed countries, the gap in OIC countries remains considerably large.

Employment to population ratio (E2P) did not change since 2010. It was measured 52.9% in 2010 and remained unchanged at the same level in 2019 after a slight fall and rise in between. With the pandemic, this ratio fell to 52.7% in 2022. This reflects that the actions taken towards enhancing employability are not resulting in desired outcomes in terms of higher employment to population ratio.

Working poverty rate (living on less than US$3.20 per day, PPP) in OIC countries declined from 41.4% in 2010 to 34.6% in 2015 and 29.9% in 2022, while the extreme poverty rate, measured by the percentage of employed living below US$1.90 PPP (as defined in the SDG indicator 1.1.1), declined from 16.6% to 10.8% during the same period. There is a significant improvement in reducing the working poverty rate in OIC countries; but in order to eliminate extreme poverty, OIC countries require to pay greater attention to improving the living conditions of the labour force.

Labour productivity, measured as output per worker in constant international prices based on purchasing power parity (PPP), has increased from US$ 27,300 in 2015 to US$ 29,700 in 2022 in OIC countries. The labour productivity gap between the OIC and developed countries remained substantial throughout this period as output per worker in developed countries is estimated at US$ 107,200 in 2022. This means that an average worker in the group of OIC countries produces only 27.7% of the output produced by an average worker in the developed countries. There is progress in achieving higher productivity levels, but greater efforts are needed to narrow the gap with developed countries.

Share of high skilled labour force has been increasing over the years, reflecting the outcomes of investments made in building human capital in OIC countries. When compared with other country groups, OIC countries display a smaller share of high skilled employees than the group of developed countries, but similar shares with non-OIC developing countries. Yet, the progress made by non-OIC developing countries as well as developed countries is higher than the progress made by OIC countries in increasing the share of occupations with high skill requirements. This reflects that the investment made in building human capital is inadequate.

Total unemployment was on average 6.3% in OIC countries in 2022, which is higher than its level in 2015 (6.1%). While the average unemployment rate in OIC countries was already on rise, the COVID-19 pandemic further exacerbated the prospects. Evidently policies tackling the challenge of unemployment are not providing the desired outcomes in terms of reduced rate of unemployment. It is imperative to design alternative policies and enhance cooperation to fight unemployment in OIC countries.

Youth unemployment has similarly witnessed an increasing trend in OIC countries during the period under consideration. As of 2019, youth unemployment in OIC countries is estimated to reach 13.7%, as compared to 13.8% in 2015 and 12.3% in 2010. Noting the fact that more than 28% of the youth population in OIC countries are not in education or employment, OIC countries require to create opportunities for better education and employment opportunities to avoid any further economic and social problems.

3.2 Implementation Surveys

The implementation surveys have two broad objectives. One is to observe the completion of actions suggested by the strategy document and the other is to identify the opportunities for sharing knowledge and experience among the member countries. To conduct the first survey, the OIC General Secretariat and SESRIC circulated note verbal to the member countries in November 2018 requesting them to nominate a focal point from the relevant national institutions to collect reliable information and data related to the implementation of the survey. Some other countries indicated their focal points during the 4th Islamic Conference of Labour Ministers held in Jeddah, Kingdom of Saudi Arabia. Accordingly, the first survey was conducted during December 2018 – May 2019 with participation of 20 countries. The second one was conducted during October 2020 – March 2021 with 9 responses. The last survey was initiated in June 2023. For each survey, OIC GS circulated a note verbale to request the member states to fill the survey. Table 3.2 provides the list of countries that responded to the surveys in part or full.

Table 3.2: Respondent Countries to Implementation Surveys

	2019-20	2021-22	2023
Afghanistan	X		
Azerbaijan	X		
Bahrain	X		
Cameroun	X		
Indonesia	X		
Iraq			X
Jordan	X	X	X
Kuwait		X	
Malaysia		X	
Niger	X		
Nigeria	X	X	
Oman	X		
Palestine	X	X	
Qatar	X		
Saudi Arabia	X		X
Senegal	X	X	X
Sierra Leone	X		
Sudan	X	X	
Tunisia	X		X
Türkiye	X	X	X
Uganda	X		
UAE	X	X	
Yemen	X		

This section provides a short analysis of the survey results for each thematic area. Lack of participation prevents to make a progress analysis over time. Accordingly, in the analysis below, only the latest responses provided by member states are considered. The results overall indicate that significant progress has already been made in the implementation of suggested actions. There is also strong readiness to exchange knowledge and experience in achieving the strategic goals.

(i) Thematic Areas

The strategy document identified five thematic cooperation areas for strategic action. These are: (1) Encouraging participation to labour market; (2) Enhancing employability; (3) Protecting the workers' safety and well-being; (4) Promoting labour productivity; (5) Reducing unemployment. There are 21 strategic goals and 162 actions specified under these thematic areas. This subsection provides a summary analysis of the implementation of actions listed in the strategic document for each thematic area.

(1) Encouraging participation to labour market

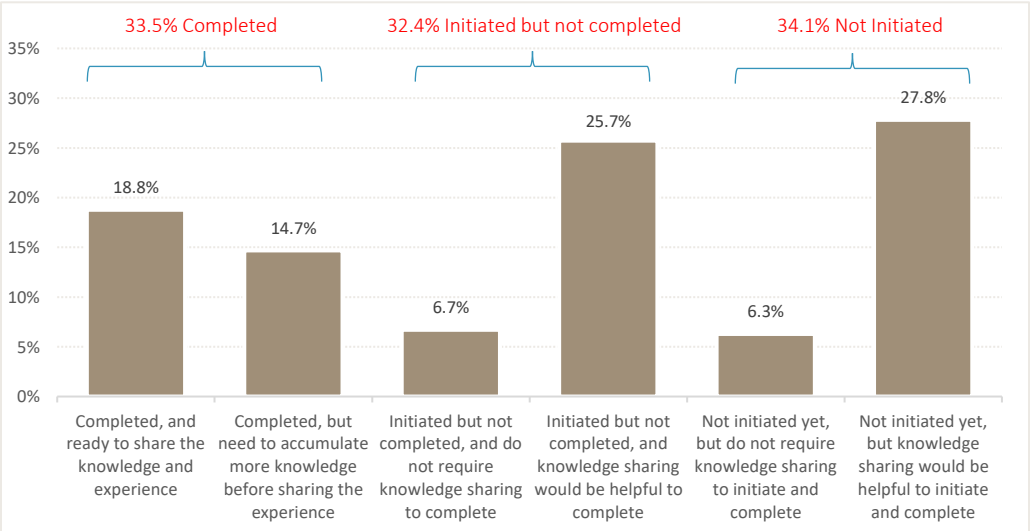
Considering the relatively lower labour force participation rates in OIC countries, there is a need to pay more attention to the challenges related to the labour market inactivity. Addressing this challenge would contribute to achieving a more inclusive and productive economy across the OIC region. Reducing economic inactivity not only stimulates economic development but also contributes to solving diverse social problems.

In order to encourage the participation to labour market, five strategic goals (SGs) are proposed in the strategy document. These are:

- **SG 1.1:** Improve labour market prospects and outcomes (6 actions)
- **SG 1.2:** Promote skills development according to labour market needs (7 actions)
- **SG 1.3:** Implement inclusive policies to enhance participation of female, young and elderly population (9 actions)
- **SG 1.4:** Devise policies to narrow down the gap between participation to labour market in urban and rural areas (5 actions)
- **SG 1.5:** Design programmes and policies to activate the potentials of vulnerable groups including disabled, ex-offender, and displaced people in labour market (8 actions)

The actions proposed under this thematic area have higher implementation rate by the respondent countries. In total, 33.5% of all actions were completed and in many of all these actions, the member countries are in a situation to transfer their knowledge and experience. 32.4% of actions were already initiated, but another 34.1% of actions wait for the inception. In 72.3% of actions, there is a readiness for sharing knowledge and experience among the respondent countries (Figure 3.1).

Figure 3.1: Implementation Status of Actions in Thematic Area 1



Source: OIC Labour Market Strategy Implementation Surveys by SESRIC, 2019-2023.

(2) Enhancing employability

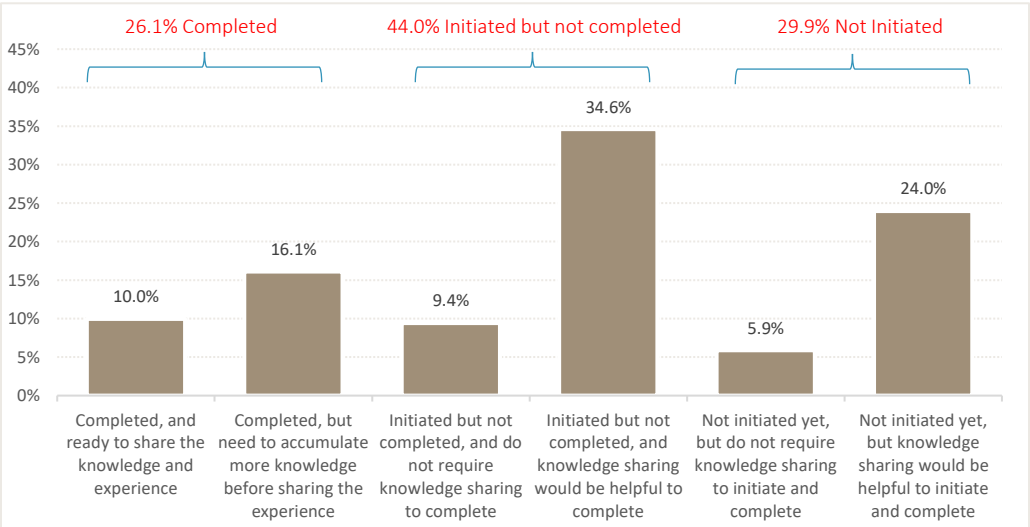
The level of skills and qualifications of a person is a critical factor in enhancing the employability in the labour market. Skills development is needed to improve employability, enhance productivity, enable matching of skills supply to the needs of labour markets, and facilitate the adjustment to changes in technology and markets. Yet, skills mismatch is among the top challenges faced by OIC countries. There might be different explanations for why the level of skills of individuals does not match the level of skills required in the labour market, but skill mismatch is an unhealthy phenomenon in the labour market that has significant negative consequences.

In this context, four strategic goals are proposed by the strategy document to enhance employability:

- **SG 2.1:** Significantly improve the skills base of the labour force to enhance employability (8 actions)
- **SG 2.2:** Reduce the skills mismatch (10 actions)
- **SG 2.3:** Implement special policies to enhance employability of vulnerable groups (10 actions)
- **SG 2.4:** Improve the functioning of labour markets and institutions (8 actions)

According to the responses to the survey, only 26.1% of actions were initially completed by the respondent member countries, the lowest completion rate among the five thematic areas. In 10% of which, member countries are ready to share their knowledge and experience. Moreover, 44% of actions were initiated but not completed, and in majority of cases knowledge sharing is considered as a helpful instrument in achieving the goals. Finally, almost 30% of actions were not initiated at all, but the majority of countries are considering knowledge sharing as important (Figure 3.2).

Figure 3.2: Implementation Status of Actions in Thematic Area 2



Source: OIC Labour Market Strategy Implementation Surveys by SESRIC, 2019-2023.

BOX 3.1: OIC Public Employment Services Network (OIC-PESNET)

SESRIC established the OIC Public Employment Services Network (OIC-PESNET) in accordance with the "Resolution on the Cooperation on Labour, Employment and Social Protection among the OIC Member States" adopted by the 2nd Islamic Conference of Labour Ministers held in Baku, Azerbaijan, in April 2013.

Intending to enhance the quality and effectiveness of public employment services and improve the accessibility to these services in the OIC Member States, the OIC-PESNET strives to establish an intra-OIC network for the systematic sharing of information and experience among public employment authorities of the OIC Member States. This programme aims to:

- *Maintain and use statistics on workplace accidents to promote workplace risk prevention in organizations and build an action plan at the national level.*
- *Advancement of the OIC Member States' public employment services' institutional and human resources through promoting the exchange of experts.*
- *Improvement of technical skills and knowledge of the participants on integrating IT and digital applications into public employment services as a solution to improve service effectiveness.*

SESRIC assumes the role of the Secretariat of the OIC-PESNET and carries out a specific capacity building programme, namely; Public Employment Services Capacity Building Programme (PES-CaB), to support the efforts of the OIC Member States in developing the capacities of the institutional and human resources in the field of public employment services.

(3) Protecting the workers' safety and well-being

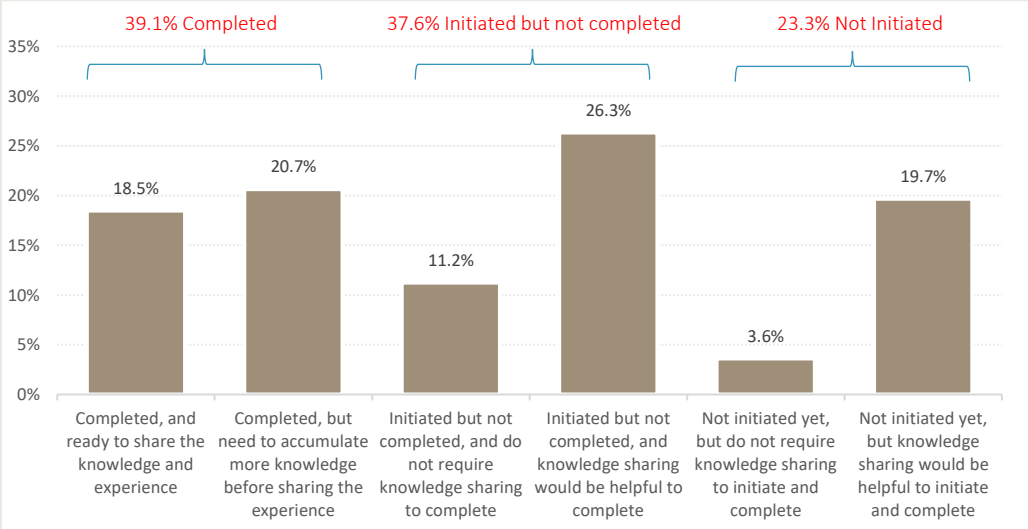
Occupational safety and health (OSH) represents a key element in achieving decent working conditions and sustaining well-being of workers. It is concerned with protecting safety, health and welfare of work ing people. Appropriate legislation and regulations together with adequate means of enforcement, are essential for the protection of workers' safety and health. Moreover, roughly 200 million workers in OIC countries live in extreme poverty or in moderate poverty with less than US$3.10 income per day, despite being in employment.

In this context, five strategic goals are identified to protect the workers' safety and well-being in OIC countries:

- **SG 3.1:** Strengthen Measures for Occupational Safety and Health (10 actions)
- **SG 3.2:** Widen Social Protection Measures for All (7 actions)
- **SG 3.3:** Prevent Discrimination in the Labour Market and Workplace (6 actions)
- **SG 3.4:** Eliminate Child and Forced Labour (10 actions)
- **SG 3.5:** Reduce Informal Employment and Promote Decent Work (7 actions)

The highest rate of completion was indicated in this thematic area by the respondent countries. 39.1% of actions were already completed and in 20.7% of cases, they are ready to share their knowledge and experience. 37.6% of actions were initiated by the member countries and only 23.3% of actions were not still initiated. This reflects the importance given to the protection of the workers' safety and well-being. In 64.5% of actions, the countries are ready (18.5%) or willing to engage (46%) in an exchange of knowledge and best-practices (Figure 3.3).

Figure 3.3: Implementation Status of Actions in Thematic Area 3



Source: OIC Labour Market Strategy Implementation Surveys by SESRIC, 2019-2023.

BOX 3.2: OIC Occupational Safety and Health Network (OIC-OSHNET)

Since its establishment in 2011, the OIC Occupational Safety and Health Network (OIC-OSHNET) has played a pivotal role in fostering enhanced collaboration among the national Occupational Safety and Health (OSH) Institutions of OIC Member States.

In light of this context, OIC-OSHNET, as an OIC platform, was created by SESRIC and the Directorate General of Occupational Safety and Health (DGOSH) of the Republic of Türkiye with the primary objective of facilitating the exchange of knowledge, expertise, and best practices in the realm of OSH. The impetus for its formation can be attributed to the growing recognition among OIC Member States of the significance of promoting and improving occupational safety and health standards. Much like the influence exerted by the Millennium Development Goals (MDGs) and the Post-2015 UN Development Agenda in the realm of social protection policies, OIC-OSHNET endeavours to establish an international network dedicated to the systematic sharing of information and experiences among national OSH institutions. This collaborative effort aims to elevate the quality of OSH services and standards these institutions provide, thereby advancing workplace safety and health across OIC Member States.

(4) Promoting labour productivity

Workers in OIC countries on average produce lesser amount of goods and services compared to their counterparts in the rest of the world. This implies that OIC countries have a productivity problem. In a broader context, labour productivity can be enhanced by various macroeconomic policies, including policies to promote innovation, science and technology, investment and human capital. In the context of labour market, promoting labour productivity is more related to the effective utilization of existing human capacities. Human capital stock plays an important role in determining the ability to absorb new knowledge and technologies, and thus increasing labour productivity.

In this context, four strategic goals (SGs) are recommended to promote productivity:

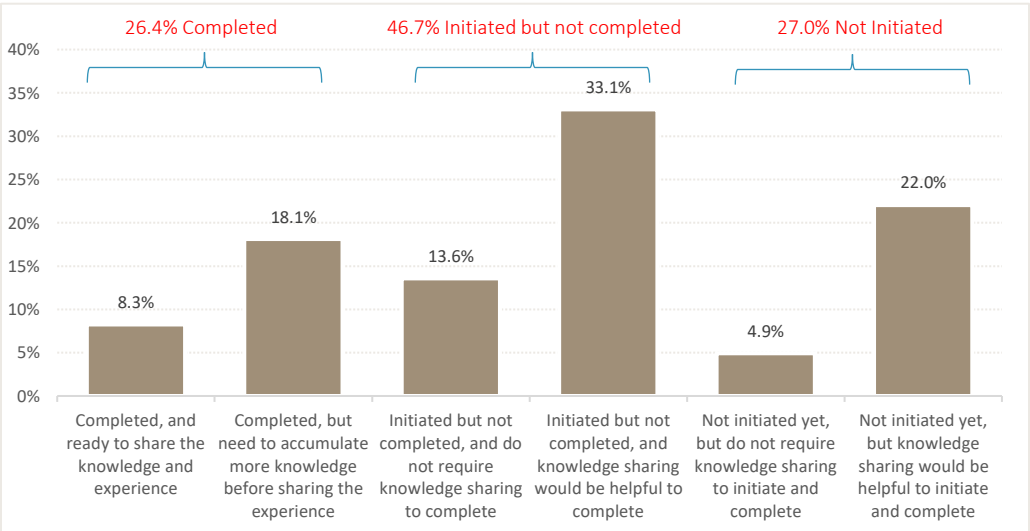
- **SG 4.1:** Effectively Utilize Existing Capacities (7 actions)
- **SG 4.2:** Promote On-the-Job Training Programmes and Life-long Learning (8 actions)
- **SG 4.3:** Invest in New Skills (6 actions)
- **SG 4.4:** Invest in Sustainable Physical and Digital Infrastructure (5 actions)

Actions related to the promotion of labour productivity have 26.4% completion rate. 46.7% of actions are initiated but not completed. Overall, respondent countries indicated that they are ready to engage with other member countries in exchanging knowledge and experience in 63.4% of actions (Figure 3.4).

(5) Reducing unemployment

Unemployment remained one of the most challenging issues across the globe and OIC countries continue to have higher average unemployment rates compared to the world. In particular, unemployment rates for female labour force are higher than the rates for male. The figures on

Figure 3.4: Implementation Status of Actions in Thematic Area 4



Source: OIC Labour Market Strategy Implementation Surveys by SESRIC, 2019-2023.

youth unemployment rates in OIC countries are also not quite promising, as young people (aged 15 to 24 years) continue to extensively suffer from lack of decent job opportunities. Therefore, productive capacity of OIC countries needs to be activated by taking into account the long-standing structural obstacles that are keeping many youths, women, people with disabilities and low-skilled workers unemployed.

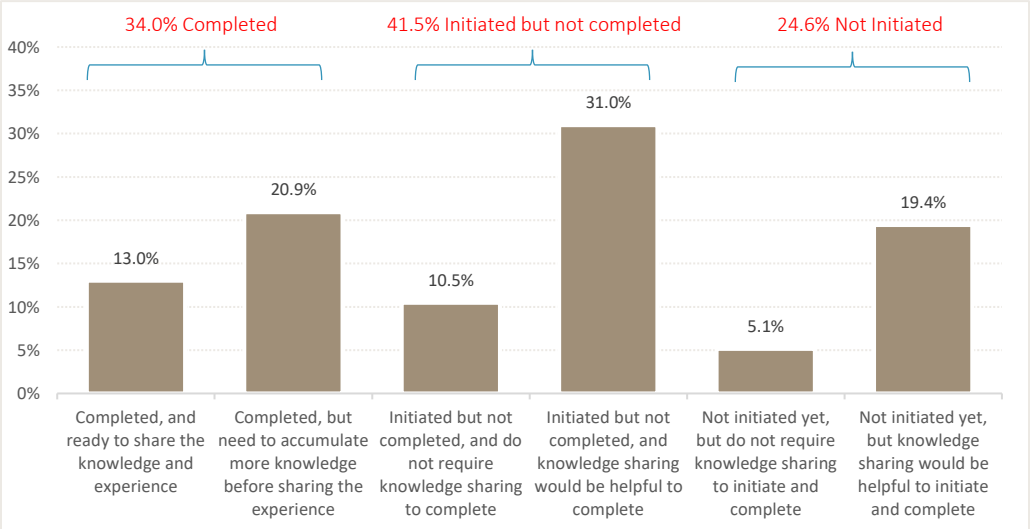
In this context, three strategic goals (SGs) are identified by the strategy document to help reduce unemployment:

- **SG 5.1:** Expand active labour market policies for reducing unemployment (6 actions)
- **SG 5.2:** Implement policies to enhance job creation (7 actions)
- **SG 5.3:** Design special programmes to reduce youth and female unemployment (12 actions)

Actions towards reducing unemployment have been already taken by the respondent countries and 34% of them are completed. 41.5% of actions are initiated, but in 31% of actions, there is a demand for knowledge sharing to complete them. Following the thematic area 3, this is the area with the highest rate of completion or initiation. Only 24.6% of actions did not commence yet. This also reflects the critical importance given to the fighting of unemployment in OIC countries (Figure 3.5).

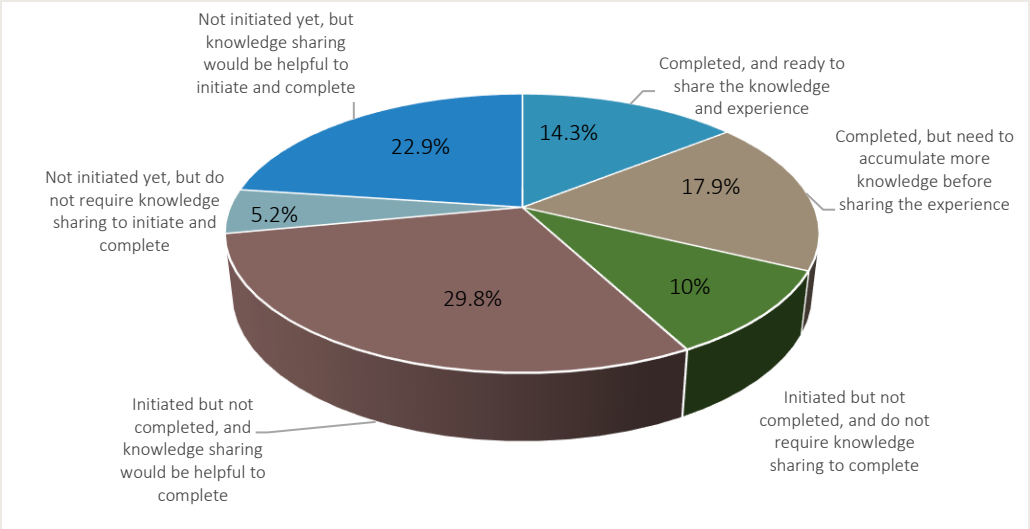
In total, 32.2% of all actions were completed, 39.8% were initiated but not completed and 28% were not initiated yet (Figure 3.6). Moreover, in 66.9% of cases, countries are willing to engage in knowledge sharing activity. This reflects relatively strong initial conditions to move forward and achieve the strategic goals suggested in the OIC Labour Market Strategy 2025 document.

Figure 3.5: Implementation Status of Actions in Thematic Area 5



Source: OIC Labour Market Strategy Implementation Surveys by SESRIC, 2019-2023.

Figure 3.6: Overall Implementation Status of OIC Labour Market Strategy



Source: OIC Labour Market Strategy Implementation Surveys by SESRIC, 2019-2023.

Chapter 4

SECTORAL TRANSFORMATION AND CHANGING NATURE OF WORK

As technology continues to advance, certain tasks that were traditionally performed by humans are becoming automatable. This shift has implications for the workforce and society as a whole. However, it's important to recognize that automation doesn't necessarily mean the complete replacement of human labour. Instead, it often leads to a transformation of jobs and the need for new skillsets. Societies and workforces can be better prepared for the digital future by making timely predictions on the tasks that are more prone to automation. This preparation involves identifying the skills that will remain valuable and in demand, even in an automated environment. Focusing on cultivating these skills ensures that human labour continues to be a consistent source of economic value.

The specific skillsets that will be in high demand can vary across industries and sectors. However, some general areas are likely to be more important in the future of work, including critical thinking, problem-solving, creativity, adaptability, emotional intelligence, and digital literacy. These skills are often referred to as "soft skills" and are considered essential for navigating in an increasingly automated and technologically advanced world. Moreover, there will be a need for individuals who can understand and work alongside emerging technologies. Skills related to data analysis, artificial intelligence, machine learning, robotics, and cybersecurity will also be critical in harnessing the growth potential of technological innovation.

Recognizing the importance of preparing the labour force for the future of work, OIC countries are also taking actions to understand the challenges and opportunities and design appropriate policies. At OIC level, the ministers/heads of organizations/representatives in charge of digital transformation in the OIC countries, participating in the COMCEC High-Level Digital Cooperation Initiative/Programme, gathered on the occasion of the 38th COMCEC Session in Istanbul in

November 2022, to discuss the global agenda on digital transformation and the current state in the Member Countries and to exchange views on how to ensure close cooperation among the Member Countries under this significant area. The participants agreed on the a number of thematic areas as the cooperation framework under High-Level Digital Cooperation, such as fostering cooperation on cross-cutting digital issues, improving digital connectivity, and advancing digital skills and competencies. They also decided to convene regularly under the "COMCEC High Level Digital Transformation Forum" with a view to enhance technical cooperation and collaboration among the relevant authorities responsible for digital transformation in the Member Countries as well as exchange of experiences, design of joint programs and projects under the aforementioned thematic areas.

In the light of growing attention paid at global and OIC level to the rise of digitalization and its implications on employment, this section briefly reviews the rising importance of digitalization and automation for the world of the work, then provides some discussions on emerging and declining skills associated with rising digitalization and automation. The section concludes with a broad assessment on sectoral allocation of employment in OIC countries along with discussions on sector-specific impacts of digitalization and automation.

4.1 The Rise of Digitalization and Automation, and Impacts on Labour Markets

Digitalization in the workplaces comprises adaptation of a range of digital technologies and rapidly advancing applications, including digital communication tools, information technology, robotics, and artificial intelligence. Even though this process has been taking place more for than several decades, the COVID-19 pandemic has resulted in a surge in remote and platform work, accelerating the digital transformation of traditional workplaces. According to a global survey conducted by the World Economic Forum (WEF), over 85% of major companies identify increased adoption of new and frontier technologies and broadening digital access as the major trend for transformation in workplaces. Moreover, more than 75% of companies are looking to adopt big data, cloud computing and AI feature in the next five years (WEF, 2023). Yet, opinions regarding the advantages and disadvantages of digital technologies' impact on workplaces vary widely. Optimistic expectations clash with concerns, leading to a polarized discussion about potential effects on employment levels and working conditions.

The digitalization requires enterprises to change their ways of operating, moving away from labour-intensive to more technology-intensive types of work organisation. These may bring about replacement of humans by robots as well as a change in the content of jobs and skills, working conditions and work relations. More recently, artificial intelligence (AI) has attracted great attention on the risks of comprehensive digitalisation of the world of work. It is argued that digital technologies could improve working conditions by replacing repetitive, heavy, labour-intensive or dangerous tasks, as well as by reducing the workload. It could also help to improve skills, raise the quality of work and create new, higher value-added employment, leaving more time for stimulating tasks and career development (EP, 2022).

Digitalization not only affects entire jobs but also has a significant impact on the composition of jobs by altering the task profiles within them. This dynamic transformation within occupations

can be observed in various ways. Firstly, certain tasks within existing job profiles may disappear due to automation or the shifting nature of work in a digital environment. Digitalization can also alter tasks by digitizing manual or physical work processes. This involves the integration of digital technologies into traditional workflows, replacing manual steps with digital tools and platforms. This can enhance efficiency, accuracy, and speed in completing tasks. Lastly, digitalization creates new tasks and job roles that are associated with emerging technologies and the analysis of data generated by these technologies. This evolution in task profiles within jobs reflects the ongoing adaptation and integration of digital technologies into work processes.

Moreover, digitalisation can affect wage levels in the labour market, where increases in aggregate demand and productivity due to technology adoption can lead to an increase in wages. It also affects the demand for and supply of skills. New skills are needed for newly emerging jobs or tasks, whereas other skills will become less relevant in the labour market as certain jobs and tasks experience decreased demand. Overall, digitalisation offers a wide range of labour market opportunities for higher-skilled workers and those capable of adapting to changed skills needs. Low-skilled routine workers, however, are at risk of losing their jobs and will need to master the transition to the digital age (Eurofound, 2021b; Mandl, 2021). The education system needs to anticipate future skills needs and, jointly with the business sector, adapt curricula to provide the required content using the most suitable delivery mechanism. It is imperative for workers to develop new skills, such as data analysis, problem-solving, and technological proficiency, to meet the changing demands of the digital workplace (see Section 3.2 for more discussion).

Automation, on the other hand, refers to the replacement of human input, in full or in part, by machine or software input. Contrary to digitalization, robots have been used in manufacturing for a longer period of time. Improvements in technology, however, have enabled the deployment of a new generation of robots – boosted by artificial intelligence and machine learning – that are able to perform tasks that go beyond repetitive, discrete motions. Business logistics, automotive

Figure 4.1a: Annual Installations of Industrial Robots (Thousands)

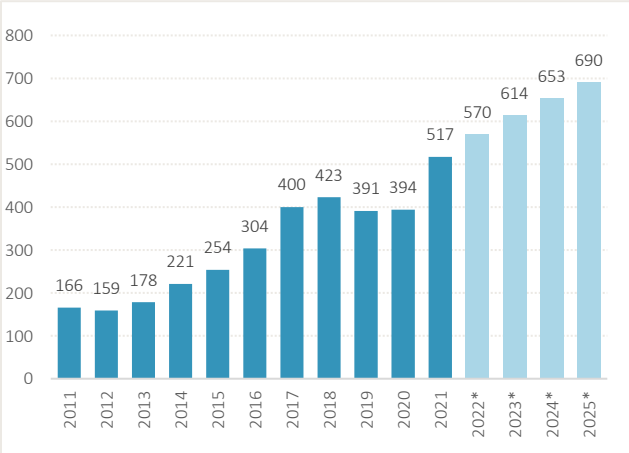
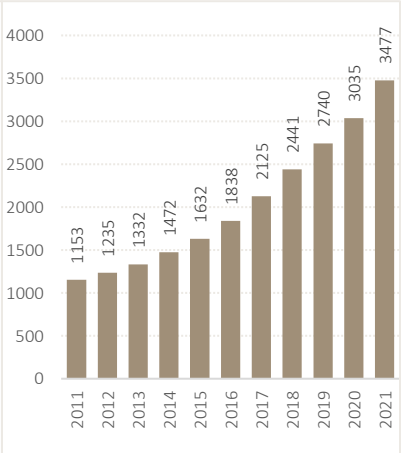


Figure 4.1b: Operational Stock of Industrial Robots (Thousands)



Source: International Federation of Robotics. (*) Projected.

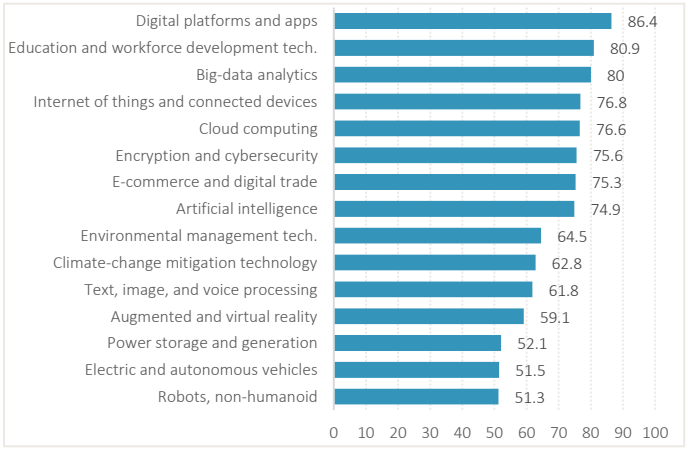
manufacturing and food preparation industry are some of the sectors that use advanced robotics more intensively (Eurofound, 2021a).

In line with growing automation of production processes, robot installations rose steeply to over 517 thousand units in 2021, representing a growth rate of 31% over previous year (Figure 4.1a). This trend is expected to continue over the coming period and reach almost 700 thousand by 2025, according to the International Federation of Robotics (IFR, 2022). The five major markets for industrial robots, China, Japan, the United States, the Republic of Korea, and Germany, accounted for 78% of global robot installations, where China alone accounted 52% of global robot installations in 2021. Data also shows that the electrical/electronics industry has the highest share of new installation of robots in 2021 with a share of 26.4%, followed by the automotive industry (23.1%), whereas food industry accounted for just 3.1%. The stock of robots also provides a relatively good indication of current trends in automation in industries, especially in assembly lines. The operational stock of industrial robots estimated by IFR (2022) was almost 3.5 million units, which had been increasing by 14% on average each year since 2016 (Figure 4.1b).

Technology adoption is not only about robotics. In fact, robots represent a lower importance when compared to other technologies. According to WEF (2023), digital platforms and apps are the technologies most likely to be adopted by the organizations surveyed, with 86% of companies expecting to incorporate them into their operations in the next five years (Figure 4.2). E-commerce and digital trade are expected to be adopted by 75% of businesses. The second-ranked technology encompasses education and workforce technologies, with 81% of companies looking to adopt these technologies by 2027. The adoption of robots, power storage technology and distributed ledger technologies rank lower on the list. WEF (2023) estimates that adoption of technology and increased digital access will create net job growth.

When compared with digitalization, automation is highly disputed in the literature with respect to its impact on labour market. In general, the employment impact of automation is stronger in manufacturing than in services because of its higher share of routine tasks and less reliance on digital tasks. Automation primarily affects jobs that involve routine tasks, which often impact low-skilled workers. Occupations such as production line operators, supervisors, and forklift operators in manufacturing will undergo changes, requiring upskilling or reskilling. Similarly, jobs that involve manual but less routine tasks, like certain machine operators and specialized assemblers, will

Figure 4.2: Technology Adoption (2023-2027)



Source: WEF (2023). Technologies ranked by the share of organizations surveyed who are likely or highly likely to adopt this technology over the next 5 years.

become more complex, necessitating continuous skills development (Eurofound, 2021b). However, in service sectors like healthcare and emergency services, automation is expected to complement human labour rather than replace it. This means that professions in these sectors will still require human skills, but workers will need to adapt to the evolving technological landscape through ongoing training and skill enhancement.

Empirical Evidence on the Labour Market Impacts

The literature provides diverse evidence on the impacts of digitalization and automation. Negative impacts include concerns of increasing structural unemployment and inequality, reduced job opportunities, and challenges in finding skilled workers for the evolving labour market. There are also concerns about potential short-term job losses and the need for new skills and training. Positive findings include the potential for increased free time, as well as the recognition that the replacement of human work with technology does not necessarily lead to a decrease in overall employment opportunities. Additionally, digitalization and automation can contribute to rising productivity, increased competitiveness, and the creation of new jobs. They can also have positive economic and environmental implications, such as higher quality, improved safety, and environmentally friendly solutions replacing hazardous or dangerous jobs.

Looking at jobs at risk of automation over the past decade and across 21 countries, Georgieff and Milanex (2021) found no support for net job destruction at the broad country level. All countries experienced employment growth over the past decade. Within countries, however, employment growth has been much lower in jobs at high risk of automation (6%) than in jobs at low risk (18%). Acemoglou and Restrepo (2017) found that one additional robot reduces aggregate employment by three to six jobs. This was not the case in Germany, where the decline in manufacturing employment between 1994 and 2014 was counterbalanced by an increase in employment in the service sector (Dauth et al., 2021). There are only a few quantitative studies examining the consequences of AI technologies and AI applications in the workplace. They all find no clear evidence on possible positive employment effects of these new technologies (see, e.g., Acemoglu et al., 2022; Georgieff and Hyee, 2021; Damioli et al., 2022).

The finding that new technologies do not necessarily lead to widespread technological unemployment is supported by economic theory (EP, 2022). Compensating mechanisms, such as the creation of new jobs associated with the technology, the reallocation of resources within firms or industries, and increased consumer demand due to productivity growth, can counterbalance the initial labour-saving impact of technology (Acemoglu and Restrepo 2019). These mechanisms help to explain why technological advancements often lead to job creation and a dynamic relationship between technology and employment.

Despite empirical evidence suggesting a more nuanced view, the public debate often leans towards emphasizing the labour-replacing aspect of automation technologies rather than their potential to create jobs. This bias is fuelled by studies that estimate a high risk of automatability for a significant portion of jobs in advanced countries (see, e.g., Frey and Osborne, 2017). However, other research suggests a much lower share of jobs being potentially automatable (Arntz et al., 2017; Nedelkoska and Quintini, 2018). Negative narratives surrounding automation

and its perceived detrimental effects on employment are prevalent in popular science, newspaper articles, and even within certain areas of the economics profession (see Shiller, 2019 and Arntz et. al, 2022 for an overview). This one-sided discourse has contributed to a general public pessimism about the impact of automation, which contrasts with the views of experts who recognize a more balanced perspective.

Exploiting a survey data set containing information on how 11,000 workers across advanced and emerging market economies perceive the main forces shaping the future of work, Mulas-Granados et al. (2019) found that workers feel more positive than negative about automation, especially in emerging markets. They found that negative perceptions about automation are prevalent among workers who are older, poorer, more exposed to job volatility, and from countries with higher levels of robot penetration. Perceptions over automation are positively viewed by workers with higher levels of job satisfaction, higher educational attainment, and from countries with stronger labour protection. Workers with positive perceptions of automation also tend to respond that re-education and retraining will be needed to adapt to rapidly evolving skill demands. Therefore, it is critical to manage the expectation of workers about emerging challenges and opportunities for them to successfully adopt to new working environments.

Examining how workers adjust to firms' investments in new digital technologies, Genz et al. (2021) find evidence for improved employment stability and higher wage growth in response to digital technology adoption. However, the adjustments do not occur equally across worker groups: IT-related expert jobs with non-routine analytic tasks benefit most from technological upgrading, coinciding with highly complex job requirements, but not necessarily with more academic skills. Yet, substantial heterogeneities in the employment effects across skill groups, occupational tasks performed, and gender is also documented by Genz and Schnabel (2021). Low-skilled and especially medium-skilled manufacturing workers, suffer from lower wages and cumulative earnings losses caused by robots (EP, 2022).

Creation of New Forms of Employment and Skills

Digitalization is facilitating non-traditional forms of employment which provide greater flexibility. New patterns of employment such as ICT-based mobile work and digitally-enabled forms of self-employment are gaining traction around the world (Charles et al., 2022). Remote working is increasingly seen by both employers and employees as a ‘new norm’ in labour market relations. A survey by the WEF revealed that over 80% of employers plan to rapidly digitalize working processes and will potentially move 44% of their workforce to operating remotely (WEF, 2020). There are major differences in the prevalence of teleworking across sectors. Teleworking is more suitable for IT and knowledge-intensive sectors than any other sectors. Social tasks are also increasingly provided remotely as the ease of digital communications increases, but often with a loss of quality in the service. Manual or physical task-based occupations are the least suitable for remote working. Since teleworking relies heavily on digital skills to perform cloud computing and online collaboration, workers with strong digital skills are also better positioned to work remotely.

The advancement of AI is expanding the scope of tasks that can be performed by machines. This has led to a hollowing out of jobs that involve mid-level skills, where automation has substituted

machines for a significant portion of routine tasks regardless of skill level (OECD, 2013). On the other hand, there has been a significant increase in the demand for workers in high-skilled, non-routine jobs in advanced economies. These roles often entail working with new information, utilizing interpersonal skills, and solving unstructured problems. Additionally, there has been some growth in the demand for workers in low-skilled, non-routine jobs that involve activities such as caregiving and personal services, which are challenging to automate (OECD, 2016).

It is also believed that digital entrepreneurs will play a vital role in economic and social transformation, especially after the COVID-19 pandemic. This is because digital entrepreneurs have the resilience to cope with business difficulties through digital tools and innovation to maintain growth (Charles et al., 2022). Moreover, business models that take advantage of digital connectivity can create important success stories with significant employment effects (see Box 4.1).

In line with these transformation of economic activities, labour markets are already requiring more digital skills (Charles et al., 2022). In the United Kingdom and EU countries, more than three quarters of job openings require digital skills (EC, 2020). In countries such as Australia, Canada, New Zealand, Singapore, and the United States, seven out of ten of all job postings in 2019 were in digital occupations. An increase in demand for a digitally competent workforce has been observed in China, Indonesia, Malaysia and Mexico (APEC, 2020). However, there is a shortage of digitally skilled workers around the world, including more advanced countries. 57% of the enterprises in the EU reported difficulties finding ICT specialists in 2018 (EC, 2020). Around 42% of European citizens do not have basic digital skills. Accordingly, the EU has already allocated EUR 127 billion to support the digital transformation during the post-COVID recovery process (EC, 2022). Similar trends are found in developing countries such as Brazil, China, Indonesia and Mexico (Feijao et al., 2021). A study by the International Finance Corporation (IFC) has revealed that more than 230 million jobs in Sub-Saharan Africa will require digital skills by 2030, resulting in almost 650 million

BOX 4.1: GETIR - A Success Story from Türkiye

Getir is the leader of a new crop of apps, promising rapid grocery delivery in under 20 minutes. Launched in Istanbul in 2015, the app has spread across Europe and into the US, and spawned an entire industry of apps modelled after it. Over time, it expanded its original business model and started offering various other services, including GetirMore, GetirFood, GetirWater, GetirLocals, GetirDrive, GetirJobs, and GetirBiTaxi. It operates in all provinces of Türkiye, as well as in 9 countries from 3 continents. It has been downloaded over 30 million times and has 3.5 million monthly active users.

Getir's rise to prominence happened quickly, only expanding outside of Türkiye at the start of 2021. It was the most downloaded delivery app in Europe in 2021, beating out Uber Eats and Deliveroo. It expanded to the US in late 2021. That quick expansion has led to Getir's valuation skyrocketing over 2021, going from $850 million at the start of the year to $7.5 billion by June. It was valued at $12 billion in 2022. To maintain its lead, Getir has acquired some smaller rivals, including Moov, Weezy and Gorillas. Gorillas was the most expensive of the lot, with Getir announcing the $1.2 billion acquisition in December 2022. It is estimated that Getir is the most popular rapid delivery platform in Europe, possibly accounting for over 40% of the market.

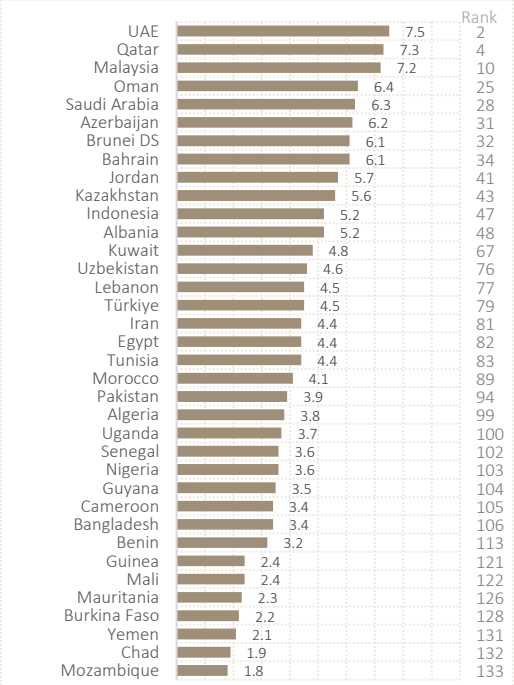
Getir has 32,000 employees globally. Its riders are not self-employed, as is the case with most Uber and DoorDash drivers and riders, but hired by the company. This provides greater social protection for the employees, demonstrating a success story in the age of digitalization.

Source: Getir corporate website and BusinessofApps.

training opportunities (IFC, 2018). A recent study by IFC found that the high demand for digital skills will create 57 million jobs over the next decade and will result in the creation of about 114 million training opportunities across the five African countries they studied (IFC, 2021). In the Gulf Cooperation Council (GCC) countries, although there is a growing trend towards more skills, professionals with emerging technologies such as big data, analytics, cybersecurity and cloud computing remain scarce (PwC, 2017).

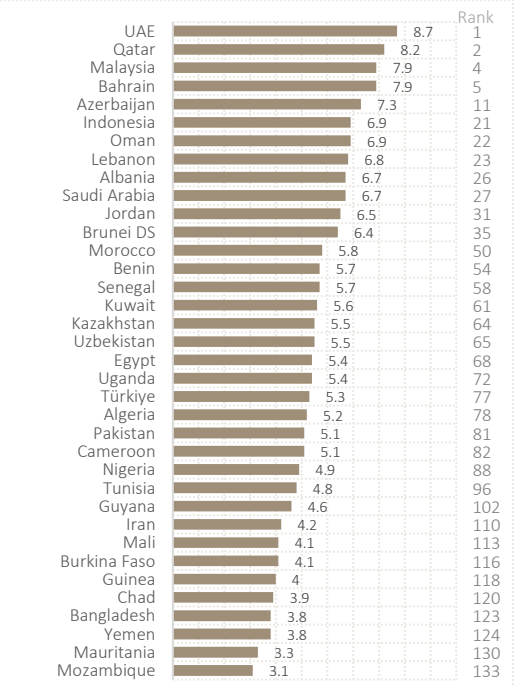
A major concern about the acceleration of advanced technologies is that it has widened the digital gap, known as the 'digital divide', between groups of workers, with implications on their employability and earnings. There are structural problems making it hard to bridge this divide. A report launched by the United Nations Children's Fund (UNICEF) and the International Telecommunication Union (ITU) in December 2020 revealed that two thirds of school-age children (or 1.3 billion children aged 3–17 years old) have no internet access at home (UNICEF/ITU, 2020). Moreover, according to the Global Digital Skills Index developed by a private research company in 2022 based on a survey with 23,000+ respondents across 19 countries, almost 75% of the workers across the globe say they don't have access to resources necessary for learning the necessary digital skills to succeed in the current and future workplace. Overall, respondents scored 33 out of a maximum of 100 points on the Digital Skills Readiness Index (Salesforce, 2022).

Figure 4.3a: Digital Skills Gap Index (DSGI) Score and Rankings



Source: Wiley's Digital Skills Gap Index (DSGI) Database covering 134 countries.

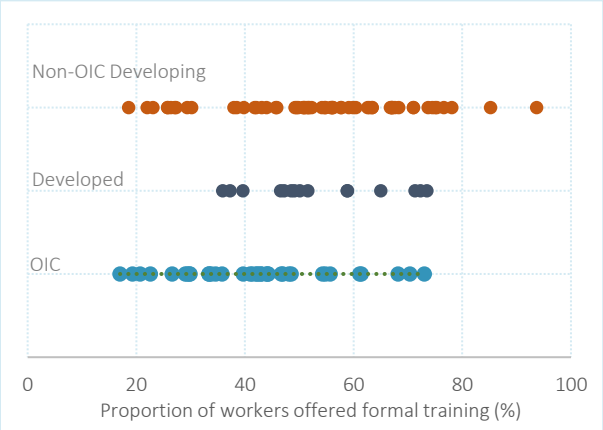
Figure 4.3b: Digital Divide (Supply, Demand & Competitiveness) Sub-Index



Source: Wiley's Digital Skills Gap Index (DSGI) Database covering 134 countries.

The most comprehensive data on global digital skills gap is provided by Wiley's Digital Skills Gap Index (DSGI), which is built on six pillars (1) digital skills institutions, (2) digital responsiveness, (3) government support, (4) supply, demand & competitiveness, (5) data ethics & integrity, and (6) research intensity. It is constructed based on primary research inputs and secondary research indicators compiled from various sources. According to the DSGI, most economies are failing to bridge the digital skills divide. Yet, there are three OIC countries among the top ten performers in the world, namely United Arab Emirates (2), Qatar (4) and Malaysia (10). On the other hand, among 36 OIC countries for which data are available, five OIC countries are ranked among the least ten performers, demonstrating the disparity among the OIC countries in terms of digital skills gaps (Figure 4.3a). Out of six pillars of the DSGI, the digital divide (supply, demand & competitiveness) sub-index is considered as the most important pillar, which combines several key indicators of the digital divide (and its impact on competitiveness): the digital skills employer-job seeker mismatch, the STEM gender gap, the ease of finding/hiring staff and access to foreign talent to bridge the gap. According to this sub-index, four OIC countries dominates the top five rankings, reflecting strong government actions towards eliminating digital divide among its populations (Figure 4.3b).

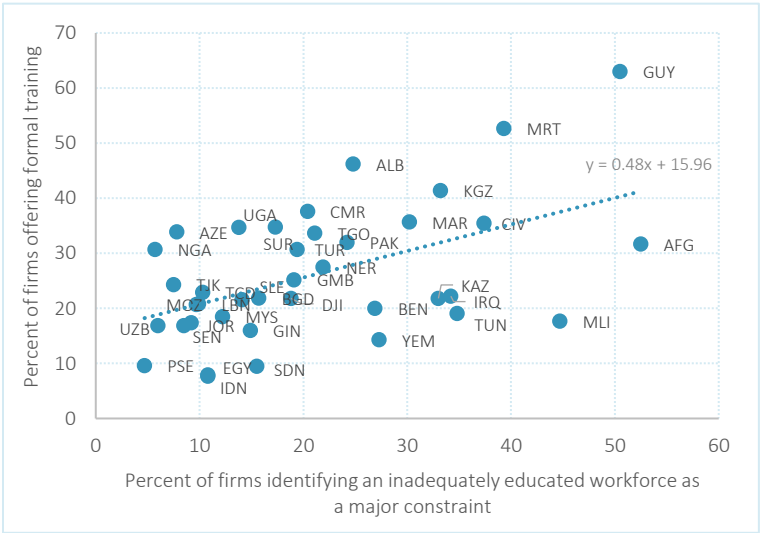
Figure 4.4: Proportion of Workers Offered Formal Training (%)



Source: World Bank Enterprise Surveys. Latest year available during 2010-2020.

To this end, it is of utmost importance to train and reskill workers to prepare them for changes coming with new technological developments. According to the World Bank Enterprise Surveys, majority of workers are offered formal training by their employers (Figure 4.4).

Figure 4.5: Lack of Skilled Workforce vs Formal Training



Source: World Bank Enterprise Surveys. Latest year available during 2010-2020.

Considering the significant skills gap reported in many countries, this demonstrates either a sort of incoherence in training offered or lack of additional resources to learn outside of the workplaces. Firms in at least eight OIC countries also provide training for more than 50% of their workers, in including Türkiye (73%), Bangladesh (70.4%) and Tajikistan (68.2%). It is also promising to observe that firm in OIC countries that identify inadequately educated workforce as a major constraint tend to offer more training to their employees (Figure 4.5). Noting the empirical findings that the workers in the professions with the highest likelihood of being fully automated have been receiving less on-the-job and outside-the-job training compared to the workers in non-automatable jobs (Nedelkoska and Quintini, 2018), firms and governments should encourage such workers to participate in training programs.

4.2 Emerging and Declining Skills with the Rising Digitalization and Automation

Rising digitalization and automation will lead to the emergence of new skills and the decline of certain existing skills. Skills related to data analysis, artificial intelligence, cybersecurity, and digital marketing are likely to be in demand. On the other hand, manual tasks, basic data entry, and traditional manufacturing skills may become less relevant or automated. While it is no longer enough to only possess job-related skills, technology and digitalization-related skills are becoming increasingly important across all industries. Employers are actively searching for candidates with digital skills to effectively navigate the increasingly digitalized landscape. However, there is a significant shortage of available talent for digital roles, posing a challenge for businesses in finding qualified individuals. It's important for individuals and organizations to adapt, continuously learn, and acquire the skills that are in demand to thrive in the changing job market.

AI and machine learning are at the centre of the debates regarding the future skills required in the workplace. These and other new technologies are indeed transforming the world of work but there are still areas where new technologies are not replacing humans or making substantial changes in how the business is done. Human skills such as cognitive ability, empathy, creativity, communication and overall social intelligence are significantly important in accomplishing many tasks. Therefore, highly cognitive and analytical professions that require logic, critical thinking, and problem-solving skills will be in higher demand.

According to the *Future of Jobs Report 2023* of the World Economic Forum (WEF), around 23% of jobs are expected to change by 2027, with 69 million new jobs created and 83 million eliminated (WEF, 2023). About a third of tasks (34%) are currently automated. The findings of the report are based on the perspective of 803 companies – collectively employing more than 11.3 million workers – across 27 industry clusters and 45 economies from all world regions. Therefore, the findings of the report provide important insights on the expectations regarding the future skills requirements.

An important finding of WEF (2023) is that expectations of the displacement of physical and manual work by machines has decreased, but some capabilities of human, such as reasoning, communicating and coordinating, are expected to be more automatable in the future. Organizations today estimate that 34% of all business-related tasks are performed by machines, with the remaining 66% performed by humans. This pace of automation contradicts expectations

from 2020 survey respondents that almost half (47%) of business tasks would be automated in the following five years. Surveyed companies revised down their expectations for further automation, to 42% of tasks by 2027, compared to 2020 estimates of 47% of tasks by 2025.

In 2023, the most important skills for workers are found to be analytical thinking and creative thinking (Table 3.1). Analytical thinking involves the ability to analyse information, solve complex problems, and make data-driven decisions. Creative thinking, on the other hand, involves generating innovative ideas, thinking outside the box, and finding unique solutions. Creative thinking is recognized as a crucial skill due to its role in adapting to disrupted workplaces and fostering innovation. This emphasizes the importance of workers' ability to adapt, be resilient, flexible, and agile in the face of changing circumstances. Self-efficacy skills such as resilience, flexibility, agility, motivation, self-awareness, and curiosity are also highly valued. These skills reflect an individual's ability to adapt to challenges, stay motivated, be aware of their strengths and weaknesses, and have a continuous desire for learning and personal growth. Technological literacy is another essential skill, ranking ahead of dependability and attention to detail. In today's digital era, having a good understanding of technology and being able to leverage it effectively is crucial for success in many roles. The top 10

Table 3.1: Top 10 Skills of 2023

1. Analytical thinking	6. Technological literacy
2. Creative thinking	7. Dependability and attention to detail
3. Resilience, flexibility and agility	8. Empathy and active listening
4. Motivation and self-awareness	9. Leadership and social influence
5. Curiosity and lifelong learning	10. Quality control

Source: WEF (2023).

Figure 4.6: Skills with Highest Growth in Demand (%)

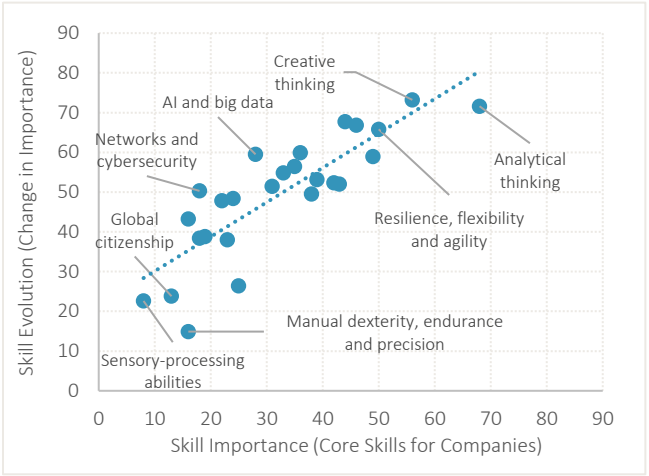
Source: WEF (2023). Share of organizations surveyed which consider skills to be increasing or decreasing in importance, ordered by the net difference.

core skills are completed by attitudes and skills related to working with others, such as empathy, active listening, leadership, social influence, and quality control. These skills highlight the importance of collaboration, effective communication, and the ability to work well with diverse teams.

Over the next five years, respondent companies state that cognitive skills will be growing in importance most quickly, reflecting the increasing importance of complex problem-solving in the workplace. Creative thinking is reported to be growing in importance slightly faster than analytical thinking, indicating the rising value of innovative ideas and solutions (Figure 4.6). Technology literacy ranks as the third-fastest growing core skill, highlighting the growing reliance on technology in various industries. Self-efficacy skills are considered to be growing in importance at a higher rate than working with others. This suggests that businesses recognize the significance of individual adaptability, resilience, flexibility, agility, motivation, and self-awareness in navigating the evolving work environment.

From a socio-emotional perspective, curiosity and lifelong learning, resilience, flexibility and agility, and motivation and self-awareness are seen as the attitudes growing in importance most quickly. These attitudes emphasize the value of a continuous desire for learning, adaptability, and personal development. Additionally, businesses identify systems thinking, AI and big data, talent management, and service orientation and customer service as some of the top 10 growing skills. These skills reflect the need for a holistic understanding of complex systems, the ability to leverage artificial intelligence and big data, effective talent management practices, and a customer-centric approach. While no skills were reported to be in net decline, significant portions of companies believe that reading, writing, and mathematics; global citizenship; sensory-processing abilities; and manual dexterity, endurance, and precision are decreasing in importance for their workers. This suggests that while some skills are growing in prominence, others may be shifting in relevance or becoming less crucial in certain contexts. It is important to note that AI and big data, and networks and cybersecurity are expected to see the highest growth in importance over the coming period (Figure 4.7). Accordingly, AI and machine-learning specialists, sustainability specialists, business intelligence analysts and information security specialists are expected to be the Fastest-growing jobs.

Figure 4.7: Core Skills and Change in Their Importance

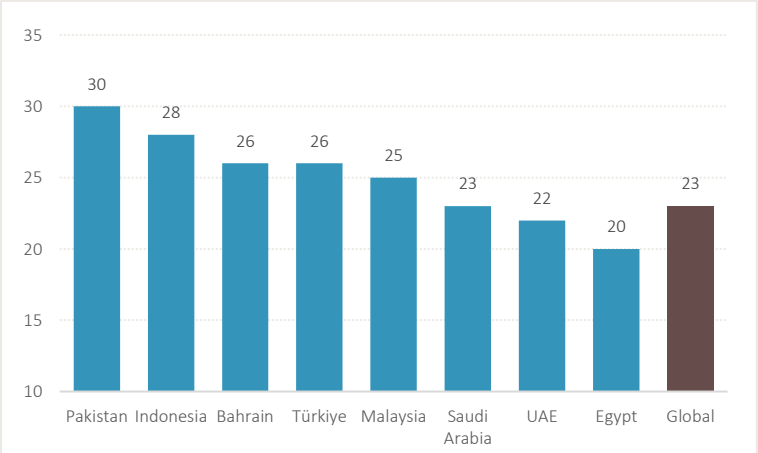


Source: WEF (2023). Share of companies for which a specific skill is a core skill for workers vs change in importance over the next five years.

Overall, the survey data indicates the increasing importance of cognitive skills, particularly creative thinking, as well as technology literacy, self-efficacy skills, and socio-emotional attitudes such as curiosity and resilience. Adaptability, continuous learning, and a focus on emerging trends such as AI, big data, and customer service are also key areas of growth over the period 2023-2027 (WEF, 2023).

Another critical findings of the WEF report is that employers estimate that 44% of workers' skills will be disrupted in the next five years. By 2027, 6 in 10 workers will need training, but currently, only half of workers have access to sufficient training opportunities. Analytical thinking is the top priority for skills training from 2023-2027, accounting for 10% of training initiatives on average, followed by creative thinking, and AI and big data. Around two-thirds of companies anticipate seeing a return on investment within a year of skills training, leading to benefits such as enhanced mobility, increased worker satisfaction, and improved productivity. Accordingly, the report estimates a structural labour-market churn of 23% for surveyed companies across sectors and countries over the next five years, where labour-market churn refers to the pace of reallocation of workers and jobs.

Figure 4.8: Five-year Structural Labour-force Churn (%)



Source: WEF (2023).

The OIC countries that were part of the survey demonstrate generally higher rates of labour market churn than the world average. The largest movement of workers are expected in Pakistan (30%), followed by Indonesia (28%), Bahrain (26%), Türkiye (26%) and Malaysia (25%). While reallocation in Saudi Arabia is expected to be the same with the world average, UAE and Egypt are anticipated to see a slower pace of movement across jobs (Figure 4.8). Upskilling (teaching employees additional skills to complement their pre-existing skills) or reskilling (teaching employees new skills (not necessarily connected to pre-existing skillset or knowledge) are two important dimensions of skills development that OIC countries need to consider in their adaptation to the future of work.

The ability of developing countries, including OIC countries, to harness the benefits of the new paradigm is uncertain due to potential limitations in physical and human capital. Concerns arise that the future of work could exacerbate inequality both within and between countries, with workers in developing nations being stuck in low-productivity jobs and lacking access to technology (World Bank 2018; Ernst et al. 2019). While individual-level technology, such as smartphones, may be available to workers in some developing countries, the absence of essential

infrastructure, like affordable internet access, may hinder the potential advantages of technological advancements and widen productivity gaps. Supportive measures are necessary to enhance productivity, improve job quality, and fully capitalize on the opportunities presented by the new digital paradigm (Golman and Ernst, 2022).

4.3 Sectoral Assessment of Employment in OIC Countries

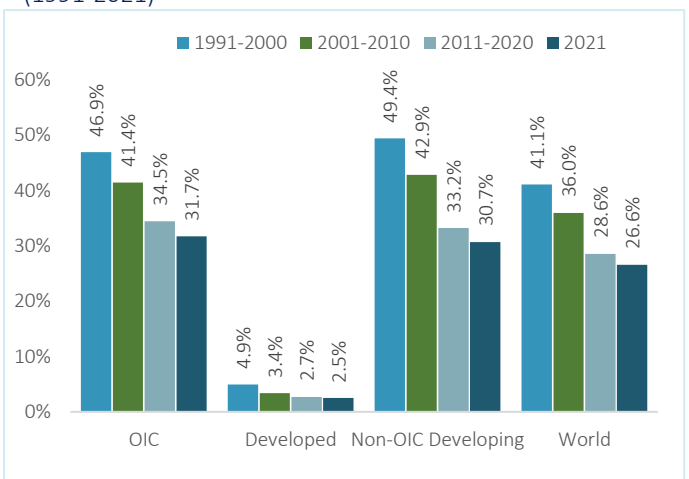
Even though the ultimate positive impact of the technological progress and automation of production on productivity is rarely contested, it is ambiguous which sectors of the economy will create new jobs and what would be the distribution of newly created jobs by skill levels. Considering above discussion on the potential impacts of digitalization and automation on labour markets as well as rising and declining skills and jobs, this section provides a longer term perspective on the evolution of sectoral employment in OIC countries in comparison with other country groups to evaluate the trends and adaptation in employment by major economic sectors and thereby shed light on future discussions on this subject.

Agriculture, Forestry and Fishing

Automation is increasingly replacing many tasks within agriculture, while advancements in biotechnology are leading to the development of plant strains that enhance yields and disease-resistance. These innovations are expected to boost productivity in the agricultural sector, resulting in a decline in employment for manual tasks. The impact of these innovations on agricultural employment may be more significant in economies that heavily rely on agriculture, such as Burkina Faso, Niger, and Mozambique, where over 70% of total employment, respectively, was in the agricultural sector in 2021. The pace of innovation in the agricultural sector and the extent to which automation affects jobs will depend on the cost of manual labour in developed and emerging countries. The relative affordability of manual labour will influence the rate of adoption of automation technologies.

All around the world, there is a declining trend in the share of employment in agriculture, forestry and fishing over the last three decades (Figure 4.9). This share in OIC countries fell from 46.9% during 1990's to 35.0% during 2010's and reached 31.7% in 2021. The fall in the share of employment in agriculture was more rapid in non-OIC developing countries, which fell from 49.4% during 1990's to 33.2% during 2010's and reached 30.7% in 2021, which

Figure 4.9: Employment in Agriculture, Forestry and Fishing (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

is below the average of OIC countries. This share is as low as 2.5% in developed countries. As the automation and advanced technologies become more available in OIC countries, further shifts from agriculture to manufacturing and services sectors are expected over the coming years and decades. In order to support this process, OIC countries need to invest in the skills of the labour force to avoid negative economic and social impacts of this transformation.

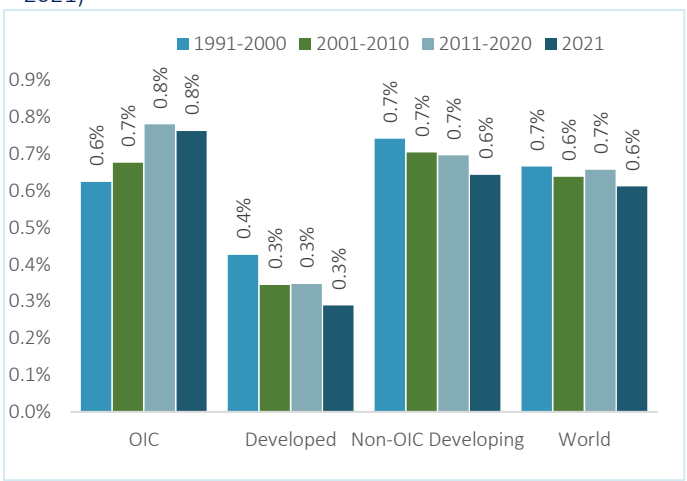
Mining and Quarrying

The mining and quarrying sector is already very much automated sector. Automation is not only affected by the labour market structure, availability of cheap labour force or economic productivity effect it may bring but also safety and security it provides through preventing potential injuries associated with occupation is considered as an important factor. The automation of mining and quarrying operations indeed extensively improved comfort, reliability, safety, and productivity. There are also disadvantages of automatized technologies in comparison with manually operated systems in the sector. It requires significant capital investments, high maintenance costs as well as higher requirements for human resources with respect to their education and adaptation to complex systems.

Four subsequent industrial revolutions contributed to a smoother transition to automation or human displacement in developed countries. Although, each industrial revolution brought its contributions towards the reduction of the required workforce, the latest the 4th industrial revolution, significantly revived automation of the mining industry in advanced economies (Rogers 2019). There have been considerable investments towards R&D in mining, however, according to Rogers (2019) lack of a holistic approach to developing industry standards in automation limited the success of the automation of the sector. Along with the automation of some stages and aspects of mining and quarrying activities that leads to the displacement of some workforce, it creates also more job opportunities where dexterity and creative abilities of humans are required.

The share of employment is relatively low and accounts only 0.6% of total employment in the world (Figure 4.10). This share remains largely constant or show slight fall in non-OIC countries, but it has slightly increased in OIC countries over the last three decades. It stood at 0.8% in 2021, but remains higher than the world average (0.6%) and the average of non-OIC developing countries (0.6%). This may reflect the possibility

Figure 4.10: Employment in Mining and Quarrying (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

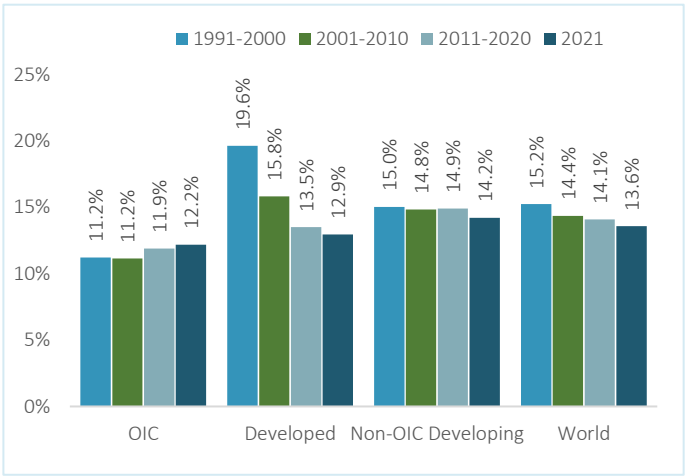
of either having proportionately greater number of mining facilities in OIC countries or lacking adequate technological infrastructure (or both) to reduce human contribution to extractive activities. Nevertheless, it is expected that automation will reduce the need for human resources in mining industries and necessary policies should be developed to facilitate the movement of labour force from mining to other productive sectors.

Manufacturing

The manufacturing industry is probably the most affected sector by automation, as most jobs in the sector are routinized and non-cognitive, thus automatable. However, manufacturers and different production owners in OIC countries with relatively cheaper labour forces may not be willing to make large capital investments to replace humans with robots. However, competitiveness pressures on global markets, reshuffling of global value chains, better access to finance and foreign investment can stimulate investments in automation in OIC countries with major implications on labour force displacements. Jobs in some OIC countries that depend heavily on manufacturing such as Malaysia and Türkiye where manufacturing value added accounts for 24% and 22% of the GDP respectively, and similarly in Jordan, Türkiye and Lebanon where manufacturing goods account for 75%, 74% and 61% of merchandise exports respectively, in 2022, are more likely be susceptible to automation risks in manufacturing. The smart manufacturing practises that gain momentum with digitalisation, 3D printing and AI can also lead to automatized mass manufacturing of highly personalised products of high quality at competitive costs (Lu et al., 2020). In the case of OIC countries, one would expect mass customised production to take over the labour-intensive production before moving to smart manufacturing or mass personalised production.

The share of employment in manufacturing has been falling in the world, which fell from 15.2% during 1990's to 14.1% during 2010's (Figure 4.11). The latest estimated average value is 13.6% for the world, 12.9% in developed countries and 14.2% in non-OIC developing countries. OIC countries have been employing a lower share of labour force in manufacturing sector than other country groups due mainly to inadequate capacities in manufacturing industries. However, an increase in observed since 2000's and reached 12.2% in 2021. Despite the increase, this share is still lower than the average of other comparison groups. While the fall

Figure 4.11: Employment in Manufacturing (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

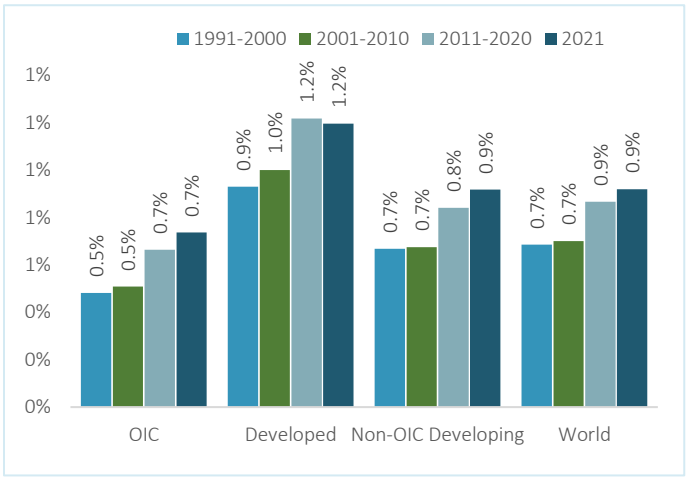
in the share of employment in manufacturing in developed countries reflect the greater automation of manufacturing activities, the rise in OIC countries may be reflecting the growth of labour-intensive manufacturing activities. This is certainly beneficial in the short and medium term to build up skills and improve productivity, but longer-term strategies should consider the impacts of advanced technologies to achieve and maintain international competitiveness in manufacturing products.

Utilities

The electricity and energy industries are being transformed by renewable energy sources and clean technologies, with a focus on big data analytics, the Internet of Things, and cloud computing. While manual labour in these sectors may decrease, humans will remain critical for coordinating, developing, managing, and advising tasks. The water supply, waste management, and remediation industries are experiencing consistent growth due to population expansion, but low-skill tasks in waste management are at risk of automation. Higher-level tasks and specialized solutions will continue to be in demand, leading to new job profiles in environmental engineering.

In this connection, albeit they account for a significantly low level of total employment, the share of utilities rising slightly in many parts of the world. The global average of employment in utilities stood at 0.9% in 2021 (Figure 4.12). This share is 1.2% in developed countries and 0.9% in non-OIC developing countries. Despite the increases over the last decades, this share remains at 0.7% in OIC countries. There are significant investments in renewable energy in some OIC countries, including Morocco, Türkiye and Gulf countries and there are some OIC countries with significant advancements in water management. New skills are emerging in these countries to work with automated tools, but there are many other OIC countries that rely on traditional labour-intensive systems, particularly in waste and water management. Overall, rising urbanization in many OIC countries will require more employment in the utilities sector in the short and medium term, but strategies should be developed to be prepared for long-term transformation in the sector.

Figure 4.12: Employment in Utilities (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

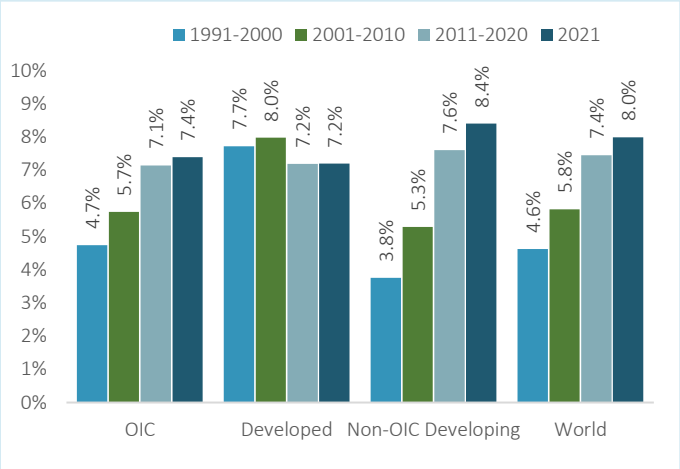
Construction

Technological developments such as 3D printing are swiftly adopted by many construction companies. Such innovations, methods and technics in construction have the potential to

substantially transform the industry if the R&D investments will continue. The expected benefits like improved efficiency, safety, comfort, time and laboursaving aspects call for industry-wide scale application of automation and robotics. However, the construction industry has been extremely slow in the introduction of innovations due to "multi-faceted characteristics of the products and their complexity, long life-cycle, diversity of dimensions, and materiality, as well as the fixed-site nature of construction" according to Bock (2015). Overall, the need for construction works will remain vibrant over the coming decades, but the workers will need to obtain new skills to use new tools developed for greater efficiency and proficiency in the construction works.

Similar to the utilities sector, demand for construction workers will be on the rise considering the population growth and urbanisation in developing countries. Furthermore, the construction sector is one of the main destinations for investments and it remains a driver of economic growth in the short and medium terms. Indeed with the rising urbanization and growing infrastructure investment requirements in both OIC and non-OIC developing countries supported the employment in construction, its share in total employment increased from 4.7% during 1990's to 7.1% during 2010's in OIC countries and from 3.8% to 7.6% in non-OIC developing countries. As of 2021, the sector account 8% of global employment, 7.4% of employment in OIC countries and 8.4% in non-OIC developing countries (Figure 4.13).

Figure 4.13: Employment in Construction (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

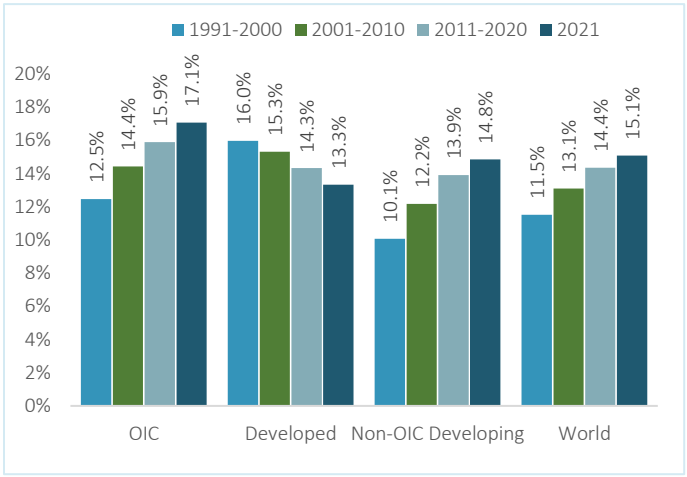
Wholesale and retail trade, repair of motor vehicles, motorcycles

With the still increasing importance of e-commerce, online platforms that connect producers to wholesale and retail trade companies or directly to consumers, the sector has been transformed substantially. Online platforms have already significantly developed and become widespread across countries and companies; among developing and developed countries, among small-scale businesses as well as transnational corporations, which led to a significant decline in labour share. The use of robotic technologies in wholesale warehousing has also contributed to the replacement of labourers along the value chain.

The fall in the share of employment in developed countries reaffirm the above arguments, but it remains out of concern in the case of developing countries. The share of sector is constantly growing in OIC countries to reach 17.1% in 2021 and 14.8% in non-OIC developing countries (Figure 4.14). However, the digital transformation is likely to have its impact sooner than later in

advancing e-commerce applications and their widespread usage, which is already exacerbated by the recent COVID-19 pandemic. Therefore, labour market policies should be designed with the rising probability of lowering demand for labour force in retail trade. Yet, these jobs would be replaced by delivery services. On the other hand, the average number of motor vehicles per capita is still low in OIC countries, the demand for labour in the repair of vehicles is likely to remain vibrant with the rising ownership of motor vehicles.

Figure 4.14: Employment in Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles (1991-2021)

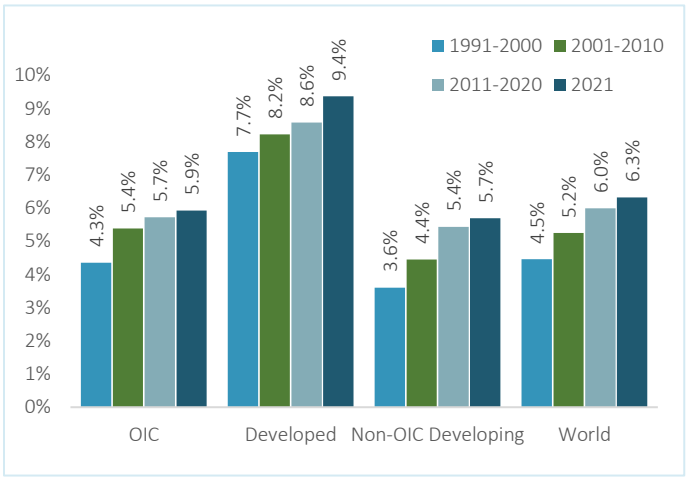


Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

Transportation, Storage and Communication

The transport and storage industries have been transformed by Industry 4.0, with advancements in driverless technology and cloud storage. The automation of transportation tasks has resulted in a decline in labour share, a trend expected to continue (Autor and Salomons, 2018). For many workers who were formerly engaged by traditional industries or services, automation has inexorably resulted in job losses. However, human skills such as leadership, critical thinking, and crisis management will still be needed for roles like pilots, train conductors, and ship captains. The transport industry is also influenced by big data availability, artificial intelligence advancements, and shifts in national economic growth. For instance, long-distance truck drivers now run the possibility of being replaced by driverless trucks, drastically reducing their career options. Similarly, the information and communication industry faces a probability of automation, requiring reskilling efforts to adopt new technologies.

Figure 4.15: Employment in Transport; Storage and Communication (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

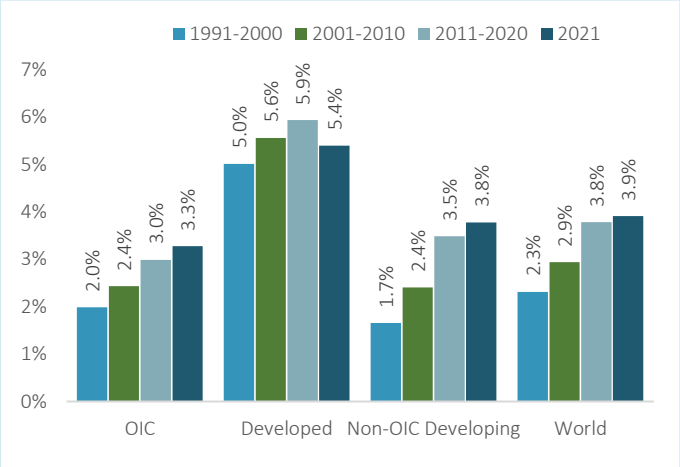
Employment statistics reflect the growing importance of the transportation and communication sector. Its share in total employment is constantly increasing across the world and OIC countries are not an exemption. The sector accounts 5.9% of total employment in OIC countries in 2021, up from 4.3% during 1990's, which is also higher than the average of non-OIC developing countries. (Figure 4.15). In developed countries where information and communication technologies are more advanced and require a greater number of skilled labour force, the share reached up to 9.4% in 2021. Over the coming years and decades, the sector may require a more skilled labour force in OIC countries as businesses and individuals become more reliant on ICT systems and tools.

Accommodation and Food Service Activities

Automation, AI and robotic technologies are being successfully introduced to the travel, tourism and hospitality sector. Compared to other industries, automation has the higher effect of replacing human labour with that of machines and algorithms in accommodation and food services activities. The use of self-service kiosks and ordering systems in fast food restaurants has reduced the need for human servers and cashiers. Similarly, there are fewer hotel receptionists needed due to the growth of online booking services. Both food service and food preparation stages have been automated in many restaurants. Different technologies were introduced to allow clients to glance at the menu, review the description of each food and beverage on the menu, place an order and pay the bill (Ivanov et al., 2017). Another remarkable development in food service activities is the usage of 3D printers, which not only allow to create an individual design of the food but also customize the nutritional value of it (Botero-Murphy, 2016). In addition to 3D food printers, most commonly ordered dishes such as noodles and burgers can be cooked by robot chefs (Ivanov et al., 2017).

The sector is also associated with tourism activities, which is expanding quite rapidly over the years. Therefore, the demand for labour in accommodation and food service activities were also increasing over the last three decades to reach 3.3% in OIC countries, 3.8% in non-OIC developing countries and 5.4% in developed countries (Figure 4.16). The measures that are put to contain the pandemic had a severe impact on the sector and businesses may be already considering more effective service delivery with limited number of staff during and after the

Figure 4.16: Employment in Accommodation and Food Service Activities (1991-2021)



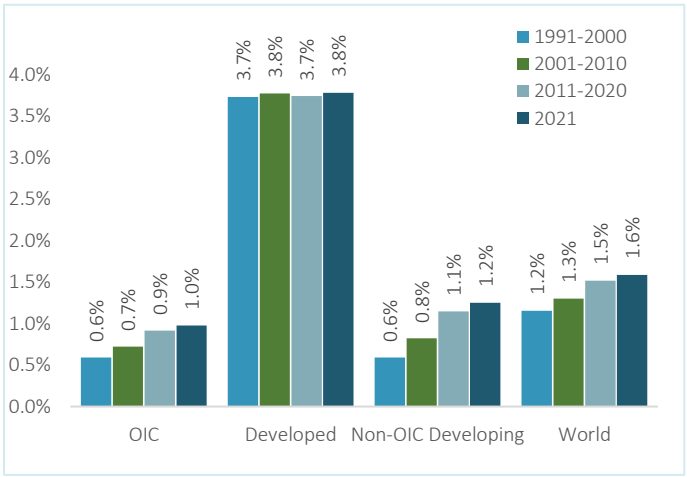
Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

pandemic, which had particular impact on developed countries. Yet, the sector is likely to remain labour intensive for quite long period and absorb a significant share of labour force. In case the pandemic alters the consumer behaviour significantly with reduced demand for accommodation and food services or with lesser interpersonal interaction in services delivery, policies may be required for reskilling the labour force working in this sector.

Financial and Insurance Activities

Automation has not only impacted routine activities but also sectors that require extensive knowledge and information processing, such as finance and insurance. The introduction of technologies like ATMs, online banking, and mobile banking has led to highly automated, user-friendly, and efficient operations in the finance sector. This has contributed to the growth of the sector in terms of market value, size, capacity, and outreach network. Professions in the finance and insurance sector, such as financial analysts, stock market traders, investors, and bankers, rely on professional expertise, technical knowledge, and extensive experience. However, a significant portion of their work time, around 50%, is spent on data collection and processing, which can be automated. Similarly, insurance agents spend 43% of their time gathering and processing data while ensuring data accuracy (Chui et al., 2016). The automation of data collection and processing has the potential to enhance productivity and create additional value in these industries, but may reduce the demand for employment.

Figure 4.17: Employment in Financial and Insurance Activities (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

Due to higher level of development in the financial sector, the share of employment in financial and insurance activities is higher in developed countries (3.8%) as compared to the average of OIC countries (1.0%) and non-OIC developing countries (1.2%), as shown in Figure 4.17. However, while the share of employment in developed countries remains stagnant, where the industry is highly mature and subject to rising automation; it is increasing in developing countries, where the industry is still in expansion to provide diverse financial services to individuals and firms with limited or no access to such services. Therefore, in the short and medium term, additional employment would be expected in finance sector in OIC countries, but automation may reduce the demand for certain tasks as time passes.

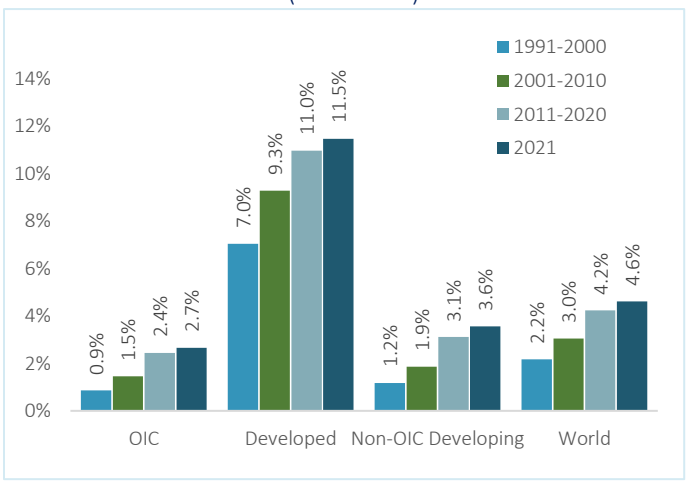
Real Estate, Business and Administrative Activities

Over the last decade, the real estate showed unprecedented growth in value with 3% compound annual growth rate. Investment volumes experienced 14% compound annual growth rate due to historic low interest rates, record high level of reserves and the growing securitization of real estate (WEF, 2021). Consequently, the sector is attracting more labour force. There are different jobs within these sectors with different levels of substitution potential or levels of potential automation. Overall, estimations show that in the real estate sector, approximately half of all job tasks have an automation potential (Dengler and Matthes, 2015). The introduction of new technologies such as robotics, artificial intelligence, and machine learning to the real estate sector is transforming its operations.

The future of work in the professional, scientific, and technical activities sector hinges on the skills possessed by workers and the degree of automation risk. The sector encompasses a wide range of activities that require scientific or technical expertise, and tasks involving reasoning and decision-making are less likely to be automated. Similarly, administration, support service activities, and management are expected to grow in significance as they leverage social skills and adapt to the evolving nature of work. Future managers and administrators will require specialized knowledge and skills to effectively lead organizations in a complex and changing work environment.

Employment in real estate, business and administrative activities is particularly strong in developed countries and its share increased to 11.5% in 2021 (Figure 4.18). OIC countries also experience growth in the share of employment, which increased from 0.9% during 1990's to 2.4% during 2010's. As of 2021, its share in OIC countries is 2.7%, while the world average is 4.6%. Jobs in these sectors are significantly related to income level of a country. Higher income countries have more public and private institutions, firms and organizations that require skilled labour force in administrative and business activities. As countries develop and more sophisticated organizations emerge, the requirements for skills with administrative capabilities will also increase. Therefore, the demand for the OIC countries for jobs in this sector is likely to increase over the coming period. Accordingly, the estimated impact of automation and digitalization on the associated jobs will be limited in the case of OIC countries.

Figure 4.18: Employment in Real Estate; Business and Administrative Activities (1991-2021)



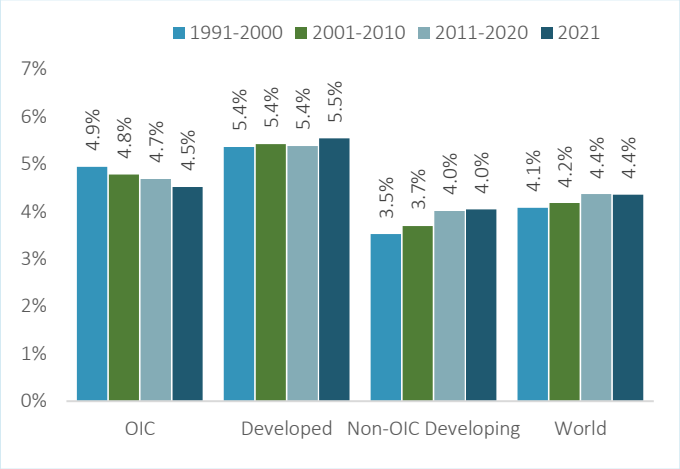
Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

Public Administration and Defence

Governments worldwide are increasingly adopting e-government platforms to enhance governance and deliver public services using digital technologies. Mobile technologies can enable remote access to education, healthcare, and social services, benefiting disadvantaged individuals, especially those in rural areas. Yet, automation is likely also to affect the public administration sector as an estimated 20% of the jobs are automatable, particularly, occupations requiring lower levels of education and skills are more substitutable by automation (ILO, 2020c). In contrast, the defence sector has been a hub of technological innovation and will likely continue to develop ground-breaking devices and systems. The industry will require a workforce strategy to attract, upskill, and retain diverse talent with digital skills such as artificial intelligence and data analytics, essential for developing new platforms and systems in the digital age. However, there is a growing concern about using of AI in public administration and defence (WEF, 2019).

Public administration accounts for a great share of wage employment in developing countries, and its share is increasing in non-OIC developing countries. However, the cumulative share of employment in public administration, defence and compulsory social security is falling in OIC countries. The reduction is small but noteworthy, which fell from 4.9% during 1990's to 4.7% during 2010's, with latest available data demonstrating 4.5% share in 2021 (Figure 4.19). While it remained stable in developed countries, the growth of employment in non-OIC developing countries drives the world average up from 4.1% to 4.4 % over the last three decades.

Figure 4.19: Employment in Public Administration and Defence; Compulsory Social Security (1991-2021)



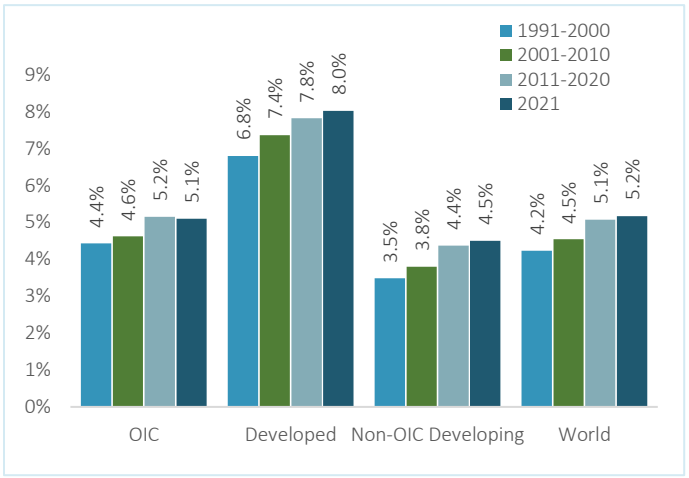
Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

Education

Digitalization and growing eLearning platforms have been transforming education systems and structures around the world. There is a growing demand for education providers and teachers to tailor knowledge to students through implementing new technological tools and methods. Automation and digitalisation not only help to improve the quality of education but also access to it for the students. According to WEF (2023), jobs in the education industry are expected to grow by about 10%, leading to 3 million additional jobs for vocational education teachers and university and higher education teachers. Given its significance for workforce capacity development, around 81% of major global companies are looking to adopt education and workforce technologies by 2027.

Since 2000's, there is an upward trend in education employment both in OIC countries and the rest of the world. As of 2021, the employment rate stood at 5.1% in OIC countries, 8% in developed countries and 4.5% in non-OIC developing countries (Figure 4.20). The average rate in OIC countries is close to the world average, but considering the requirements for skills upgrading over the coming years and decades to prepare the labour force for the fourth industrial revolution and digital transformation, and also considering the relatively higher levels of pupil to teacher ratio in OIC countries (SESRIC, 2023b), there is a need to expand the education sector and employ greater number of instructors and education specialists to meet the demand in OIC countries. Moreover, teachers and education specialists should be trained for them to acquire latest knowledge on digital educational sources and teaching methods.

Figure 4.20: Employment in Education (1991-2021)

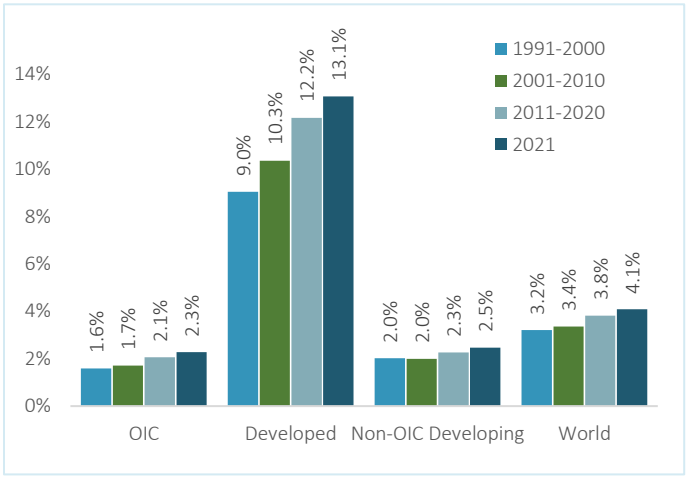


Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

Human Health and Social Work Activities

The human health and social work activities sector has a technical probability of automation, but the likelihood decreases for healthcare professionals who require specialized knowledge, training, and significant interaction with patients and clients. Specific occupations within the sector, such as nurses and dentists, have relatively low automation probabilities, with under 30% for nurses and only 13% for dentists (Chui et al., 2016). Moreover, there is a significant shortage of human resources in medical services, which preserves the importance of human labour in the sector. Some activities in the sector, like food

Figure 4.21: Employment in Human Health and Social Work Activities (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

preparation and data entry, are automatable and could enhance efficiency, particularly in countries with limited healthcare resources.

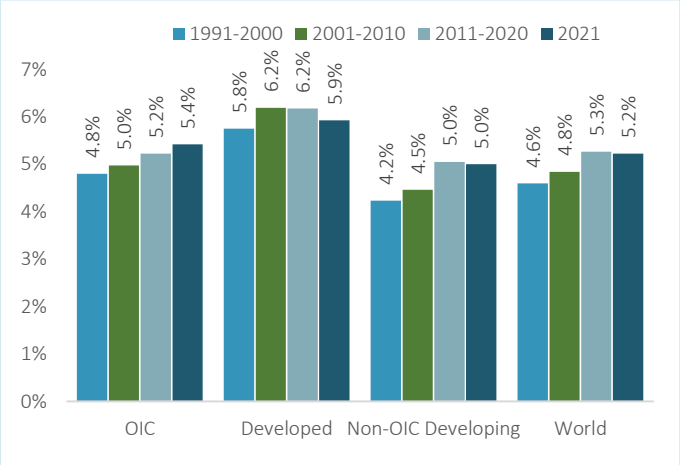
With rising prosperity and demand for better health services, the number and share of health and social workers are increasing all around the world. Improved health infrastructure in urban and rural areas, and accessibility to health services even at geographically and economically disadvantaged regions forced the governments to train more health workers to meet the demands for health services. The share of employment has been rising in all regions and the world average reached 4.1% as of 2021. This number remained at 2.3% in OIC countries and 2.5% in non-OIC developing countries, despite the improvements over the past decades. With advanced capacities in social services, this share is as high as 13.1% in developed countries (Figure 4.21).

Other Services

Services sector employment overall has been affected by automation less than agriculture or manufacturing sectors. However, within the services sector, there are occupations with a relatively higher risk of automation and a low risk of automation. Particularly courier services, land transport and food delivery services are highly automatable while other services activities are at low risk of automation. The arts, entertainment, and recreation sector will benefit from Industry 4.0, with opportunities for highly educated individuals, skilled artisans, and new occupations driven by technological innovations. Within the activities of households, domestic workers are less likely to be automated due to the nature of their unskilled and low-paid labour inputs. Besides, new occupations are appearing in the category of other services and in general in the services sector as a result of digitalisation, automation and technological know-how such as brand managers, data analysts, online advisors and lawyers, virtual consultants, coaches and many others to emerge.

The combined share of employment in these services activities has been growing in all country groups. The latest period data reflect a very narrow disparity across the regions in terms of employment shares. The lowest share in 2021 is observed in OIC countries with 5.4% and the highest share is observed in developed countries with 5.9% (Figure 4.22). The world average and average of non-OIC developing countries are at 5.2% and 5.0%, respectively.

Figure 4.22: Employment in Other Services (1991-2021)



Source: SESRIC staff calculations based on ILO Modeled Estimates, Nov. 2022.

Overall, employment is falling in two sectors only in OIC countries. The fall in agriculture, forestry and fishing sector is in line with global trends, but the fall in public administration and defence sector in OIC countries is rather contrary to trends in other country groups. The shares of employment in all other remaining sectors are rising in OIC countries. These are mostly in line with global trends, except manufacturing and mining sectors, where a lower share of workers are being employed in other country groups. The rise in employment in wholesale and retail trade is also in line with non-OIC developing countries, but contrary to the developments in developed countries. With a view to complement the discussions in this chapter, an annex table is attached to the report to provide information on the characteristics of emerging sectors in the world.

Chapter 5

PLANNING FOR THE NEXT GENERATION OF JOBS AND EMPLOYMENT

In the light of significant transformations and disruptions that emerging technologies and automation bring to the job market, it is imperative for the OIC countries to get prepared for the future of work. They can mitigate the potential negative impacts of these changes and harness the opportunities they present by proactively equipping individuals with the necessary skills and capabilities. Being prepared for the future of work ensures that individuals remain employable and adaptable in a rapidly evolving labour market. By developing the right skillsets, such as critical thinking, problem-solving, digital literacy, and creativity, individuals can position themselves for new job opportunities and career pathways. Additionally, acquiring these skills enables individuals to navigate the digital landscape, participate in the digital economy, and access remote work opportunities. It empowers workers to be resilient in the face of job displacement and encourages lifelong learning and upskilling to stay relevant in their fields.

From a broader perspective, getting prepared for the next generation of work is also crucial for the overall economic growth and societal well-being. Countries that prioritize the development of skills and adapt their labour markets to technological advancements will be better positioned to attract investments, foster innovation, and remain competitive in the global economy. Moreover, being prepared for the future of work helps to reduce inequality and social disparities. It ensures that all segments of society have access to quality jobs and the opportunity to participate in the digital transformation, preventing a deepening of the digital divide.

It is important to avoid the trap of focusing our attention on net effects on labour markets. The net number of jobs lost or created is an artificially simple metric to gauge the impact of digitization (BCG, 2021). For example, eliminating 5 million jobs and creating 5 million new jobs

would demonstrate a negligible impact on labour markets on aggregate. However, this would entail a huge economic disruption for the country. Maybe the total number of hours worked in the economy will not fall, but it will fall for people with fewer skills. Our focus should be on how to adapt to the changing nature of work.

In this connection, recognizing the critical importance of getting prepared for the future of work on individuals, societies, and economies, this section highlights the main challenges and opportunities arising from adaptation to new economic dynamics, and provides some guidelines for OIC countries how better to get prepared to this transformation.

5.1 Challenges and Opportunities

There are both challenges and opportunities associated with rising digitalization and automation in the workplace. Digitalization and automation have different implications on the tasks and jobs. Digitalization refers to the integration and use of digital technologies and tools in various aspects of work processes. It involves the adoption of digital platforms, data analytics, communication technologies, and digital workflows to improve productivity, efficiency, and connectivity in the workplace. Digitalization can enhance existing jobs, create new roles, and transform the way work is performed. It often requires workers to develop digital literacy skills and adapt to technological advancements.

On the other hand, automation specifically refers to the replacement of human labour with technology or machines to perform tasks or processes previously done by humans. Automation aims to streamline operations and increase productivity by employing technologies such as robotics and artificial intelligence. From a labour market perspective, automation can lead to job displacement as tasks that can be automated are taken over by machines or algorithms. However, it can also generate new job opportunities in areas such as maintenance, programming, and oversight of automated systems. In this connection, managing the transition and upskilling workers becomes crucial in the face of rising both digitalization and automation.

It is also important to bear in mind that even tasks that may seem theoretically easy to automate can encounter practical bottlenecks that hinder or delay the automation process. This means that not all tasks susceptible to automation will be automated immediately, and there may be complexities and limitations that impact the speed and extent of automation. The critical factor in this process is technical feasibility, as the necessary technology must be developed, integrated, and adapted for specific activities. The second factor is the cost of developing and implementing automation solutions, which impacts the business case for adoption. Labour market dynamics, including the availability, demand, and costs of human labour, serve as the third factor influencing automation adoption. The fourth factor is the potential economic benefits, such as increased efficiency, improved quality, and cost savings through automation. Lastly, regulatory and social acceptance can affect the rate of adoption, even if automation makes business sense. Considering these factors, it is estimated that it will take decades for the full effects of automation on current work activities to unfold (MGI, 2017). Even if the impact is expected to be gradual at a macro level within sectors or economies, individual workers or companies can feel the impacts of automation-driven disruptions more rapidly.

Challenges

OIC countries face several challenges in adapting to rising digitalization in the workplace. As also discussed in SESRIC (2023a), there are significant disparities across individual OIC countries in terms of access to digital technologies. Even though the challenges can vary depending on the specific context, but some common ones include digital divide, skills gaps, informal economy, regulatory environment, limited fiscal space, socioeconomic inequalities, and cybersecurity concerns.

Digital Divide: One of the most critical challenges is the digital divide in OIC countries. They often struggle with limited access to affordable and reliable internet connectivity, as well as a lack of digital infrastructure. As discussed in SESRIC (2023a), the share of households with internet access in OIC countries is still below 50%. This creates a digital divide and disparities in access to technology and digital skills between different segments of the population, particularly among urban and rural areas. Bridging this divide is crucial to ensure equal opportunities for individuals and businesses to participate in the digital economy. Within the OIC, there are countries with extremely low level of internet usage, particularly in sub-Saharan Africa, which requires significant investment in infrastructure and skills. Cheap labour will prevail in these countries where digital technologies are out of reach to transform the economies.

Skills Gap and Mismatch: Another major challenge preventing OIC countries to benefit from the digital transformation is skill gaps and lack of adequate education. Digital tools and technologies require higher skills and qualifications, yet as shown in Figure 2.4, average skills level in OIC countries is well below the average of developed countries. Many OIC countries face challenges in providing quality education and vocational training that equips individuals with the necessary digital literacy and technical skills. Therefore, OIC countries need to address skill gaps to ensure that the education and training systems are aligned with the requirements of the digital era. Enhancing the education system to foster digital skills and lifelong learning is essential to prepare the workforce for the changing job market.

Skills mismatch is also a major concern in the face of rising automation, which often requires a different set of skills than those traditionally demanded by labour-intensive industries. Widening gap between skills demanded by the automated job market and the skills possessed by the workforce is a challenge preventing the employability of workers and their ability to take advantage of emerging job opportunities. As in the case of digital transformation, rising automation also requires comprehensive efforts in education and training to equip individuals with the necessary skills for the future of work.

Job Displacement and Unemployment: Inadequate response to rising digitalization and automation may cause significant job displacement and unemployment, particularly in sectors where routine and repetitive tasks can be easily automated. A significant portion of the workforce in OIC countries are employed in labour-intensive industries, such as agriculture and low-technology intensive manufacturing (see Figure 2.7), which are susceptible to automation. Job losses in these sectors can have a significant impact on employment and income generation of workers. If adequate policy measures are not taken, digitalization can exacerbate existing

inequalities within societies, where the lack of access to technology, skills, and opportunities for disadvantaged and vulnerable communities, including women and rural populations, can further widen the socioeconomic divide.

Limited Fiscal Space and Lack of Enabling Environment for Investment: On another front, digital transformation and adaption of advanced robotics require significant investment in infrastructure development. Yet, limited fiscal space as well a lack of enabling environment for foreign investment hinder the adoption of digital technologies and investments in digital infrastructure, which results in limited capacities to access capital for technological advancements, and research and development. Similarly, limited access to advanced automation technologies constitutes one of major challenges in OIC countries. As highlighted in previous chapter, there is a growing investment in advanced robotics driven mainly by advanced economies and China. In order to avoid productivity losses due to limited adoption of automation, OIC countries need to invest in technology infrastructure, promote technology transfer, and support access to affordable automation solutions.

Regulatory Environment and Cybersecurity: Current challenges faced by OIC labour markets, such as informal economy, lack of social protection and inadequate access to formal training opportunities, are likely to affect the transition of labour force to the future of work. This requires supportive policies and regulatory environment to overcome. Governments need to develop agile and adaptive policies that promote automation adoption while safeguarding workers' rights and ensuring fair labour practices. Moreover, issues such as data protection, cybersecurity, intellectual property rights, and e-commerce regulations require attention from governments to provide a conducive environment for digital businesses while ensuring privacy and security. It is particularly important to address the cybersecurity and privacy concerns that emerges as a result of the increasing reliance on digital technologies, which can otherwise hinder trust in digital systems and the adoption of new technologies.

Shift in Global Value Chains: Low-skilled labour is traditionally a comparative advantage for developing economies. One significant concern for OIC countries in associated with automation is the possibility of "reshoring" where production, especially labour-intensive manufacturing, shifts from developing countries back to developed countries. This shift in the global division of labour would be facilitated by automation in key industries, which have served as strategic entry points for developing countries in global markets and employ a large number of workers. The automation of work would undermine the competitive advantage of OIC (and non-OIC developing) countries based on lower labour costs. Reshoring would offer lead firms in global supply chains advantages such as lower transportation costs and shorter lead times between design, production, and final sales, enabling just-in-time production. While there is no overall trend towards reshoring at present, recent empirical studies suggest that the increased use of robotics and automation technologies in developed countries is associated with reshoring of global value chains (ILO, 2020c), which may cause further job losses in OIC countries.

Addressing these challenges requires a comprehensive and coordinated approach involving investments in digital infrastructure, education and skills development, policy reforms, public-private partnerships, and targeted support for vulnerable populations. Collaboration between

policy makers, private sector representatives, educational institutions and civil society is also critical. International cooperation and knowledge-sharing can also play a vital role in helping developing countries overcome these challenges and leverage the potential of digitalization and automation in the workplace.

Opportunities

While policy measures are needed to address the challenges in the context of the changing global economic landscape, there are also significant opportunities that needs to be taken into consideration in policy design.

Leapfrogging: Many OIC countries do not have access to traditional infrastructure for manufacturing and technology development. With the spread of advanced technologies, they have the opportunity to leapfrog traditional infrastructure development and directly adopt the most recent technologies. They can bypass outdated technologies and systems, allowing for faster implementation of digital solutions and greater efficiency in sectors such as telecommunications, energy, transportation, and healthcare. For example, many African and Asian countries never created a landline telephone system, instead they directly embraced mobile technology (UNDP, 2017).

To realize leapfrogging in the context of digitalization and automation, OIC countries need to prioritize the expansion of mobile and internet technologies, ensuring widespread access to affordable connectivity by individuals and firms. Again, it is crucial to invest in digital skills and literacy. This would require integrating digital literacy programs into education systems and offering training and vocational programs. Promoting innovation and entrepreneurship, fostering public-private partnerships, developing digital payment systems, prioritizing digital government services, and creating a favourable policy environment are also important strategies to capitalize on emerging technologies and leapfrog over traditional development pathways. By implementing these measures, OIC countries can unlock the transformative potential of digitalization and automation, and propel their economies forward.

Industrial Upgrading and Economic Diversification: Automation and robotics offer OIC countries the opportunity to upgrade their industrial sectors, increase productivity, and enhance their competitiveness in global markets. It also opens up possibilities for them to diversify their economies and venture into new industries and sectors. If managed successfully, they can leverage automation technologies to foster innovation, drive research and development, and create solutions that address local challenges. This can contribute to economic growth, technological advancement, and the development of knowledge-based industries. Naturally, this will have implications on labour markets. Automation will replace certain repetitive and low-skilled jobs, but it can create new job opportunities with a different set of skills requirement. To this end, OIC countries need to focus on skill development programs to equip their workforce with the necessary technical, analytical, and problem-solving skills needed to operate, maintain, and innovate with automation technologies. This can lead to higher-skilled employment and improved labour market outcomes.

Smart Agriculture and Rural Development: Some OIC countries face significant challenges in facilitating rural development, yet digital technologies offer opportunities for improving

agricultural productivity and rural development. Considering the relative importance of agricultural sector in many OIC countries, solutions such as precision farming, remote sensing, and digital platforms for market access can enhance agricultural practices, increase yields, and connect farmers with buyers. These advancements in agriculture contribute to food security, income generation, and poverty reduction in rural areas. This requires significant investment in rural digital infrastructure, such as internet connectivity and mobile networks, so that to enable access to information, educational resources, and financial services by rural communities, and thereby bridge the urban-rural divide.

Inclusive Growth and Development: Digitalization has the potential to drive inclusive development by enhancing access to education, healthcare, financial services, and information for disadvantaged populations. It enables remote work opportunities, reducing geographical barriers and providing employment options for individuals in rural areas. Digitalization can also create new job opportunities and promote entrepreneurship by enabling the emergence of digital start-ups, online platforms, and service-based industries. Moreover, integration of automation technologies can help OIC countries optimize resource utilization and enhance sustainability in sectors like agriculture, energy, and transportation. To this end, OIC countries need to create an enabling environment that fosters innovation and technology adoption, encourages entrepreneurship, empowers small businesses, and prioritizes digital inclusion to fully leverage the potential benefits of digitalization and technological advancements.

Improved Government Efficiency and Social Services: Digitalization enables governments in OIC countries to enhance service delivery, improve transparency, and engage with citizens more effectively. E-government initiatives, digital identity systems, and online service platforms streamline administrative processes and enhance access to public services. Digitalization also contributes to transparency, accountability, and good governance by increasing public trust. Similarly, automation can be utilized in social services to improve the efficiency of public service delivery, such as automated systems for social welfare and beneficiary management. By leveraging advanced technologies, OIC countries can enhance the quality and accessibility of public services, promote citizen participation, and improve overall governance, leading to more effective and responsive governments.

There are also some other opportunities arising from changing global economic landscape. International trade and better communication technologies were already facilitating knowledge transfer among countries, but digitalization boosts this trend by further facilitating access to information and know-how on advanced technologies and systems. Moreover, online platforms and digital marketplaces enable businesses to reach a broader customer base and engage in international trade without the traditional barriers of distance and logistics. This opens up opportunities for export-oriented industries, small businesses, and entrepreneurs to connect with customers and expand their market presence.

Evidently, there are also significant opportunities following the digitalization and automation of the workplaces. To seize these opportunities, OIC countries need to invest in infrastructure, education, and skills development, foster innovation ecosystems, and create supportive policies and regulations. They should also prioritize collaboration and partnerships with technology

providers, international organizations, and other stakeholders to leverage global knowledge and expertise in digitalization, automation and advanced robotics.

5.2 Getting Prepared for the Future of Work

Previous analyses on growing importance of digitalization and automation in global economies, emerging and declining skills, and challenges and opportunities associated with growing integration of digital and automated technologies in economic activities demonstrated important insights on the challenges OIC countries face in adopting to new environment. Economic, social and demographic structures of individual OIC countries show distinct characteristics, preventing us to provide one-fit-for-all solutions on how to get prepared for the emerging challenges in labour markets. However, based on common challenges and emerging opportunities, following recommendations are made for the preparation of the workforce to the future of work.

Planning, Monitoring and Evaluation: OIC countries primarily need to prepare a strategic workforce planning. In order to inform the decision making process, it is essential to have access to the most recent data and information on factors affecting the labour markets.

a. Understand the current trends in workforce supply and demand; identify the gaps that exist in certain jobs, sectors, and skills, and predict the measures that will be needed to close those gaps.
b. Establish labour market information systems to collect and analyse data on employment trends, skills gaps, and future job prospects
c. Support research and analysis on the impact of automation, digitalization, and robotics on the labour market
d. Use evidence-based policymaking to inform decision-making and prioritize interventions
e. Regularly monitor and evaluate the progress of initiatives and policies related to the future of work
f. Adapt strategies as needed based on emerging trends, challenges, and opportunities

Skills Development and Education: Guided by strategic workforce planning, OIC countries should enhance the quality and relevance of education and training systems to equip individuals with the necessary skills for the future job market. This includes promoting digital literacy, critical thinking, problem-solving, creativity, and entrepreneurship. Special emphasis should be given to vocational training programs to provide practical skills aligned with emerging industries.

a. Promote digital literacy as well as science, technology, engineering, and mathematics (STEM) education from early childhood to higher education to cultivate a talent pool with the skills required for emerging industries
b. Prioritize digital skills development including coding skills, data analytics, AI expertise, and cybersecurity know-how to meet the demand for jobs in the digital economy
c. Invest in vocational training programs that focus on relevant skills for emerging industries
d. Encourage lifelong learning and reskilling initiatives to adapt to evolving job requirements

e. Foster public-private partnerships to align education and training with industry needs

Industry and Sector-specific Strategies: Workforce strategy should be complemented with overall economic strategies. Amidst changing nature of international economic relations and production systems, it is critical for OIC countries to identify the industries and sectors that have growth potential in their own context and accordingly align education and training programs to meet sector specific skills needs.

a. Promote diversification of the economy by identifying and targeting strategic sectors with growth potential
b. Engage with industry leaders, conduct labour market analyses, and develop targeted strategies to promote job creation and skill development in these areas
c. Facilitate trade and investment, and enhance regional and international economic integration to access new markets and opportunities
d. Promote the development of sustainable and green industries, such as renewable energy, clean technology, and circular economy practices

Regulatory and Ethical Policies, and Worker Engagement: As technology rapidly evolves, OIC countries should adopt flexible regulatory frameworks that can adapt to emerging trends. This includes addressing issues related to data protection, privacy, intellectual property rights, and cybersecurity. Governments should also establish policies that promote worker engagement in the face of job destructions and creations.

a. Review and update labour laws and regulations to ensure they are flexible and adaptable to changing work arrangements
b. Develop regulations and ethical guidelines to address emerging issues such as data privacy, AI ethics, and cybersecurity
c. Encourage responsible and ethical use of technology to protect workers' rights and prevent exploitation
d. Encourage social dialogue and collaboration between employers, workers' organizations, and government to address emerging labour market challenges

Innovation and Entrepreneurship: Considering the fact that transformation of economic activities will bring new job and business opportunities, it is critical to encourage entrepreneurial ecosystems by providing support for start-ups, fostering innovation hubs, and promoting entrepreneurship education. This helps create job opportunities, drives local innovation, and nurtures a culture of creativity and risk-taking in the era of digitalization and automation.

a. Foster an environment conducive to innovation, including establishing innovation hubs, incubators, and technology parks
b. Provide financial and non-financial support to start-ups and SMEs, including access to capital, mentorship, and business development services
c. Simplify regulatory processes and reduce bureaucratic hurdles for starting and scaling businesses

Labour Market and Social Protection: In order to support workers during the transition to the future of work, governments should establish or strengthen their social safety nets, including

unemployment benefits, income support, and retraining programs for those affected by automation or job displacement.

a. Implement flexible labour market regulations that accommodate changing work arrangements, such as part-time work and remote work
b. Strengthen social protection measures to provide a safety net for workers, including unemployment benefits and access to healthcare
c. Enhance workers' rights and ensure fair wages, safe working conditions, and protection against discrimination

Digital Infrastructure and Connectivity: An important factor in reducing digital divide is to improve digital infrastructure and connectivity. Governments should invest in robust digital infrastructure to ensure that individuals and businesses can effectively participate in the digital economy. This enables individuals to have better access to online learning resources, digital tools, and remote work opportunities.

BOX 5.1: Improving Occupational Safety and Health (OSH) in Mauritania

The Islamic Republic of Mauritania, like many other nations in the OIC region, faces the problem of addressing workplace accidents and occupational diseases and working to overcome their human and socioeconomic implications. In this regard, Mauritania's National Occupational Health Office (Office National de la Médecine du Travail - ONMT) requested technical assistance from SESRIC via the OIC Occupational Safety and Health Network (OIC-OSHNET) in order to develop OSH legislation, receive technical instruction for its employees, including on-the-job trainings and simulations, and renew its laboratories in accordance with international standards.

The project in Mauritania, facilitated by SESRIC, primarily aims to enhance healthcare services, focusing on improving maternal and child health. The beneficiary of this initiative is the National Occupational Health Office (ONMT), which also keeps Sustainable Development Goal number 8 in consideration, i.e., Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all as well as OIC 2025 Programme of Action; 2.9 Employment, Infrastructure and Industrialisation. In this project, SESRIC is partnered with relevant institutions and organisations such as the Turkish Cooperation and Coordination Agency (TIKA), the National Occupational Health Office (ONMT) of Mauritania, the Directorate General of Occupational Safety and Health (DGOSH) of the Ministry of Labour and Social Security of the Republic of Türkiye to ensure the successful implementation of critical health interventions, contributing to sustainable healthcare improvements in Mauritania.

Between 2016 and 2018, 5 activities, including meetings and study visits, were organized within the framework of this project.

a. Invest in the development of affordable and reliable digital infrastructure, including broadband connectivity
b. Bridge the digital divide by expanding access to digital tools for people in remote and rural areas

c. Provide support for the adoption of digital technologies by businesses, including tax incentives and subsidies

Demographic Opportunities and Potential of Youth: Youth population in OIC countries offer a unique prospect to tap on the emerging opportunities associated with rising digitalization and automation. To harness the potential of youth in developing countries amidst rising digitalization and automation, young people should be equipped with the necessary technical skills, critical thinking abilities, and adaptability to navigate the digital landscape. This is to ensure that they can seize employment opportunities, contribute to innovation, and become active participants in the digital economy.

a. Prioritize digital skills development for youth by integrating digital literacy programs into school curricula, offering specialized training programs, and promoting online learning platforms
b. Provide mentorship and entrepreneurship support to youth can empower them to create their own digital ventures and leverage technology for social and economic impact

Collaboration and Partnerships: Fostering collaboration between governments, development partners, private sector organizations, educational institutions, and civil society is critical in addressing the challenges and opportunities of the future of work. This includes developing policies, sharing resources, and creating platforms for dialogue and knowledge exchange.

a. Foster collaboration between government, industry, academia, and civil society to identify emerging job trends, skills needs, and labour market gaps
b. Engage in regional and international partnerships to share knowledge, best practices, and resources
c. Participate in global initiatives and platforms to influence international policies and standards related to the future of work
d. Integrate the principles of sustainable development, such as environmental sustainability and social inclusion, into strategies for the future of work

In a nutshell, to fully leverage the benefits of the rising digitalization and advanced robotics in association with the 4th Industrial Revolution, it is crucial to prioritize education and training programs that foster these skills. Governments, educational institutions, and businesses should collaborate to provide opportunities for upskilling and reskilling the workforce. This ensures that individuals are equipped with the right skillsets to adapt to changing job requirements and remain competitive in the labour market. The ability to predict automatable tasks and skillsets, and cultivating the skills that will remain valuable, is essential for preparing societies and workforces for the future. Finally, it's important to note that these policies should be tailored to the specific context and priorities of each country. Effective policy implementation requires strong governance, stakeholder engagement, and monitoring mechanisms to ensure desired outcomes.

ANNEXES

Annex 1 - Country Classifications

A. Major Country Groups used in the Report

OIC Countries (56+1)

Code	Name	Code	Name	Code	Name
AFG	Afghanistan	GUY	Guyana	PAK	Pakistan
ALB	Albania	IDN	Indonesia	PSE	Palestine
DZA	Algeria	IRN	Iran	QAT	Qatar
AZE	Azerbaijan	IRQ	Iraq	SAU	Saudi Arabia
BHR	Bahrain	JOR	Jordan	SEN	Senegal
BGD	Bangladesh	KAZ	Kazakhstan	SLE	Sierra Leone
BEN	Benin	KWT	Kuwait	SOM	Somalia
BRN	Brunei Darussalam	KGZ	Kyrgyz Republic	SDN	Sudan
BFA	Burkina Faso	LBN	Lebanon	SUR	Suriname
CMR	Cameroon	LBY	Libya	SYR	Syria*
TCD	Chad	MYS	Malaysia	TJK	Tajikistan
COM	Comoros	MDV	Maldives	TGO	Togo
CIV	Cote d'Ivoire	MLI	Mali	TUN	Tunisia
DJI	Djibouti	MRT	Mauritania	TUR	Türkiye
EGY	Egypt	MAR	Morocco	TKM	Turkmenistan
GAB	Gabon	MOZ	Mozambique	UGA	Uganda
GMB	Gambia	NER	Niger	ARE	United Arab Emirates
GIN	Guinea	NGA	Nigeria	UZB	Uzbekistan
GNB	Guinea-Bissau	OMN	Oman	YEM	Yemen

* Membership to the OIC is currently suspended.

Developed Countries* (40)

Andorra	France	Latvia	San Marino
Australia	Germany	Lithuania	Singapore
Austria	Greece	Luxembourg	Slovak Republic
Belgium	Hong Kong SAR	Macao SAR	Slovenia
Canada	Iceland	Malta	Spain
Cyprus	Ireland	Netherlands	Sweden
Czech Republic	Israel	New Zealand	Switzerland
Denmark	Italy	Norway	Taiwan Province of China
Estonia	Japan	Portugal	United Kingdom
Finland	Korea	Puerto Rico	United States

* Refers to "advanced economies" as classified by the IMF. Last update April 2022.

Developing Countries

Includes all countries other than those classified as developed countries.

B. OIC Countries by Geographical Classification

Africa Region (17)			
Benin	Gabon	Mozambique	Togo
Burkina Faso	Gambia	Niger	Uganda
Cameroon	Guinea	Nigeria	
Chad	Guinea-Bissau	Senegal	
Côte d'Ivoire	Mali	Sierra Leone	

Arab Region (21+1)			
Algeria	Jordan	Oman	Syria*
Bahrain	Kuwait	Palestine	Tunisia
Comoros	Lebanon	Qatar	United Arab Emirates
Djibouti	Libya	Saudi Arabia	Yemen
Egypt	Mauritania	Somalia	
Iraq	Morocco	Sudan	

* Membership to the OIC is currently suspended.

Asia Region (18)			
Afghanistan	Guyana	Malaysia	Türkiye
Albania	Indonesia	Maldives	Turkmenistan
Azerbaijan	Iran	Pakistan	Uzbekistan
Bangladesh	Kazakhstan	Suriname	
Brunei Darussalam	Kyrgyz Republic	Tajikistan	

Annex 2: Characteristics of Emerging Sectors

Emerging sector	Subsector	Type of activities / occupations	Skill level of work-force	Capital required	Work intensity	Potential to absorb informal workers
Knowledge economy	AI, cloud computing, machine learning, IoT, big data	R&D, production, services associated (retail, operators, repair)	High	High	Low	Low
	Drones and sensors		High	High	Low	Low
	Agriculture 4.0		Medium–high	High	Medium–low	Medium–low
	Industry 4.0		Medium–high	High	Low	Low
	Online labour platforms	Speech and image recognition, cyber security, finding bugs	Medium	Medium	Low	Medium
Location-based platforms	Delivery, ride-hailing, personal services (domestic work and care provision) and home services (plumbing, electrician, gardening)		Low	Medium–low	High	High
Green economy	Solar photovoltaics	Manufacturing engineers, technicians and operators, R&D and software engineers, marketing and sales specialists, logistics professionals and operators, construction and transportation workers, management and retail personnel	Medium–high	Medium	Medium	Medium–low
	Biofuels		Medium–low	Medium–low	High	Medium
	Wind		High	High	Medium–low	Low
	Bio-economy	Organic farming, regenerative agriculture, agro-ecology, conservation agriculture, sustainable fisheries, manufacture of products that use bio-based components	Medium	Low	High	Medium
	Circular economy	Waste pickers, recycling managers	Low	Low	High	High
	Sustainable tourism	Guides, rivers, family-owned restaurants, handicraft producers and artisans, landscape operators, cleaning services, cooking services, environmental educators, naturalists, photographers, journalists and researchers	Medium–low	Low	High	Medium-low
	Ecosystem restoration, Eco-conservation and climate adaptation	Reforestation and afforestation, forest thinning, slope protection, soil and water conservation, the lining of rivers and creeks, sluices and footbridges, and construction of dikes	Medium–low	Low	High	High
	Blue economy	Wave and tidal energy, algae production, restoration of marine ecosystems, sustainable fisheries	Medium Low	Medium–high	High	High
Care economy	Domestic worker, elderly care, patient care, babysitting, cooking, pet care		Low	Low	High	High
Orange economy	Creative	Professional business services, videogame developer, videogame taster, graphic design, virtual animation	High	Medium–high	Medium–high	Medium
	Cultural	Cultural tourism, heritage, music, art, literature, fashion, design, media, radio, TV, film industry	Medium–high	Medium–low	High	High

Source: Golman and Ernst (2022).

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STATISTICAL, ECONOMIC AND SOCIAL RESEARCH AND TRAINING CENTRE FOR ISLAMIC COUNTRIES
Kudüs Cad. No:9 Diplomatik Site 06450 ORAN-Ankara, Türkiye
Tel: (90-312) 468 61 72-76 Fax: (90-312) 468 57 26
Email: cabinet@sesric.org Web: www.sesric.org