REGIONAL VIEWS
ON THE FUTURE OF WORK

MIDDLE EAST & NORTH AFRICA

FUTURE OF WORK IN THE GLOBAL SOUTH

THE FUTURE OF WORK IN
THE MENA REGION:

MOVING INTO THE DIGITAL FAST LANE... WITH THE BRAKES ON

Author
Nader Kabbani

CIPPEC
ECONOMIC RESEARCH FORUM
منتدى البحوث الاقتصادية

REGIONAL VIEWS ON THE FUTURE OF WORK: THE INFINITE SHAPES OF THE FUTURE

Digitalization, artificial intelligence, and related technologies are undoubtedly changing the way we approach our social and economic lives. By allowing us to produce –both old and new– goods and services in novelty ways, technologies are not just transforming production processes, but the very essence of jobs in the workplace. At the technological frontier, robots and software are carrying out many tasks that used to belong exclusively to humans. Far from that frontier, the developing world struggles to adopt and adapt new technologies while avoiding job displacement and technological anxieties.

Such deep transformations force us to think about what comes next: will robots end up filling the already scarce jobs in the Global South? Will technology exacerbate or help us tackle social gaps? Lots of efforts are directed to capturing elements of how the future of work will look like.

However important these questions are, there is an inherent limitation in trying to predict a future that “is coming". This approach reduces our capacity for collective action and transforms it into a mere response to this "otherness" that is approaching. In reality, however, the shape of the future is continually evolving, as our collective past and present actions result in new reconfigurations and (dis)equilibria. There is room to create the future we want for the developing world: taking ownership of the Global South’s transformational capacity is the first step towards this goal.

Two important factors need to be embraced in the quest of shaping the future of work in the Global South: context and complexity. History proves that countries can take advantage of the window of opportunity open by technological waves. Still, there are no unique formulas for success. Technology does not appear in a vacuum, but within specific cultures,

TECHNOLOGY

SKILLS

DEMOGRAPHY

LABOR INSTITUTIONS

INEQUALITY

institutions, and histories. The combination of these and other dimensions hold specific keys to unlock development processes.

With the principles of context and complexity in mind, between June and August 2021, 80 regional experts participated in the "Dialogues on the future of work in the Global South". This series of events, coordinated by CIPPEC and hosted by the African Economic Research Consortium, the Economic Research Forum, Just Jobs Network, and Red Sur, were a first step towards developing a vision for the future of work from an inter-regional Global South perspective.

In these dialogues, academics and field experts engaged in a double cross-fertilization process: they discussed key questions for variety of relevant themes – including technology, skills, institutions, demographics, and inequality– while approaching them from the regional perspectives of Sub-Saharan Africa, the Middle East and North Africa, Latin America, and Asia.

This document –as well as three companion papers covering other Global South regions- seeks to present key messages and policy recommendations emerging from these discussions. On the one hand, it is intended to take stock of the main dimensions shaping the future of work in the Global South. On the other, it is an open invitation to move from the plane of predictions to that of the imagination and future-building. It can serve as a powerful tool to reframe the discussion by adding Global South perspectives.

CONTENTS

1. INTRODUCTION

The fourth industrial revolution is changing workforces around the world. Robots are automating repetitive jobs, not just those in manufacturing, but in agriculture and services as well. Digital technologies and artificial intelligence (AI) are displacing routine jobs in retail, hospitality, and other industries. Technological innovation has the potential to free workers to engage in more creative pursuits, such as managing technology and creating new consumer experiences. Skilled individuals will benefit, enjoying global reach and higher salaries. They will be able to telework and access global marketplaces from anywhere. However, workers who lack the skills to engage with technology or who work in institutions that limit their ability to innovate and grow will see their wages and job prospects decline.

As such, technological transformation will simultaneously lead to job creation and job destruction. It will lead to great improvements in productivity, wages, and well-being. It will also contribute to increases in redundancy, vulnerability, and inequality. In the aggregate, some countries and regions will benefit from technological innovation while others will be adversely affected. The outcome will largely depend on the extent to which countries develop flexible systems and responsive policies that can handle the change and support their workforces and institutions to innovate, adapt, and grow. The world navigated earlier industrial revolutions rather well, when compared to the dire predictions of the time (Menon, 2019). In the past, change evolved over long periods, minimizing social and economic disruptions. While labour displacement was an issue, the mix of skills adjusted within a generation as economies replaced jobs in declining sectors with new opportunities. To date, evidence on the impact of the fourth industrial revolution has been reassuring. Some displacement has occurred, but nothing approximating the worst fears. However, the pace of technological change has been faster this time around, and its consequences are less

predictable, leaving countries and economies with less time to adjust. Thus, while the past provides useful lessons about the resilience and adaptability of people and economies to technological change, it would be a mistake to become too complacent.

Digital technologies could displace as many as 30 percent of jobs worldwide by 2030 (Manyika et al., 2017). In the Middle East and North Africa (MENA) region, an estimated 45 percent of work activities could be automated in sectors as diverse as manufacturing, transportation, wholesale, construction, and hospitality (aus dem Moore, Chandran, and Schubert, 2018). Countries need to take the coming changes seriously and prepare for the resulting challenges, for example, by upskilling their workforces, enhancing social safety nets, and building more agile institutions that can navigate the changes and uncertainty. In this regard, most MENA countries are behind the curve. Compared to developing economies, MENA countries have competitive deficits in technological readiness, innovation, and higher education and training (WEF, 2018). Furthermore, since 2007, the gap between MENA countries and developed economies has widened in terms of their macroeconomic environments and labour market efficiency; and these trends only reference a subset of MENA countries that are doing relatively well, and do not include countries experiencing armed conflict or political turmoil (WEF, 2018).

Changes introduced by the fourth industrial revolution will have a profound impact on economies and societies. Some countries will engage effectively, develop needed institutions, and prepare people to master the skills they need to survive the thrive in the digital age. Other countries will try to engage, but without making the investments needed to upgrade the capacities of their institutions or the skills of their workforces. These countries will end up wasting resources in a game they are not equipped to compete in. They will risk experiencing massive unemployment as jobs migrate to regions that took a more deliberate approach.[1] The way in which MENA countries handle the resulting digital transformation will determine its impact.

[1] There is a third group of countries that will opt not to engage in the fourth industrial revolution, but rather be content to enjoy a lower-tech development model. This is not an option one hears often, but it is an option.

MENA faces similar development challenges to other developing regions of the world, including labour market informality, demographic trends, weak institutional capacity, and political economy traps. What sets the regions apart are two key challenges. The first is declining natural resource wealth. The MENA region has been blessed with an abundance of natural resources. Even resource-poor countries benefit from oil and gas revenues through investments, development assistance and remittances. The Gulf economies have served as a safety value for countries with an oversupply of workers. However, the windfall from oil and gas will not last. Bahrain has already run out of oil and Oman is close behind (Kabbani and Ben Mimoune, 2021). Global trends are decidedly aligned with downward pressures on energy demand and prices. Resource-rich countries need to reinvent their economies and resource-poor countries can no longer expect to rely on their richer neighbours to bail them out.

A second major challenge in the MENA region is strained citizen-state relations. Across the region, MENA states are reducing public benefits and services, driven by financial pressures and the legacy of a state-led development model that resulted in large public sectors and expensive bureaucracies (Kabbani, 2021). Public benefits and services are increasingly flowing to a cadre of regime supporters, while others are increasingly being marginalized (Heydemann, 2020). These pressures are exacerbated by a democracy deficit; the MENA region is the least democratic region of the world (Freedom House, 2021), which means that citizens have few mechanisms to complain or to negotiate the terms of a new social contract with their states. In 2011, pent up public frustration exploded in the form of massive public unrest. However, this unrest raised awareness among MENA regimes of the ability of their people to demand change, pushing the states to adopt even more repressive policies.

These two development challenges are exacerbated by structural inequalities in gender that have limited the economic participation of a large segment of society and inequalities in

income and wealth that are likely to contribute to further social unres. The pandemic has brought the issue of inequality of access to technology into focus. Low-income communities have been hit harder than developed economies during the pandemic. They have also been less able to respond by transferring education and economic activities online.

With these issues in mind, we delve into the discussion of the future of work in the MENA region. Assessing the future of work is a complex task because it involves several dimensions that are highly idiosyncratic and that need to be analysed together. This chapter attempts to do this by unpacking the issues into discrete parts for analysis, focusing on five themes that are recurrent in the future of work literature namely: the patterns of technological adoption; the skills gaps of workers in the region and prospects for skills development to fill future market needs; the shape of labour market institutions and their relation to working conditions; demographic transitions facing the region; and the issue of inequality, especially as it relates to the existence of winners and losers in the process of change. The final section highlights policy recommendations across these different issues.

2. FALLING BEHIND THE TECHNOLOGY BANDWAGON[2]

At the heart of the issue of the future of work is the ability of people to integrate technology into their work and lives. Technology integration has several levels starting with access and connectivity, going through adoption where technology is used, adaptation where it is modified to suit the context, and finally transformation, where it becomes infused into the work and lives of people in a beneficial way.

Connectivity, especially access to broadband networks, is central as it opens the door to the integration of digital information and collaboration tools that are difficult to use

[2] This section is based on a panel with the experts Mustapha Nabli (Moderator); Shahrokh Fardoust; Jaime de Melo; Sherif Kamel. You can see the recordings here: https://www.youtube.com/watch?v=b3Oax0JDwPQ

without such access. The MENA region is lagging behind other developing regions with regards to many aspects of technology adoption. In terms of access, for example, mobile-cellular telephone subscriptions in the Arab region are actually on a downward trajectory, falling below 100 percent in 2020, while active mobile-broadband subscriptions were only at 60 percent, far behind the rest of the world, except Africa (Kabbani, 2021b). Indeed, the MENA region is the only developing region where telecommunications technology adoption has fallen in relative terms since 2008, moving MENA from the forefront of the developing world to below all other regions except sub-Saharan Africa (SSA) (Arezki et al., 2021).

The MENA region is also falling behind other developing regions in terms of technology adoption and adaptation, let alone technological transformation. Indeed, digitization generally is spreading slowly to MENA and SSA as compared to other developing regions (Jaime de Melo, 2021). One area is data. Producing, having access to, and transferring data are all key components of digitalization (World Bank, 2021). Yet, MENA is falling behind in terms of data production and usage (Jaime de Melo, 2021).

While the MENA region is lagging in terms of access to broadband and other digital technologies, the region *is not digitally isolated* in the narrow sense, compared to other developing regions. Firms in MENA are, on average, located much closer to Submarine-C (SMC) landing stations than firms in other developing regions, a proximity advantage that has been maintained since at least 1995 (Cariolle et al., 2020). However, even though the MENA region has much potential, firms in the region have not, or have not been able to, take advantage of its proximity to global networks.

Another issue, that MENA shares with other regions, is that there is a wide gap both between countries and within countries in terms of access to technology and the tools to use it. Technology access and adoption is linked to infrastructure and networks. Peripheral areas and marginalized communities

are often not integrated into digital networks and remain at a disadvantage. If countries do not provide adequate access to broadband in peripheral communities, the latter will continue to be at a disadvantage in terms of accessing information and networks. This is the case in the MENA region, where there are large disparities in technology access and adoption between and within countries.

One interesting feature of the MENA region is that technology adoption is taking place mostly at the individual level, especially among the youth. Technology adoption by firms is weaker, both in the formal and informal private sector, but especially by small and medium enterprises (SMEs) which represent the vast majority of businesses across the region (Hoekman, 2021). At the firm level, technology adoption is mostly limited to the relatively small numbers of tech-enabled start-ups and some large firms in the formal private sector. Technology adoption is also weak among MENA governments and e-government services are often limited, the one exception being governments of the wealthy countries of the Gulf. As a result, young people who want to engage with technology and use it to improve their lives and further their careers must rely on personal initiative. They often cannot find the space to do so within the world of work or in the public spheres generally.

The barriers preventing the adoption of technology in the MENA region are many. Indeed, these barriers are actively erected and maintained. Humans are by nature adaptable and are ready to adopt technology that improves their lives and livelihoods. Barriers to adoption include a skills gap that has been exacerbated by educational institutions that are slow to adapt. They include the prevalence of insiders, who are aware that technology can level playing fields and want to limit the risks of disruptive innovation. In the context of labour markets, they also hit against institutional norms and structures that favour insiders and seniority over outsiders and skills. Thus, the institutional incentives to adopt value-creating new technologies are weak. For example, in the case of SMEs, the incentives are weak because entrenched

firms and captured bureaucrats prevent them from wielding improvements in productivity to gain market share. Thus, adoption has largely been on an individual basis, especially among young people and tech-savvy start-ups, but these too are prevented from making significant inroads.

In a broader sense, the MENA region's failings in terms of technology integration reflect the lack of an enabling environment for businesses, especially new companies that have the ability to disrupt markets. Excessive bureaucratic red tape, a lack of regulatory independence, and a political economy that has enabled crony capitalism to take root have allowed insider firms to game the system in their favour (Kabbani, 2021a). It has allowed insiders to prevent the entry of meaningful foreign competition or the emergence of smaller firms that are more digitally adept and able to challenge their dominance. Indeed, recent research has found that technology adoption increases only in the presence of foreign competition combined with regulatory independence (Jaime de Melo, 2021; Arezki et al., 2021).

The MENA region's inability to realize its potential in terms of digitalization is something witnessed in other areas of global competition. For example, despite its proximity to Europe and its central location along trade routes connecting Europe, Asia and Africa, MENA firms are not well connected to global value chains (Saidi and Prasad, 2018). Indeed, together with SSA it is the least connected region in the world. There is little liberalization of trade in services. This is largely driven by bureaucratic red tape and rent seeking behaviour. As a result, GDP growth in MENA has not been driven by regional integration. Indeed, the MENA region provides little value added in the global supply chains. The region's participation is mainly limited to primary-based exports. The implication of this situation is that MENA countries may end up getting stuck in a low value-added trap, leading investments in digitalization to bypass the region and flow north to other more integrated developing economies.

3. RIGID EDUCATION SYSTEMS DO NOT PRODUCE ADAPTIVE STUDENTS[3]

Beginning in the 1950s, countries across the MENA region expanded access to free education from primary school through university. This was supplemented by state mandates that children complete minimum levels of schooling. MENA states also offered the promise of government jobs to those who completed secondary or post-secondary education. Taken together, these incentives led to a massive surge in school enrolment. Improvements in educational outcomes were especially dramatic among young women (Assaad et al., 2020) whose enrolment rates became almost on par with young men, and the incidence of early marriage among young women declined dramatically. Importantly, by the 1980s, even when the public sector was no longer able to offer government jobs to all graduates, social norms had changed and interest in getting an education remained high. Educational attainment became associated with higher social status and provided a positive signal in the marriage market.

However, the surge in public demand for education, together with a demographic wave that increased the share of youth in the population, resulted in overcrowded schools. Governments constructed new schools and increased classroom sizes. Some schools introduced more than one shift per day to accommodate the inflow of new students. Teacher hiring expanded at the expense of teacher quality and training. Together, these measures succeeded in accommodating the incoming cohorts of students, but they also led to the development of an assembly-line, one-size-fits-all education experience that focused on knowledge transfer and rote memorization of uniform textbooks. Developing student skills, such as critical thinking and teamwork, was not prioritized or encouraged. There was little space for student-centred approaches to learning that addressed natural differences, preferences, and aptitudes among children.

[3] Based on a panel discussion with Samir Ghazouani (Moderator), Safaa El-Kogali, Hossam Badrawi, Ahmed Elsayed, Adel Ben Youssef. See the recording here: https://www.youtube.com/watch?v=OdRQ6zAYnsU

This evolution of education systems in the MENA region has serious repercussions for the future of work. There are four layers of technical skills that various segments of the population need to adopt. Everyone needs basic ICT skills, such as using computers and other electrical devices. This should become standard in schools, like languages and mathematics. A second level involves data management and security, such as managing identify and basic research skills that allow people to evaluate the quality of different sources of information. A third level covers technical and complex problem-solving skills that could complement artificial intelligence (AI) systems. These include skills related to critical thinking, creativity, emotional intelligence, and collaboration. A final set of skills includes soft skills that are not directly linked to technology, such as active learning, curiosity, leadership, resilience, time management, and negotiation. Education systems of the MENA region are lagging in all these dimentions.

MENA students remain focused on acquiring knowledge and passing exams to obtain certificates with the aim of improving their chances of landing a job in the public sector (Salehi-Isfahani. 2012), even though job creation today is being driven primarily by the private sector. The labour markets of the region are not sending strong signals to acquire skills. So, young people and their families focus on credentials and these credentials are what the education systems are delivering. This has resulted in a mismatch between skills learned and the requirements of the labour market. This mismatch will only worsen as digitalization and AI handle more of the knowledge management and human beings handle more of the problem identification and contextualization that is needed, and which require higher orders of skills. Human beings no longer need to memorize information; they need to ask questions. However, MENA's education systems continue to focus on knowledge transfer and ignore skills development.

Governments and non-governmental actors across the region have introduced training programs to rectify these skills gaps, providing both vocational/technical training as well as training

in life and businesses skills. However, the impact of these program has been quite modest (Kluve et al., 2017). Other programs have tried to support young people's transition to formal jobs in the private sector, through wage subsides and job matching initiatives. However, the impact of such programs have proven to be temporary and decayed within a few months of exiting the program. These programs were also prone to displacement effects, moving participants to the head of the queue at the expense of other non-participants, thereby generating few new employment opportunities (Groh et al., 2014).

These skills development programs and other active labour market programs try to rectify the shortcomings of the formal education systems, rather than fix the systems themselves. It is far better and more efficient to get education right the first time around, rather than trying to fix problems after students finish formal schooling. Caroline Kraft (2017) compares returns to vocational secondary schooling and the returns to acquiring skills outside the education system in Egypt and finds that vocational schooling is a waste of time. MENA countries need to reform their entire education systems and make them more aligned with the requirements of digitalization and the future of work. Indeed, education reform has taken on a new sense of urgency in terms of learning how to use and interact with technology.

One place to start is by granting teachers more autonomy. Education systems in the region value control and centralization over autonomy. Teachers are held back from contextualizing how and what they teach and exploring ways to help kids learn. Yet, even if they are granted autonomy, most teachers are not equipped to handle the responsibility. There is a serious deficit in human capital. In the context of integrating technology and inquiry into the classroom, there is an urgent need to improve teachers' skills to teach beyond the textbook, engage their students, encourage critical inquiry, and integrate technology into their teaching. Even when teachers have access to technology (usually the internet or a

tablet computer), they are not often taught or trained how to use it. Teachers also need to model the soft skills that young people need in the digital era before they can nurture these skills in others. These soft skills include flexibility, ability to work in a group, leadership, and personality development.

This will not be easy. School administrators are reluctant to support change. They understand that schools lack the resources and teachers lack the capacity to integrate technology into classrooms and provide student-centred learning. Also, parents and students have become used to the system of acquiring credentials and diplomas. Many see the main problem with the system as the inability of their governments to create enough well-paying jobs, not the lack of skills. Thus, MENA states not only need to reform the education systems, they also must create an incentive structure for parents and children to buy into the new system. Finally, there is a strong resistance within MENA society to modernity, change, and intellectual inquiry. Allowing teachers to explore ideas and encourage curiosity will lead to a backlash among parents and conservative elements of society. Granting teachers autonomy needs to be done, initially, within the context of a viable structure and enabling system.

There are two further areas of education that require specific attention in the context of the MENA region. First, MENA countries have fallen behind in early childhood development. The skills young people need to thrive in a digital era require the mastery of complex skills linked to early learning experiences. However, preschool enrolment in MENA is at 32 percent as compared to 62 percent in South Asia and 75 percent in Latin American (El-Kogali and Krafft, 2015). Early schooling is especially important in MENA because of the language gap between home and school. Most parents speak in local dialects, while schools across the region use Modern Standard Arabic, which needs preparation at an early age (Gregory et al., 2021). As a result, early education in MENA focuses on grammar and sentence structure rather than reading and understanding. Preparation requires that children

read at home or school early on. Yet, a majority of children do not read books outside of class and close to 60 percent of children aged 10 in MENA cannot read and understand an age-appropriate text.

A second issue is the weakness and second-tier status of technical and vocational education and training (TVET) in the region. TVET is a key pillar in the future of work. Many of the technical skills required to engage with computers and robots can be taught through 2-year technical colleges rather than universities. Yet, young people in the region strongly prefer attending university. TVET in the MENA region has been relegated to a second-tier status. It is where students who scored low on national exams go to begin a second-tier career. It is staffed with weak teachers, using outdated curricula, applied to old technologies. As such, students are over-educated but under-skilled for the jobs they eventually obtain. MENA countries need to revamp their TVET systems to make them relevant and cutting-edge. It needs to be a choice that students aspire to and work towards, not a place that they try to escape.

4. SABOTAGING THE ENGINES OF JOB CREATION[4]

Even if countries in the MENA region were able to successfully fix their education systems, they would still also need to fix the demand side of the equation. There are simply not enough good employment opportunities in the region, resulting in long wait times and outward migration in search of work.

Since the 1950s, MENA countries have followed a state-led development model. The share of public sector employment became large compared with other developing regions of the world. Public sector wages were also higher than those in the private sector. This has encouraged young people to seek

[4] Based on a discussion panel with Tarik Yousef (Moderator); Uma Rani; Mohamed Ali Marouani; Shireen AlAzzawi; Hassan Aly. See the recordings here: https://www.youtube.com/watch?v=HwgIGhK8Evc&t=4s

educational credentials that would help them secure lucrative public sector jobs. Starting in the 1980s, this development model came under financial pressure, as demographic changes and increases in educational attainment combined to produce more job seekers than the public sector could absorb. MENA governments hoped that the formal private sector would hire more of the graduates. However, the state-led development model created large public enterprises and a bureaucracy which together constrained the growth of the formal private sector. As a result, there were, and continue to be, not enough firms with decent wages and working conditions to absorb the incoming cohorts of graduates.

Unemployment increased as young people struggled to find good jobs that had once been available to their parents. Since the 1990s, the MENA region has consistently had the highest youth unemployment rates in the world, hovering between 23-27 percent as compared to a global average of 11-15 percent (World Bank, 2021). Furthermore, unemployment duration in the region is typically measured in years, not months. Most young people are eventually forced to accept jobs in the informal private sector, working for small firms with limited benefits, few rights, and low wages reflecting the low productivity and low value-added of the work. Others seek to migrate to countries where opportunities are better. An estimated 86 percent of MENA youth are employed in the informal sector, ranging from 48 percent in Jordan, to 86 percent in Tunisia, to 92 percent in Egypt (Dimova et al., 2016). They face job instability, low compensation, weak human capital investment, and limited opportunities for advancement.

Young women in MENA have been especially affected by a lack of employment opportunities in the public or formal private sector. Many young women, encouraged by their families, do not want to work for smaller, informal firms, fearing the lack of a professional environment and greater potential for harassment. Unsatisfied with the options available, many

young women drop out of the labour market altogether. This includes highly educated women. After achieving close to parity with young men in terms of educational attainment, many young women in MENA are not engaging in productive work. Thus, the MENA region continues to have the lowest rates of female labour force participation in the world, estimated at 20 percent in 2019, less than half the global average of 47 percent (World Bank, 2021).

In the digital age, informality remains a major issue. The new informality is characterized by the gig economy. While gig economies have existed since the dawn of time, they have gained prominence because of the rise of the digital platforms (ILO, 2021). The MENA region has seen a dramatic increase in digital platforms, focusing on taxi services, delivery, and freelance work. The region has 7 percent of the global platforms, which is on par with its share of the global population. However, most of these platforms are based in only three countries: the United Arab Emirates, Israel, and Egypt. Furthermore, most platforms are regional versions of global ones; there is little innovation taking place within the region itself. Research and development in the region represents a small share of global investments, no more than 1-2 percent, pointing to a clear digital divide between MENA and the global north.

Digital platforms present an enticing opportunity for workers in the MENA region. The region has a large unemployed, educated youth population who are comfortable using technology. The region also has large populations of refugees, who could potentially find work through digital platforms. Online platforms also present opportunities for women who are not able to find suitable alternatives offline. However, the promise of digital platforms does not match the reality. The main reason educated youth engage in such platforms is not the pull of opportunities online, but rather the lack of employment opportunities offline. For many, online platforms present the only viable option. Women in the region represent only 10 percent of workers online, even lower than their share

of the labour force. Refugees are limited from engaging fully in online work and commerce because of local regulations, limited internet connections, and an inability to access financial channels to get paid.

While digital platforms offer a much-touted flexibility of hours and place, there are downsides as well. On many platforms, users are not able to set their own rates. Commission fees are high, and earnings tend to be low. Workers can spend long unpaid hours looking for work. Another issue is bonuses that kick in only after working long hours. If workers decline work, they lose bonuses and future opportunities. There are also limited opportunities to grow professionally or access social protection, such as health insurance and sick leave. Another challenge is the weak digital infrastructure in the region, including low internet speeds and electricity outages in many countries and peripheral areas. These prevent online workers from keeping up with the pace of the work and missing opportunities. Finally, online workers have limited legal protection or access to effective dispute resolution mechanisms. There is no way to know why work was rejected. Online workers are at the mercy of an algorithm.

The MENA region is vulnerable to the coming changes in technology. The narrative in the global north is that new technologies can be a blessing overall. They can increase productivity, free up people's time, reduce the need to perform repetitive or physically demanding tasks, and allow people to specialize in more creative, intellectually rewarding pursuits. Some people will be adversely affected, but upskilling, reskilling, and social protection can catch and support the most vulnerable groups. The reality in the global south is very different. While much of the work is indeed repetitive and physically demanding, there are few opportunities for creative and intellectually rewarding work if computers and robots displace people in these tasks. In MENA, the industries that employ the most workers are the ones most susceptible to automation: manufacturing and agriculture. Furthermore, MENA countries have weak social safety nets.

Most public finances are spent on government jobs, energy price subsidies, and public services. There is little left over for public programs that can address technology disruption, such as unemployment benefits and education and training programs for displaced workers.

In the end, however, the main issues facing the region are not related to digitalization per se, but with institutions themselves. During the pandemic, only 14-22 percent of workers in MENA were able to work from home (ERF, 2021). The most cited reason why work from home was not possible was the nature of the work, such as retail work that required being in a shop. The second reason was that home-based work was not allowed by their employers. The lack of technology or connectivity was only given as a reason by 2 percent of respondents across MENA countries. So, access to technology is less of an issue than how work is structured. The nature of work in MENA needs to change.

There are two key areas where technology can help overcome institutional bottlenecks identified in this section. First, a major issue facing the MENA region, and many other developing regions, is the issue of corruption. Technology can reduce corruption and nepotism by automating decision-making and approval processes. E-government can also limit abuse of bureaucratic power, which has been a main barrier to the ability of the formal private sector to grow and create jobs. E-government can also increase efficiency and regulatory enforcement. Countries can develop e-formality policies, which can help transform the informal economy and induce firms to register. A second major issue facing the MENA region is that financial inclusion is very low, especially among disadvantaged and marginalized populations. Fintech is helping to reach financially excluded individuals especially in the informal economy. It is just important that it does not simply become an online version of offline offerings.

5. TOWARDS A NEW ARAB SPRING? DEMOGRAPHIC TRANSITION IN MENA[5]

Since the 1970s, the MENA region has been experiencing a large demographic wave. While there are differences in timing across countries, this wave is affecting the entire region. Most of the policy interest so far has focused on the wave's impact on young people. Regionally, the share of youth in the population peaked at 22 percent around 2000-2005, the highest in the world at the time (Kabbani, 2019). This youth bulge placed pressure on the education systems and labour markets of the region as large numbers of young people left school to look for work. Youth bulges have a silver lining. Countries that successfully absorb young people into their labour forces experience a demographic dividend as a result of lower dependency ratios, resulting in higher levels of savings, investment, and economic growth. In the early 2000s, the looming youth bulge generated a "call to action". MENA governments had a good idea of what needed to be done: improve technical and basic skills; reduce labour market distortions; nurture a more competitive private sector; support young entrepreneurs; and improve labour market information systems. Youth employment and entrepreneurship programs sprung up across the region. Where countries fell short was in implementation. Politics and expediency trumped sound policy. There was also a lack of effective feedback mechanisms to prompt course corrections (Kabbani, 2019).

In the end, the labour markets of the region failed to absorb the incoming cohorts of young people. Efforts at rightsizing the public sector reduced the pool of good jobs. At the same time, governments weighed down the private sector with excessive bureaucracy, corruption, and cronyism preventing it from growing and creating needed jobs. This left the informal sector to absorb incoming job seekers. Young men faced the choice of queuing for increasingly limited formal jobs or accepting informal ones, with low wages, limited protection, and few

[5] Based on a panel discussion with Zafiris Tzannatos (Moderator), Nader Kabbani, Ragui Assaad, Caroline Krafft, Ghada Barsoum. See the recordings here: https://www.youtube.com/watch?v=woz_GbnEyoM

prospects for career advancement. Young women, many of whom have substantial reservation working conditions, were forced to choose between queuing for the limited pool of acceptable jobs or remaining outside the labour force. As a result, since 1990, youth unemployment rates in the region have hovered around 23-27 percent, consistently the highest in the world, and labour force participation rates have remained low, especially among young women.

The region's failure to capitalize on the demographic transition had consequences. Delayed transitions to adulthood resulted in wasted economic potential both at the individual level, through delayed earnings and family formation, and at the societal level, with lower rates of economic growth than would have been possible had young people been engaged to their full potential. The failure to allow the economy to create enough decent jobs also led to migration and brain drain, at least at the country level. Many young people found jobs in the oil-rich countries of the Gulf. Youth frustrations grew over their socio-economic and political exclusion and exploded in 2011 into unrest that continues till today.

Over the past decade, with the exception of countries involved in the social unrest of the so-called Arab Spring, youth unemployment rates have largely followed a downward trajectory as demographic pressures eased. The main demographic wave has passed in most countries of the region. However, pressures on the labour market will intensify again very soon because of the so-called echo of the youth bulge. A second, smaller wave will enter the youth years within the coming decade, composed of children of the first wave. Thus, the region has another chance to get things right... or get things wrong.

Typically, such second waves are not very strong, as country fertility rates tend to continue declining. Indeed, some MENA countries have fertility rates that are near replacement levels, notably Tunisia. However, downward fertility trends have stalled or reversed other MENA countries, including Egypt, the

most populous country of the region. The stall in downward fertility trends is confirmed when asking families about their fertility intentions. Ideal family sizes have changed very little in the region; even less than observed family sizes. In Jordan, while the total fertility rate has fallen slightly since 1997, the model ideal family size has stalled at around 4 children (Spindler et al., 2016).

Whereas more educated women typically want fewer children as their labour market opportunities increase, fertility rates in the MENA region remain high. This is because limited good employment opportunities for women in the region means lower opportunity cost of childbearing, leading to a feedback loop which keeps rates high. Indeed, fertility rates are converging across education levels in countries such as Egypt and Jordan. This is a problem because an important aspect of the future of work is the care economy, covering everything from midwives to teachers. Care services disproportionately fall on women. Investing in the quality in the care economy is very important. However, quality is difficult to maintain when demand is rising, driven by an increase in dependents. Yet, despite increased demand, the pull is becoming weaker for women because of a lack of good jobs. Another issue related to female labour force participation and employment is social norms: when jobs are scarce, there is an expectation in the region that male breadwinners should take priority. Indeed, MENA is the only region in the world where gender norms are not changing across generations.

As with the first wave of the 1990s, high fertility rates create pressures on health, education, and labour supply. Egypt presents a good example. It experienced an increase in fertility rates between 2008 and 2012. The growth rate of the child population in Egypt exploded from 0.2 percent per year between 2000-2005 to 2.7 percent per year from 2010-2015 (Assaad, 2020). This baby boom affected the education system and will put pressure on Egypt's labour market between 2025-2040. Characteristics of the new entrants will also change. A quarter of the new entrants will have a university education

and another half will have at least a secondary degree. This group aspires to formal employment and are willing to queue for it. This group could work in jobs created as part of the fourth industrial revolution, but only if they have the skills and qualifications. However, as we have discussed above, the education systems of the region are failing to provide young people with even the basic skills they will need to succeed.

The MENA region has a second chance to take advantage of a demographic dividend if it learns the lessons of the past and adjusts its policies accordingly. In addition to reforms in education and skills and private sector development discussed above, taking advantage of digital opportunities requires focusing on those skills and sectors that are most relevant for the new digital economy. Also, jobs need to materialize. MENA economies need to maintain and sustain high rates of economic growth to create enough jobs, on the order of 5-6 percent per year (Assaad, 2020). While some countries of the region, such as Egypt, have achieved such growth rates in the past, future growth must create more stable formal jobs in manufacturing and technology, not low productivity jobs in the informal economy.

There is little evidence that countries of the MENA region can effectively take advantage of the opportunities and handle the challenges posed by the second demographic wave, or for that matter the fourth industrial revolution. Positioning the region to benefit from the opportunities afforded by automation, digitalization, artificial intelligence, and other advanced information and communication technologies requires policy changes that the region has consistently failed to introduce. Countries of the region must transform education systems to focus on skills development, including technical and soft skills that can complement emerging technologies. Governments must allow greater private initiative. The private sector must develop and grow and be able to adopt new technologies and, thus, MENA countries need to accept a measure of disruption in their economies.

Given the institutional weaknesses of the education sectors and the political economies of the region, growth in formal employment opportunities is less likely to materialize in the coming years. Indeed, the region seems to be heading in the opposite direction. Countries that should be at the forefront of preparing for the new world of work are struggling politically and economically. Lebanon, once the regional leader in entrepreneurship and skills development, has become so mired in corrupt practices that it has fallen into a financial abyss of its own making. Jordan, a country that is tapped into global markets and has consistently produced successful businesses at a regional level, is suffering from bureaucratic obstacles to private sector development. Tunisia, the only Arab country to transition to a democracy in the aftermath of the Arab unrest, failed to implement needed economic reforms and, as a result, has fallen back to authoritarianism. Gulf countries that hold the promise of private sector development are lagging in terms of educational outcomes and economic diversification. Many MENA countries, such as Syria, Libya, Yemen, and Iraq, are struggling with internal conflict and social unrest.

6. REINFORCING MARGINALIZATION AND PERPETUATING INEQUALITY[6]

Technology can exacerbate or reduce pervasive inequalities. It has the potential to serve as an enabler and equalizer of opportunities. It can allow people living in marginalized areas to access national and global markets. It can provide marginalized groups, such as women, young people, and even refugees, with access to platforms where they can work, develop their skills, access financing for their social or businesses initiatives, and find information and mentors. However, technology can also be used to engrain and exacerbate inequalities, both within and between countries. If countries do not provide adequate access to broadband in peripheral communities, the latter will continue to be at a

[6] Based on a panel discussion with Noha El-Mikawy (Moderator); Adel Ben Youssef; Vladimir Hlasny; Paul Makdissi; Shahid Yusuf. See the recordings here https://www.youtube.com/watch?v=cTYE-5Qjifk&t=7s.

disadvantage in terms of accessing information and networks. If regulators prevent entrepreneurs from accessing funding from abroad or transferring funds back to investors overseas, they will limit their ability to grow, compete, and improve their lives and the lives of others in their communities.

The MENA region suffers from multiple dimensions of inequality which will be affected by digital transformation. Wealth distribution in the region is highly unequal. Within countries, this has been maintained and exacerbated by crony capitalism that benefits connected insiders at the expense of outsiders. MENA countries also suffer from significant divergences in infrastructure spending between urban centres and rural peripheries, which leads to divergences in development outcomes. The region also suffers from large gender disparities, from labour force participation to economic, social, and political inclusion, to ownership of assets, to decision-making within the household. The region also has a high concentration of refugees, who lack access to resources and basic rights. Finally, there is a regional dimension to inequality, largely dictated by the geographic distribution of natural resources.

6.1 Technology and wealth / income inequality

Digital technologies can reduce or exacerbate income and wealth inequalities. Digital economies globally are characterised by a high concentration of wealth and power in the hands of a few; six of the top ten richest people in the world are in the digital economy. Financial wealth, in turn, contributes to increased political power creating opportunities for further wealth accumulation. During the industrial revolution, measures were taken in democratic countries to break up monopolies and reduce the concentration of wealth and power. Northern democracies are engaged in a similar exercise today. Authoritarian regimes are more prone to

developing cosy relationships with centres of financial wealth, perpetuating and exacerbating wealth and income inequality. In the MENA region, crony relationships have developed with traditional magnates, who have gained exclusive licences to develop and exploit core areas of technology, such as internet and mobile networks. There has been little room for the entry of disruptors, except within limited niche markets that do not pose a threat to dominant power centres. As a result, technological adoption in the region has been slow and limited, and has generally not been disruptive, competitive, or employment-generating.

The pandemic has exacerbated the pressures on the education systems, business environments, and labour markets of the region, through the closures of businesses, school, and services. Richer segments of society have been able to connect to online classrooms, tutoring, and commerce. Poorer segments of society have faced difficulties switching to online content, instruction, and marketplaces. As a result, those without access have fallen further behind, perpetuating and exacerbating inequalities.

6.2 Technology and gender

Similarly, digital technologies may reduce or worsen gender inequality. Across the region, women and men attend university at around same level. However, as we have seen, this has not translated into improved labour market outcomes for women. The low rates of female labour force participation are driven by both supply and demand-side factors. On the supply side, the preferences of women and their families play a key role. Female employment is discouraged in more traditional societies, like Saudi Arabia. However, the constraints surrounding such discouragement are complex. For example, research has found that young Saudi men do not mind young women working, but they think that other young men do mind. These kinds of misperceptions can easily be corrected

through policies, such as public awareness campaigns or media engagements. Digitalization can help communicate these findings in an acceptable way and facilitate dialogues that can help correct such misperceptions.

Other issues are more difficult to overcome. For example, in most MENA countries, women have a strong preference for jobs in the public sector or the formal private sector, which offer better and safer working conditions than the less-regulated informal sector. Digital tools can help women engage in work from home or other locations where they feel safe. However, research has found that women tend to have lower internet usage than men. This is a barrier to entry, but one that can be overcome, as these differences in internet usage virtually disappear between women and men who work.

On the demand side, the labour markets of the region are rife with discrimination. Employers freely admit that they prefer men over women. Indeed, they have no qualms about openly advertising managerial positions for men and assistant positions for women. However, research has found that such incidence of discrimination is lower in the information technology sector. In Egypt, 62 percent of surveyed employers in the retail sector indicated a preference for men, as compared to only 21 percent of employers in the IT sector. As such, the expansion of the IT sector, and other competitive and technology-oriented sectors, will improve the situation for women, but will not solve everything.

6.3 Technology and place

There are significant differences in digital access and usage across place. Across the MENA region, 95 percent of people are connected to mobile networks. This is quite good. However, only 8 percent of people have access to internet with broadband. Broadband is increasingly important to those engaged in online employment platforms or who need

to access information or educational content online. Those being left behind tend to be the poorer and more vulnerable segments of society, people living in rural and peripheral areas of a country, and people in poorer countries or in countries with ongoing conflict. Thus, falling behind in new technologies can perpetuate inequalities and socio-economic divides. Indeed, inequalities compound. Being female in a marginalized community is a double hurdle. More must be done to increase access to technology in marginalized communities, as well as to address persistent gender gaps and the plight of other excluded populations within marginalized communities.

Finally, political crises and conflict have taken a huge toll on the region. For example, nearly 10,000 educational facilities in Syria, Iraq, Yemen and Libya have been destroyed by conflict. As a result, many children in conflict areas do not have access to good and safe educational opportunities, let alone employment options. While some institutions and organizations have tried to move educational content online, limited access to the internet and frequent cuts in electricity have constrained the ability of technology to alleviate the difficult conditions in countries of conflict. This has led to dramatic increases in the number of children out of school who cannot read, write, or solve math problems at grade level and has created a generation that will be left behind in the fourth industrial revolution.

7. POLICY RECOMMENDATIONS

In the MENA region, technology has been a mixed bag, increasing opportunities in some areas and solidifying and exacerbating pervasive inequalities in other areas. Indeed, so far, technological change in the MENA region has been a story of wasted potential. The region is in close proximity to global networks. However, MENA countries have not developed the infrastructure or institutions needed to properly tap into these networks. If MENA countries are able to develop their

technology infrastructure, build their human capital, improve their institutional capacity, and address systemic inequalities, then they have much potential to engage with the rest of the world and join the fourth industrial revolution.

7.1 Invest in human capital

Access to technology does not mean much without the skills to use it. Education systems need to integrate technology into all aspects of learning, from pedagogies to applications. In too many school systems, ICT simply means connecting schools to the internet. Furthermore, the deeper the skills the more able individuals are to use technology, adapt it to their unique circumstances and needs and integrate it into their lives. Thus, increasing human capital, skills, and readiness to use technology are essential to the future of work. For most people, what is required is basic functionality and literacy. There also needs to be a core group of people who are able to adapt and manipulate technology. This does not require advanced degrees. Successful initiatives across the world have demonstrated that basic coding skills can be taught within a few months. Finally, countries need to have a core group of individuals with advanced technical skills who can work on and advance research and development.

The kind of learning needed for the digital economy is different from the kind of learning taking place across the region today. What is being taught and how it is being taught are off track. Basic digital literacy accounts for 70 percent of the demand for skills. So, countries need to invest in basic human capital. There is a gap in foundational skills (numeracy and literacy) in MENA compared to other regions. These foundational skills are important for supporting the acquisition of skills later in life. In addition, critical thinking is central at all skill levels. Competitive economies need people to solve problems, challenge assumptions, and engage with technology and each

other. This requires changing how schools operate and teach. Accountability and transparency will become especially important as countries track learning outcomes. Education reform requires a long-term process of capacity building and rebuilding institutions and systems. Policies need to be sustained and developed over years.

MENA countries have little choice but to prioritize education reform. Education reform must have the full support of a country's leadership and should begin with a dialogue with parents, school administrators, teachers, and students. Education policy in the region typically gets made at the ministry level or higher, with little consultation with other stakeholders. If there is to be any kind of new social contract, education reform must be at its heart. From this common understanding, it would be possible to modernize curricula to integrate ICT and other key skills necessary for the future of work, including inquiry and critical thinking. Curricula changes need to move in tandem with increased school and teacher autonomy. Increased autonomy, in turn, must proceed hand-in-hand with the allocation of sufficient resources to schools and capacity building of teachers to create an engaging and connected classroom experience for students.

The MENA region has weak, inflexible institutions that prevent it from pivoting and providing the skills required in the fourth industrial revolution. To create a more holistic education experience, countries must shift from focusing on what students learn to how they learn. Countries must form partnerships between governments, the private sector, and educational institutions to ensure that curricula are valid and provide what is needed in the market. Education institutions also need to be enabled with labour market information systems and career guidance. Finally, at the heart of education reform must be a reform of the region's TVET systems. TVET must be closely integrated with private sector needs. It must shed its perception as a dead-end track, allowing qualified students to continue onto university.

7.2 Create an enabling environment

MENA countries need to create an enabling environment for businesses, especially tech-enabled firms, small and medium enterprises (SMEs), and start-ups. An enabling environment includes legal, regulatory, and institutional aspects. It should also cover smaller, more traditional sectors. For example, countries should help farmers benefit from technology, both simple technology, such as smart phones, as well as more sophisticated technology, such as AI-enabled weather tracking systems. Supporting manufacturing has gone largely unexplored in the region. There has been more emphasis on retail and transportation. Financial inclusion has gained ground as an area of interest in a region that has ranked last globally, but there are still many unbanked people that can be served by fintech. Technology can also help companies in the informal sector become more competitive and formalize.

Workers who get displaced by technology need to upskill and reskill. There are an estimated 12 million automatable full-time jobs in Egypt alone (Aus dem Moore, 2018), mainly in manufacturing and agriculture. The region needs to take a far more flexible approach to education trajectories in general, and embrace non-transitional paths and careers, which will become the norm in the future. This should include support for lifelong learning and career guidance. People will be changing jobs and careers several times and they need transversal skills that they can take with them. The COVID-19 pandemic has been a gamechanger. Over 70 percent of SMEs worldwide have intensified their use of digital technologies. The new technologies are both labour saving and skill-biased, which means that digital transformation can be highly disruptive, affecting inequality, employment, supply chains, and migration. Such change should be enabled and managed through policy to minimize adverse effects.

Digitalization means improving opportunities, especially for marginalized groups such as youth and women. These groups

require special programming to serve them. New systems and institutions are needed. Digitalizing the status quo would simply digitalize dysfunctionalities, including inequalities. One example of a wholistic approach is Digital Egypt, which aims to improve skills, entrepreneurship, innovation, e-government, and access, including linking 4000 villages to the internet. Finally, MENA countries should increase e-government and technologies that enhance government effectiveness. This can improve efficiency and reduce corruption. Gulf states have demonstrated that this is possible, moving many public services online, including applying for business licences and securing permits.

7.3 Labour Market Reforms

MENA governments must support and promote reskilling, upskilling, life-long learning, and career development within firms and industries. It is not enough for governments to mandate private sector companies to do this. Governments must create incentive structures and organize the labour market so that firms that continually upgrade and develop their workforces are rewarded and gain an edge. They need to encourage firms to hire more workers and train them, and not perceive hiring as a risk that they will get stuck with an unproductive worker whom they cannot fire. Difficulties in hiring or firing workers can have the effect of encouraging firms to replace workers with machines. MENA governments also must replace costly welfare systems, including public sector employment and energy price subsidies, with social programs, such as training subsidies and unemployment insurance. Social protection systems must be strengthened to support a more mobile workforce. There must also be a balanced approach to taxing labour versus technology, otherwise labour costs will be too high.

Finally, governments should enable people with entrepreneurial talent to start and grow businesses. The MENA re-

gion is exceptionally adept at adding unnecessary layers of bureaucracy. While large companies can handle this, smaller firms and start-ups cannot. For example, in most countries start-ups must have a dedicated business address and an official corporate stamp, even though entrepreneurs try to minimize costs by working from home and technology has made it unnecessary to have a physical address or a corporate stamp. Entrepreneurs in the region must also get a government official to approve their application to start a business, even if they produce nothing of concern to health or environmental safety. This creates opportunities for corruption, bureaucratic interference, arbitrary taxation, and pressures to partner with insiders. It is one of the main reasons why so many firms do not register and instead choose to stay small and operate under the radar in the informal economy.

Overcoming digital divides

There are at least four levels of digital divide. First, there are inequalities in access to infrastructure and equipment, including access to high technology such as broadband. Second, there are inequalities in the use of technologies, including depth of adoption in areas such as e-learning and e-commerce. The global pandemic highlighted the gap in usage, with connected schools and workplaces able to continue operating and those not connected falling further behind. Third, there are differences in learning skills. Learning skills are especially important in the context of rapid change. For example, workers need to be able to update their skills regularly to keep their jobs in a fast-changing world. Fourth, there are gaps in performance, such as productivity that are then reflected in wages. Firms need to change their internal organization to see improvements in such areas. The previous sections outlined the MENA region's inequalities across all levels of the digital divide both within countries and between countries.

To close these digital divides, MENA countries should consider a number of policies. First, states need to develop their digital infrastructure, including broadband, and ensure that all groups within their countries have equal access at affordable prices. Digital infrastructure is as important today as electricity and should be treated as such. At the regional level, MENA counties need to ensure that network connections are well-established across the entire region. Second, MENA countries need to improve the digital literacy of their populations. This requires that they integrate digital technology and learning into their basic education systems. Again, digital curricula should be treated as basic as math, language, and science. All children need these skills to survive and thrive in the 21st century. Third, given the speed of technological change, MENA countries need to ensure that workers are able to constantly learn and that they have access to resources for reskilling and upskilling throughout their working lives. Developing learning skills is an area where MENA countries are woefully behind. Learning skills include skills such as problem solving, communication, creativity, and collaboration. These skills are not just linked to technology, but they are necessary for using and engaging effectively with advanced technology such as AI. Fourth, MENA countries need to change the way their institutions function, from schools to firms, to government agencies. MENA institutions need to move away from dysfunctional top-down, one-man (almost always) shows that have characterized decision-making in the region to a knowledge-based, devolved, and dynamic system that is more aligned with the technological needs and realities of the fourth industrial revolution.

8. REFERENCES

Arezki, R., Dequiedt, V., Yuting, R. and Rossotto, C. (2021). In the global race over 5G, liberalisation and regulatory independence are key. LSE Business Review. Retrieved from https://blogs.lse.ac.uk/businessreview/2021/06/30/in-the-global-race-over-5g-liberalisation-and-regulatory-independence-are-key/

Assaad, Ragui. (2020). Prospects for Egypt's Population and Labor Force: 2000 to 2050. Working Paper No. 1398. Giza: Economic Research Forum. Retrieved from https://erf.org.eg/app/uploads/2020/08/1598549752_343_1098774_1398.pdf

Assaad, R., Rana H., Moundir L., and Shaimaa Y. (2020). Explaining the MENA paradox: Rising educational attainment yet stagnant female labor force participation. Demographic Research, Vol 43 (28) 817–850. https://doi.org/10.4054/DemRes.2020.43.28

Aus dem Moore, JP., Vinay C. and Schubert. (2018). The Future of Jobs in the Middle East. McKinney & Company for the World Government Summit, 2018. Retrieved from https://www.mckinsey.com/~/media/mckinsey/featured%20insights/middle%20east%20and%20africa/are%20middle%20east%20workers%20ready%20for%20the%20impact%20of%20automation/the-future-of-jobs-in-the-middle-east.pdf

Cariolle, J., Le Goff, M., and Santoni, O. (2019). Digital vulnerability and the local performance of firms in developing and transition countries. http://dx.doi.org/10.2139/ssrn.3032902

Dimova, R., Elder S. and Karim S. (2016.) Labour market transitions of young women and men in the Middle

East and North Africa. Geneva: International Labour Organization. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_536067.pdf

El-Kogali, S. and Krafft, C. (2015). Expanding Opportunities for the Next Generation: Early Childhood Development in the Middle East and North Africa. Directions in Development--Human Development. Washington DC: World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/21287

Freedom House. (2021) Freedom in the World 2021: Democracy under Siege. New York: Freedom House. Retrieved from https://freedomhouse.org/report/freedom-world/2021/democracy-under-siege.

Gregory, L., Taha T., Hanada; Kazem, A., Boni, A., Elsayed, Mahmoud Abduh A., and Taibah, N. (2021). Advancing Arabic Language Teaching and Learning: A Path to Reducing Learning Poverty in the Middle East and North Africa. Washington DC: World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/35917

Groh, M., McKenzie, D. J., Shammout, N., and Vishwanath, T. (2014). Testing the Importance of Search Frictions, Matching, and Reservation Prestige Through Randomized Experiments in Jordan. Discussion Paper No. 8518. Bonn: Institute for the Study of Labor (IZA). Retrieved from http://ftp.iza.org/dp8518.pdf.

Heydemann, Steven. (2020). Rethinking social contracts in the MENA region: Economic governance, contingent citizenship, and state-society relations after the Arab uprisings. World Development 135. https://doi.org/10.1016/j.worlddev.2020.105019.

Hoekman, Bernard. (2021). Digitalization, International Trade, And Arab Economies: External Policy Implications.

Working Paper No. 1484. Cairo: Economic Research Forum. Retrieved from https://erf.org.eg/app/uploads/2021/09/1632898425_733_776132_1484.pdf

Hoekman, B. and Shepherd, B. (2020). Services Trade Policies and Economic Integration: New Evidence for Developing Countries. World Trade Review, 20(1), 115-134. DOI:10.1017/S1474745620000439

International Labour Organization. (2021). World Employment and Social Outlook 2021: The role of digital labour platforms in transforming the world of work. Geneva: ILO. Retrieved from https://www.ilo.org/global/research/global-reports/weso/2021/WCMS_771749/lang--en/index.htm

Kabbani, Nader. (2021a). Economic Dimensions of the Social Contract and How to Address Them. In The Modern Arab State: A Decade of Uprisings in the Middle East and North Africa, ed. Youssef Cherif. Berlin: Konrad-Adenauer-Stiftung. Retrieved from https://www.kas.de/en/web/poldimed/single-title/-/content/the-modern-arab-state-5.

Kabbani, Nader. (2021b). How Will Digitalisation Affect Youth Employment in MENA? In Going Digital: The Future of Work, G20 Dossier, ed. lberto Guidi.Italy: Italian Institute for International Political Studies (ISPI). Retrieved from https://www.ispionline.it/en/pubblicazione/going-digital-future-work-30293.

Kabbani, Nader and Nejla Ben Mimoune. (2021). Economic diversification in the Gulf: Time to redouble efforts. Brookings Doha Center Policy Brief. Doha, Qatar: Brookings Doha Center. Retrieved from https://www.brookings.edu/research/economic-diversification-in-the-gulf-time-to-redouble-efforts

Kabbani, Nader. (2019). Youth employment in the Middle East and North Africa: Revisiting and reframing the

challenge. Brookings Doha Center Policy Brief 2. Doha, Qatar: Brookings Doha Center. Retrieved from https://www.brookings.edu/research/youth-employment-in-the-middle-east-and-north-africa-revisiting-and-reframing-the-challenge/.

Kluve, J., Puerto, S., Robalino, D., Romero, J. M., Rother, F., Stoeterau, J. and Witte, M. (2017). Interventions to Improve the Labour Market Outcomes of Youth: A Systematic Review of Training, Entrepreneurship Promotion, Employment Services, and Subsidized Employment. Campbell Collaboration, Systematic Review. Retrieved from https://www.3ieimpact.org/evidence-hub/publications/systematic-reviews/interventions-improve-labour-market-outcomes-youth

Krafft, Caroline. (2017). Is School the Best Route to Skills? Returns to Vocational School and Vocational Skills in Egypt. The Journal of Development Studies, 54 (7) 1100-1120. https://doi.org/10.1080/00220388.2017.1329524

Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P. and Sanghvi, S. (2017). Jobs lost, jobs gained: Workforce transitions in a time of automation. McKinsey Global Institute. Retrieved from https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages

Menon, Jayant. (2019). Why the Fourth Industrial Revolution could spell more jobs – not fewer. Global Agenda. Geneva: World Economic Forum. Retrieved from https://www.weforum.org/agenda/2019/09/fourth-industrial-revolution-jobs/

Saidi, N. and Aathira P. (2018). Trends in trade and investment policies in the MENA region. Background Note. Paris: MENA-OECD Working Group on Investment and Trade. Retrieved

from https://www.oecd.org/mena/competitiveness/WGTI2018-Trends-Trade-Investment-Policies-MENA-Nasser-Saidi.pdf

Salehi-Isfahani, Djavad. (2012). Education, Jobs, and Equity in the Middle East and North Africa. Comparative Economic Studies, 54(4) 843–861. https://doi.org/10.1057/ces.2012.41

Spindler, E., Shattuck D., and Menstell, L. (2016). What's the Big Deal About Having Four Children? Behind Jordan's Fertility Stall. Reproductive Health, Georgetown University. Retrieved from https://irh.org/behind-jordans-fertility-stall/

World Bank. (2021). World Development Report 2021: Data for Better Lives. Washington DC: World Bank. https://doi:10.1596/978-1-4648-1600-0.

World Bank. (2021). World Development Indicators (WDI) Database. Washington DC: World Bank. Retrieved from https://databank.worldbank.org/source/world-development-indicators.

World Economic Forum. (2018). The Arab World Competitiveness Report 2018. Geneva: World Economic Forum. http://www3.weforum.org/docs/Arab-World-Competitiveness-Report-2018/AWCR%20 2018.0724_1342.pdf

9. ABOUT THE AUTHOR

Nader Kabbani is Nonresident Senior Fellow, Brookings Foreign Policy Program and Research Fellow, Economic Research Forum.

10. ABOUT THE FOWIGS INITIATIVE

The Future of Work in the Global South is an initiative supported by the International Development Research Centre (IDRC) and coordinated by the Center for the Implementation of Public Policies Promoting Equity and Growth (CIPPEC). It aims at understanding the implications of technological change on jobs from a Global South perspective bringing data, knowledge, and policy frameworks to build evidence-based narratives on the future of work in developing countries.

11. ABOUT THE PARTNERS

CIPPEC

CIPPEC is an independent non-profit organization that works on building better public policies. We promote policies that would make Argentina more developed, more equal, with the same opportunities for all and solid and efficient public institutions. We want a fair, democratic and inclusive society, where everyone has the possibility to grow.

ERF

The Economic Research Forum (ERF) is a regional network dedicated to promoting high-quality economic research for sustainable development in the Arab countries, Iran and Turkey. Established in 1993, ERF's core objectives are to build a strong research capacity in the region; to encourage the production of independent, high-quality research; and to disseminate research output to a wide and diverse audience. To achieve these objectives, ERF's portfolio of activities includes managing carefully selected regional research initiatives; providing training and mentoring to junior researchers; and disseminating the research findings through seminars, conferences and a variety of publications. The network is headquartered in Egypt but its affiliates come primarily from different countries in the region.

FUTURE OF WORK IN THE GLOBAL SOUTH

fowigs.net

linkedin.com/company/fowigsnet/

@fowigsnet

fowigs@gmail.com