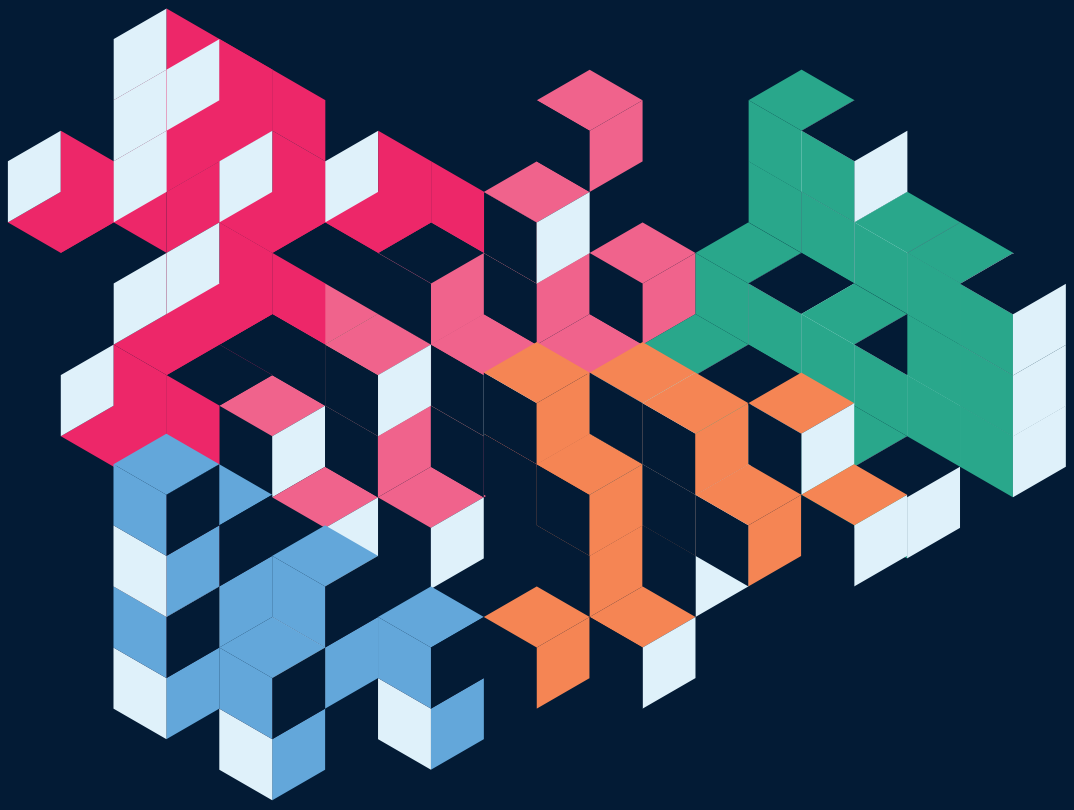
REGIONAL VIEWS
ON THE FUTURE OF WORK



ASIA

FUTURE OF WORK IN THE GLOBAL SOUTH

TECHNOLOGY, EQUALITY AND
THE FUTURE OF WORK IN

SOUTH AND SOUTH EAST ASIA

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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[1]

Two competing narratives characterize the impact of technology on the world of work in the Global South. The first paints technology as an enabler that will help developing countries leapfrog in their development. According to this narrative, technology promises higher levels of productivity and efficiency that can fuel economic growth. Technology is facilitating new employment opportunities at a time when many countries in the Global South are feeling pressure to create more jobs for their large and growing youth populations (McKinsey Global Institute, 2019).

The second narrative is less optimistic. It points to technology induced capital intensification that has fueled economic growth, but has not generated enough employment to absorb surplus labour that characterizes many developing countries (Dewan, 2018). The protagonists of this narrative are those that do not have access to the technology or skills to participate in a technologically driven economy and are at risk of being left behind. This narrative contends that disruptive technologies will fuel bifurcations in income, productivity, and well-being between and within countries (Dewan, Ernst and Gravel, 2021).

Both these narratives have truth to them; both characterize the impact of technology on Asia's labour markets. In South and South East (SE) Asia,[2] as in other regions of the world, technology is creating opportunities at the same time that it poses labour market challenges. The COVID-19 pandemic is accelerating technological use and adoption (Beylis, 2021) that is consequentially deepening the restructuring of labour markets faster than the ability of governance and regulations to adjust. This is compounding employment challenges which, if left unattended, will exacerbate inequality and hinder economic growth in the region.

[1] The authors would like to thank Dr. Shamindra Nath Roy, Center for Policy Research, for his research support and input into this report.

[2] South Asia refers to Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka. South East Asia refers to the members states of the Association of South East Asian Nations (ASEAN), namely Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

This report hones in on three challenges that rapid technological advancement poses for labour markets in South and South East Asia.

- First, as technology enables the platform economy and associated opportunities for digital entrepreneurship and other forms of contract-based gig work, the growing incidence of these kinds of work could increase the numbers of self-employed workers that are responsible for obtaining their own social security. As this happens, the conventional mode of social security provision -- where an employer provides these benefits to an employee, regulated by the government -- breaks down. This fuels a rise in work that resembles informal employment.

- Second, technology demands that education and skills training systems change to meet the needs of a technologically driven economy, but these systems are slow to adapt. The challenge is even greater against the backdrop of a demographic bulge that characterizes much of the region. Moreover, the uncertainty about how technology will continue to restructure labour markets makes it difficult to predict what skills the future of work will call for.

- Third, unequal access to technology, relevant skills and opportunities in the digital world disadvantages girls and women relative to boys and men threatening to aggravate gender inequality. A substantial literature confirms that gender gaps are indicative of a significant loss of productive potential.

These challenges, in the absence of effective policies and regulation, threaten to increase inequality. The present and future of work in South and South East Asia, as in other regions of the world, then depends on the ability of policymakers, businesses, civil society and workers to acknowledge these competing trends and to take measures to address

disruptions to harness the benefits of technological change while minimizing the costs in a post pandemic era.

This chapter builds on secondary research and the collective insights garnered from a series of dialogues that the JustJobs Network hosted with experts on how technological trends are unfolding and their impact on the region's labour markets today, and in the future. These dialogues were part of the Future of Work in the Global South (FoWiGS) program with similar events held in other regions of the developing world. FoWiGS is executed by the Center for the Implementation of Public Policies Promoting Equity and Growth (CIPPEC) and supported by the International Development Research Centre, Canada (IDRC).

Following the introduction, section two reviews the economic, demographic, labour market and technology trends in South and South East Asia as a way of providing context. Section three hones in on the nexus of technological change and the three challenges noted earlier that, if left unchecked, will exacerbate inequality. Finally, section four concludes with some policy recommendations.

2. ECONOMIC, LABOUR MARKET AND TECHNOLOGICAL TRENDS: THE CONTEXT IN DEVELOPING ASIA

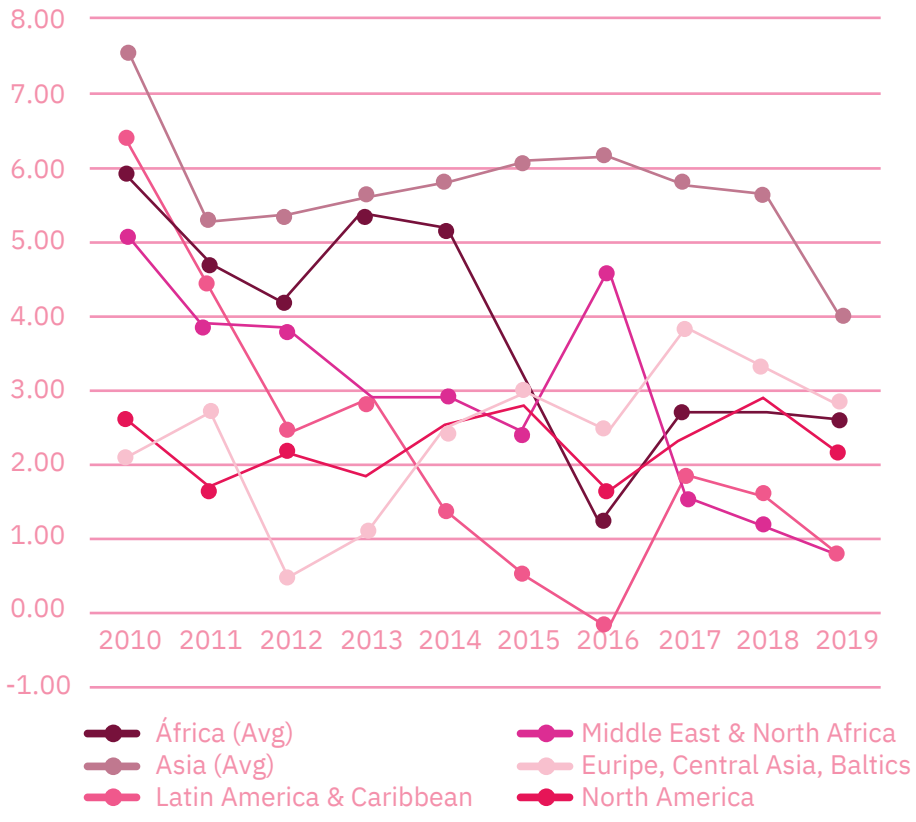
2.1 Economic and Labour Market Trends

Asia has seen the most rapid structural change of any region over the last decade, though aggregation conceals significant variation across sub-regions, between, and within countries in the region. Technological advancement and cheaper transportation facilitated trade and integration into global

supply chains that helped secure large gains in economic growth (ILO, 2021a). Yet despite this progress, working poverty and informality remain widespread (ILO, 2021a). This paper hones in on the South and South East Asian sub-regions. Countries across these two sub-regions not only vary in culture, but also in their economic structure, labour markets, technological landscapes that have a bearing on how the future of work will play out. This section provides an overview of some trends in South and SE Asia in order to provide context for the impact of technology on their world of work today and in the future.

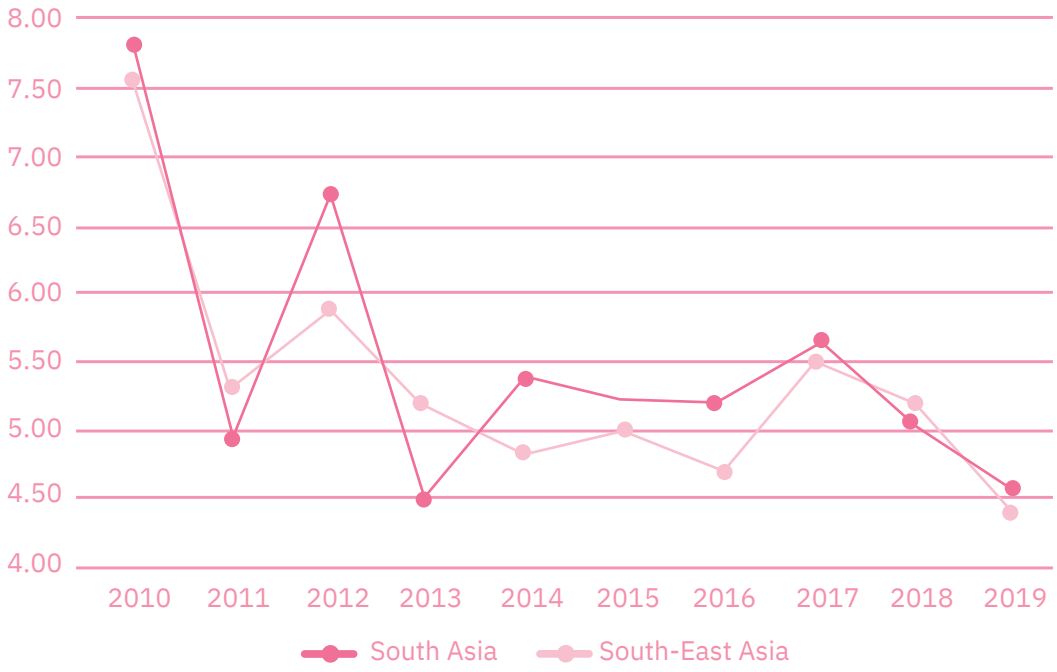
Asia has seen higher Gross Domestic Product (GDP) growth relative to other regions over the last decade (Figure 1). In these last ten years, South Asia's GDP growth exceeded that of SE Asia's, though the two sub-regions started to convergence in their growth rates over the three years prior to the pandemic.

FIGURE 1
ANNUAL GDP GROWTH (2010-19)



Source: World Development Indicators, World Bank.

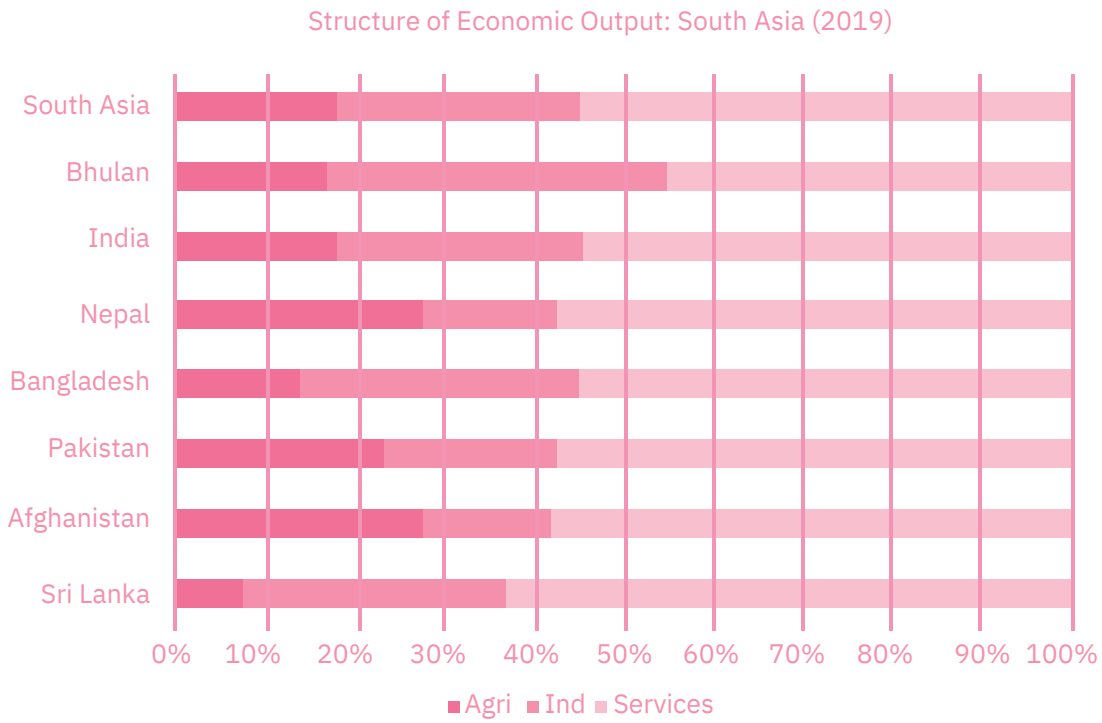
FIGURE 2
ANNUAL GDP GROWTH OF SOUTH AND SOUTH EAST ASIA (2010-19)

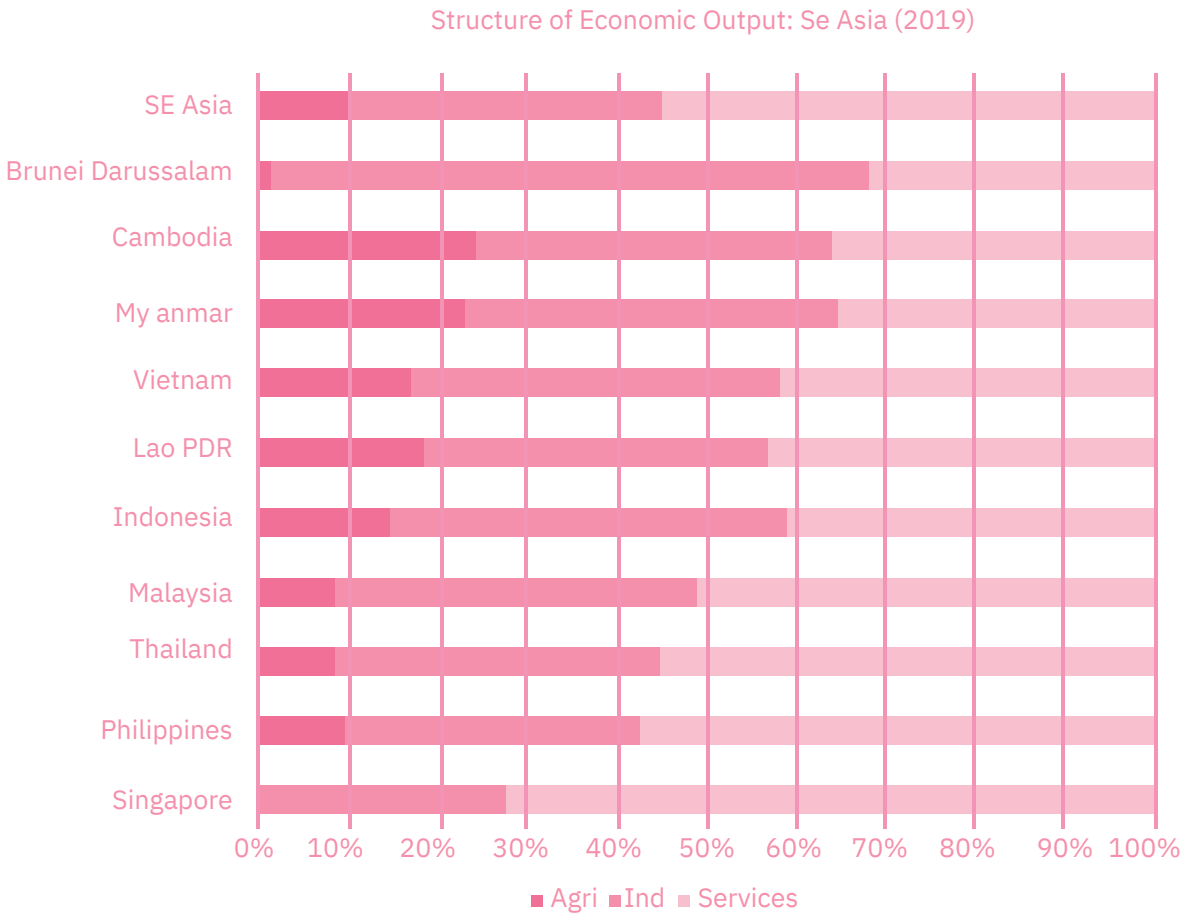


Source: World Development Indicators, World Bank.

In 2019, in the aggregate, South and SE Asia are service-dominated with services comprising the largest share of value add in GDP relative to agriculture and industry (Figure 3). All economies is South Asia, with the exception of Bhutan, are now service-led. Bhutan, India, Bangladesh and Sri Lanka also have substantial industry. 63 percent of Bangladesh's industry value-added comes from manufacturing, and the share of manufacturing in GDP exceeds many SE Asian economies. There is significant variation in the composition of growth across SE Asia. Though services comprises more than half of SE Asia’s economy, for some countries services constitute a smaller share than agriculture and industry. Industry continues to play an important role in propelling growth in all SE countries.

FIGURE 3.
STRUCTURE OF ECONOMIC OUTPUT IN SOUTH AND SOUTH EAST ASIA (2019)

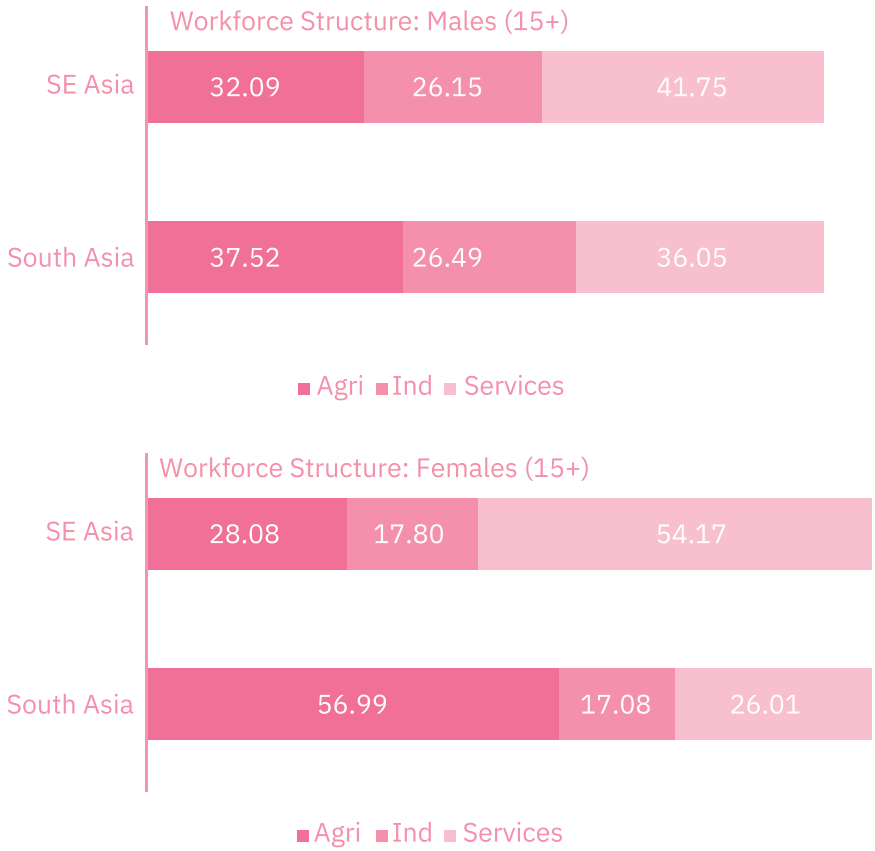




Source: World Development Indicators, World Bank.

FIGURE 4

SECTORAL SHARE OF TOTAL EMPLOYMENT IN SOUTH AND SOUTH EAST ASIA MALES VERSUS FEMALES (2019)



Source: World Development Indicators, World Bank.

The sectoral share of total employment for males is similar across South and South East Asia, though the share of men in agriculture in South Asia is a bit higher in South Asia. There are however significant differences when it comes to the sectors that females are engaged in. The share of women in services as a share of total employment is higher than that of men in services in SE Asia, it is also significantly higher than women in services in South Asia. In contrast, more than half of female workforce in South Asia is still in agriculture. See Appendix 1 for gender disaggregated data across sectors in South and SE Asia.

SE Asia's labour market indicators paint a more favorable picture than those of South Asia. The labor force participation rate in SE Asia was 67.4 percent in 2019 whereas it was a much lower 49.6 percent in South Asia. At just under 66 percent in 2019, SE Asia had a higher employment-to-population ratio than South Asia at 47 percent in 2019 (ILOSTAT, 2021). This dropped to 63.9 percent in 2020 when the pandemic hit but the drop in South Asia was more significant down to 43.3 percent in 2020. SE Asia also has a much lower unemployment rate, 2.5 percent in 2019, relative to 5.2 percent in South Asia in 2019 before the pandemic. In SE Asia, the unemployment rate increased to 3.0 percent in 2020 while South Asia witnessed a sharper increase to 7.4 percent in 2020 (ILOSTAT, 2021).

2.2 Technology Trends

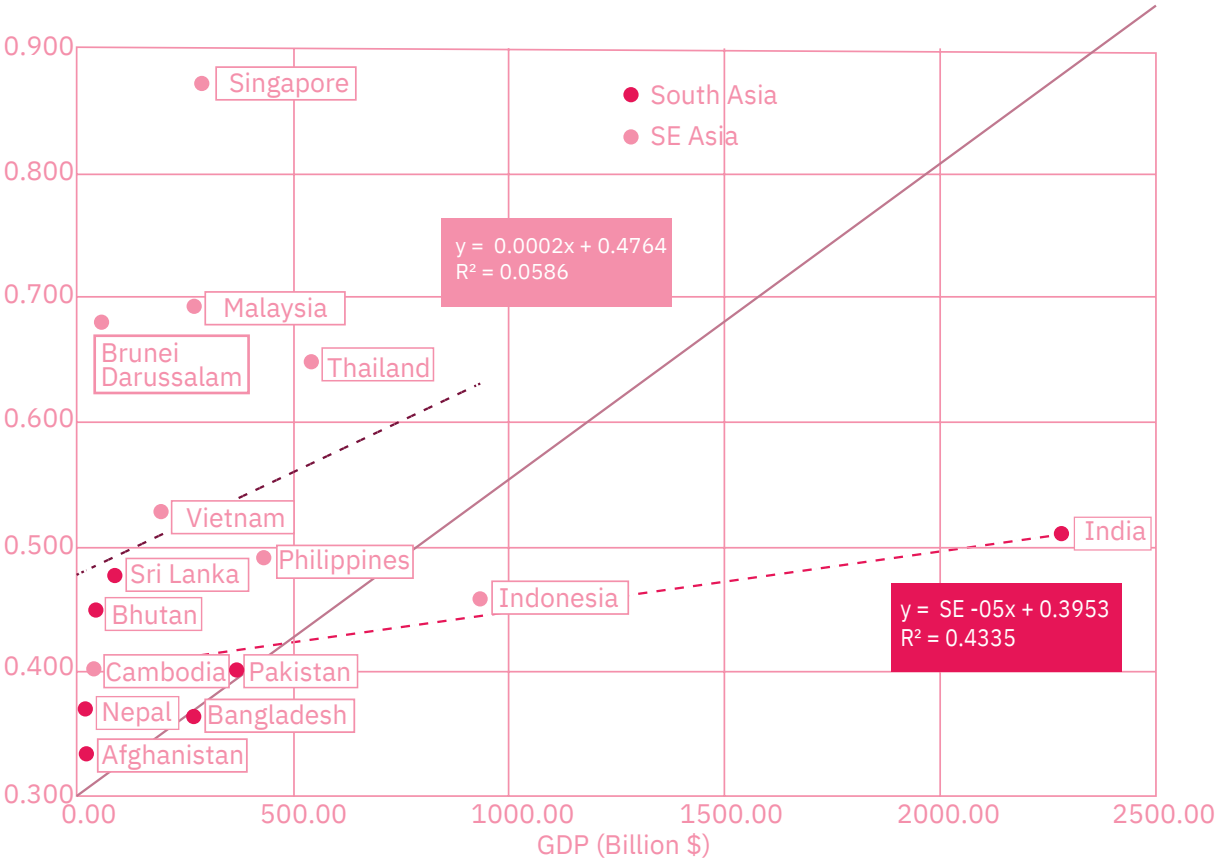
The World Bank's Digital Adoption Index (DAI) is a worldwide index that measures countries' digital adoption across three dimensions: **people, government, and business** on a 0–1 scale. Through each sub-index, the DAI aims to understand technology promotion and adoption towards increased productivity and growth of *business,* expanding opportunities and welfare for *people,* and increasing efficiency and accountability of public service delivery for *government* (World Bank, 2016).

Both in case of South and SE Asia, size of economy and levels of digital adoption are positively associated, though the link is stronger in South Asia.[3] In South Asia, India is an outlier with a very high GDP but low digital adoption relative to its size, though it is still the highest in South Asia. Digital penetration is low in South Asian countries relative to most of their SE Asian counterparts. With the exceptions of Indonesia and Cambodia that rank low on the DAI, most SE Asian countries have high digital adoption.

[3] The correlation is spurious in SE Asia because of less variation in DAI across its nations

The expansion of digital technologies has no doubt fueled economic progress, especially in SE Asian economies, most notably Singapore. Yet in other countries in the sub-regions many have limited access to digital technologies or the requisite resources to reap the full benefits of the digital transformation of their economies.

FIGURE 6
DIGITAL ADOPTION INDEX AND GDP



Source: World Development Report 2016: Digital Dividends, World Bank.

3. THE THREAT OF RISING INEQUALITY

Technology's potential for delivering productivity, efficiency, and financial returns is a major driver of its growing adoption and usage. But at the same time, it is restructuring labour markets in ways that could raise the incidence of informal employment. This can be avoided if technology is specifically leveraged to make 'invisible' workers 'visible' to help deliver social protection and other labour protections. Similarly, the acceleration of technological change is deepening an already existing digital divide between and within countries. The digital divide deepens when COVID-19 induces a work-from-home culture or online learning as the predominant form that disadvantages those that are in location-tethered professions or do not have access to technology or skills needed to participate in a technologically driven economy. Within countries, women are at a particular disadvantage. This section describes the nuances of each of these challenges drawing upon specific examples from South Asia and South East Asia.

3.1 Technology and Informal Employment: What do we know from the Asian Experience?

Defining Informality

A majority of workers in most developing countries are in the informal sector that is characterized by high employment and wage flexibility, but also low levels of productivity and wages (ILO, 2021a). But the informal sector is heterogenous and to understand how technology interacts with informality, it is important to first delineate which enterprises and workers comprise the informal economy (Text Box 1).

TEXT BOX 1:
DEFINING THE INFORMAL SECTOR

According to the 17th International Conference of Labour Statisticians, the informal sector consists of the following:

(i) Own account workers employed in their own informal sector enterprises
(ii) Own account workers engaged in the production of goods exclusively for own final use by their household
(iii Contributing family workers
(iv) Those in informal producers' cooperatives
(v) Employees that, whether by law or in practice, are beyond the purview of national labour legislation, income taxation, social protection or other employment related entitlements.

Source: Defining and measuring informal employment by Ralf Hussmanns, Bureau of Statistics, International Labour Organization.
Regional Study on Informal employment Statistics to Support Decent Work Promotion in ASEAN, ASEAN.

Broadly, the informal sector consists of both unregistered enterprises and workers in informal employment who do not have social security and are beyond the purview of most other labour and social protections. These workers can either be employed in unregistered enterprises, or they can be working in the formal sector without receiving social security and other labour protections. There is therefore a difference between those that are employed in the informal sector and those that are in informal employment (ASEAN, 2019). The informal sector – workers and enterprises -- is often described as 'invisible' to the state referring to the difficulty in regulating such work arrangements.

While general operational definitions of informality subscribe to the recommendations of the 17th International Conference of Labour Statisticians, there are some variations in measurement and reporting. For example, Malaysia reports the rate of informal employment to be at 10.6 percent, but it

only measures informal employment in the informal sector and not in the formal sector (ASEAN, 2019). Further, measures of informality must always be clear on whether or not agriculture is included, especially in a country like India, where informal employment is over 90 percent when agriculture is included (Mehrotra, 2019).

Indonesia's statistical bureau -- BPS, for instance uses an eight-fold classification of employment status: (i) own-account worker (ii) employer assisted by temporary workers/unpaid workers (iii) casual agricultural employee, (iv) casual non-agricultural employee, and (v) unpaid worker, (vi) employers, including (vii) those assisted by permanent workers/paid workers, and (viii) employee (BPS 2010). Of these, the first five may be considered to belong to the category of informal employment. BPS states, "to define and measure informal employment, Indonesia considers the nature of the informal employment, the size of the enterprise, its capital, turnover, sales, or registration status" (BPS, 2010). Protections are insufficient or lacking in terms of wages, working hours, and welfare benefits in such employment.

Nonetheless even applying broadly similar definitions across countries in South and SE Asia, estimates reflect significant differences across South and South East Asia in the rate of non-agricultural informal employment ranging from 37 percent in Thailand (ASEAN, 2019) to 68.4 percent in India (PLFS, 2017/18), to 90 percent in Cambodia (ASEAN, 2019).

Gig Work, Digital Entrepreneurship and Informality

As technology gives rise to different forms of gig work in the platform economy, or digital entrepreneurship, it is unclear where these workers fit into the existing framework of informality. Gig workers are often registered, but they are not considered to be employees; rather they are considered to be self-employed contractors (Bester et al., 2020). Platforms

see themselves as mere mediators of transactions between these self-employed contractors that provide a service, and an end consumer. Therefore, even when many of the facets of such work resemble conventional employee-employer relationships, most platforms do not assume responsibility for welfare provision and are not subject to the same labor regulations as a regular employer would be. Similarly, digital entrepreneurs are also self-employed, though they tend to enjoy greater autonomy than gig workers do.

By virtue of being self-employed both sets of workers, even when registered, are responsible for their own social security and do not receive labour protections. When it comes to social security, many cannot afford, or do not opt to enroll in schemes and/or purchase their own social security. As such, this kind of technology enabled work resembles informal work even though gig workers and digital entrepreneurs are neither employees, nor are they technically in informal enterprises when they are registered.

TEXT BOX 2

DEFINING GIG WORK AND DIGITAL ENTREPRENEURSHIP

- Gig work includes temporary and flexible work that companies make available online. Companies typically hire independent contractors and freelancers to complete these tasks instead of full-time employees.
- Digital Entrepreneurship refers to entrepreneurial activities enabled by digitalisation including: start-ups, agency work, content creation, and e-commerce.

Source: Dewan et al. (2020)

The Pandemic and Digitalization

As the pandemic induces job losses, more people may be drawn to digital entrepreneurship and gig work; both sectors have low barriers to entry. While data to substantiate the extent and magnitude of pandemic induced job losses propelling people into gig work and digital entrepreneurship is not systematically available, there is evidence from India that people moved from regular employment into daily wage work (Dewan et al., 2021) and there is evidence that several e-commerce platforms saw an uptick in participation as did the demand for online delivery workers.

The Philippines saw an increase in informal employment; that is, own-account workers, whether self-employed, family-owned business or freelancers (Dewan et al., 2021). In 2010, the proportion of informal employment was about 42 percent of total employment. It decreased to 34 percent by 2019 just before the pandemic. In 2020, informal employment as a share of total employment rose to 38 percent. Unemployment also increased from 5.3 percent in January 2020 to 8.7 percent in January 2021; the September 2021 figure is 8.9 percent (PSA, 2021). The underemployment rate has also increased from 14.8 percent in January 2020 to 16 percent in January 2021 (PSA, 2021).

Indonesia, too, saw an increase in the share of the informal sector as the pandemic dealt a blow to sectors such as manufacturing, processing, and construction (Dewan et al., 2021). Data from the BPS showed an increase in informal sector employment by 2.62 percent (or 1.18 million people) between 2019 and 2020, and a decrease in formal sector employment by 10 percent (or 6.03 million people) for the same period. Over 80 percent of companies experienced drastic declines in income, resulting in reduced wages and increased working hours (UNICEF, 2020). Unregistered enterprises missed out on subsidies from the central government.

The adverse impact of the pandemic and ensuing employment shocks could induce an increase in the incidence of the self-employed expanding the pool of workers that do not have access to social security, social and labour protections. In essence, such an expansion reflects a growing de-linking of these benefits from formal employment (Dewan et al., 2021).

3.2 Inequities in Education, Skills and Employability

In considering the future of work, technology is not alone in upending existing employment models. It interacts with other trends including changes in global value and supply chains, patterns of migration and urbanization, and the COVID-19 pandemic, to restructure labour markets. This situation of ever-changing labour markets against a backdrop of a demographic bulge in South and South East Asia especially necessitates an expanded understanding of how to ensure that people are equipped with the education and skills they need to participate and adapt to changing labour markets. Those that are unable to do so risk being left behind.

The Pandemic's Impact on Education and Skills

The pandemic has set back trajectories even further. Schools, colleges, and other institutions were shut by the pandemic. The effect of the shut-down of colleges and skills training institutions, appears to have been more of temporal disruption for the students, from a learning perspective. But as evidence gathers, it is becoming clearer that the effect of school closures is another matter altogether. Unless comprehensive coordinated actions are taken across school systems, a generation of school-going children will be left with deeply weakened educational outcomes, with cascading life-time

effects including on employability and labour markets (Dewan and Behar, 2021).

In countries' such as India, school closures lasted 18 months. A survey of 143 countries revealed that in 2020, schools were fully closed across all education levels for 79 instruction days on an average, ranging from 53 days in high-income countries to 115 days in lower-middle-income countries (UNESCO et al., 2021; and Chen et al., 2021). With the deeply unequal access to online resources in developing countries, children from socio-economically disadvantaged families, which are the large majority, had almost no access to education. As the pandemic refused to let down, it became clear how optimistic the August 2020 estimates of potentially reaching 69% of all children through online and broadcast media were. The loss of foundational abilities in literacy and numeracy, and, in other subjects, have direct impact on of all future learning of students, and thus their preparedness for life and work.

Shifting Requirements in Education and Skills

But even before the pandemic, technological change by itself was highlighting the need for education reform, the acquisition of relevant skills, and the importance of learning and relearning how to perform tasks in a constantly changing environment. Technology is skill-biased, threatening to change or make certain jobs and tasks within them obsolete (JustJobs Network, 2016). Higher levels of education and skills training can secure entry into jobs and sectors that are less automatable.

Tasks better suited to mechanisation, like computation and data analysis, are more likely to be mechanized. But functions requiring emotional intelligence, empathy, compassion and creative judgment and discernment are harder to automate. To think about education and skills training in this context, then, is to prioritize not just education and vocational skills that

can land a job, but also those that spark curiosity, tinkering, invention, problem solving, and entrepreneurial ability. A new framework from the ILO on core skills - also called soft skills or transferable skills, referring to non-cognitive skills such as teamwork and problem-solving - calls on educational and training institutes to adopt and accelerate their provision (ILO, 2021b).

But beyond the broad contours of what types of education and skills are needed, the current context in South and South East Asia poses several challenges to achieving effective education and skills training.

Challenges to Adapting Education and Skills Systems

First, actually adapting or building education and skills systems takes more time than technological change generally affords. The pace and scale of technological transformations also introduces uncertainty in how work will change in the future making it hard to prepare for it now (ASEAN, 2020). Policymakers confront the challenge of ensuring that as their populations are adequately and appropriately educated and skilled, that there is enough work, or labour market demand, to absorb them.

Second, this challenge is compounded by demographic pressure. Not only does South and South East Asia's demographic bulge create the need for more work, but it also puts pressure on policymakers to productively engage youth even when, or perhaps especially when, the labour market is unable to absorb them. India's youth population between the ages of 15-29 exceeds the total population of every other industrialized country in the world. This puts tremendous pressure on policymakers to ensure that these youth are engaged even when the labour market does not have enough jobs to absorb them (Dewan and Sarkar, 2017). This has led

to a skills training system that is largely supply-driven and in which a large share of the training is geared toward self-employment (Dewan and Khan, 2019).

Moreover, youth, especially girls/women, are also more at risk in the face of labour market disruptions, whether they are technology induced or a result of other shocks such as the pandemic. The risk of automation is highest in jobs held by young people, as they are more likely to be in more automatable professions or hold entry-level jobs with a greater proportion of tasks that are automatable (ILO, 2020a).

Third, the inability to keep up with technology-induced changes coupled with a supply driven system mean means that education and skills do not match market demand. There is a need to ensure that education and skills are closely aligned to market demand. One way to do this is by linking education and skills training to an industrial policy (Srinivasan et al, 2021). Almost all East Asian countries had industrial policies aligned to education policy.

The fact that Technical and Vocational Education and Training (TVET) systems in South and South East Asia are typically government-driven and government-financed, they tend to be supply-driven. But demand-focused TVET systems that are closely linked with employers and industries can also help education and skills systems calibrate to the changing needs of the market. For this, exploring how the private sector can be the driver of training, through apprenticeships for example, rather than the government is critical to shifting from a supply driven to a demand driven model of training.

A pervasive digital skill gap also hampers digital transformation. It is therefore important that employers and businesses also make efforts to prevent it from increasingly rapidly. Demand is increasing rapidly for emerging technologies like big data, analytics, cyber security, and robotics with sectors IT hardware, software, logistics, courier, freight, transportation, telecom and ISP witnessing a growing demand for labour (Nayar and

Dewan, 2021). From the employer's perspective, one form of skilling could be to put fresh hires in formal education, and use training programs for lateral hires. Other possible roles for the private sector can involve curriculum design, provision of instructors, internships, and apprenticeships as well as certification and placement assistance. But all of these functions require state intervention and incentivization (Srinivasan et al., 2021).

To get to an industry-driven and demand-driven system, financing should be a joint responsibility between the private sector and government. Many Latin American countries have a levy-based system where enterprises pay a levy which goes into a sectoral fund to train workers for that sector. As a result of this, firms do not have to develop their own infrastructure but do contribute funding. Similar systems exist in South Korea, Malaysia and Singapore, but not in South Asia.

Moreover, it is important that instructors having worked in industry are directly involved in the TVET system. These instructors must also stay updated with industry trends and training and their knowledge must be regularly updated.

Fourth, information asymmetries between the market, education/training providers, and students exacerbate the mismatch between labour market demand and individual capacities. There is a need to democratize labour information, making available job market data that can inform evaluation, debate, and policy. Such a system was attempted at the provincial level in Pakistan, but it was not real-time. The size and demographic diversity of countries like Indonesia and India may complicate the task of collecting nationally representative data on skills. However, online job portals have vast amounts of data which can be used to understand demand and supply. Data collected through these private or public online job portals would be a step toward rectifying such information asymmetries.

Narratives from the Global North about technology and the future of work can tend toward an overly optimistic view that skills training is the solution to ensuring labour market

transitions in an era of change. But in many parts of the Global South, as in South and South East Asia, significant demographic pressure, inadequate education and skill training systems, and more pronounced fiscal constraints make this difficult to achieve.

3.3 Technology and Gender Equity

Gender equity and increasing economic participation of women are associated with more growth, lower income inequality, and better development outcomes (IMF, 2018). Estimates suggest closing the gender gap in the workforce could add up to $28 trillion to global Gross Domestic Product (Bigio and Vogelstein, 2018). Yet gender inequality persists. Women have fewer opportunities to engage in economic activity, receive lower wages and benefits than their male counterparts, and are among the worst affected by crises such as the COVID-19 pandemic (ILO, 2021c). The economic disempowerment of women can result in losses estimated to range from 10 percent of GDP in advanced economies to more than 30 percent in South Asia and in the Middle East and North Africa (Dabla-Norris and Kochhar, 2019). What then does technology mean for women's work in South and South East Asia?

Technology, Women's Work and Supply Chains

It presents both challenges and opportunities. In South and South East Asia, there are more women employed in labour intensive manufacturing sectors such as apparel and electronics than men. If these sectors are automated, this would hurt women disproportionately. In addition, there is a concern that recent supply chain disruptions as a result of the pandemic could accelerate the reshoring of labour-intensive

work in these sectors with large female workforces. While it is not clear if these female manufacturing jobs in South and South East Asia will go away or how quickly they will change, but it is certain that there will be negative repurcussions (Randolph et al., 2021).

A Digital Divide That Disadvantages Women

What's more, differential access to technology and skills disadvantages women in availing the new jobs and tasks that technology generates and prevents them from adapting to changes in the labour market. While countries like Pakistan, Afghanistan, Bangladesh and India exhibit some of the world's largest gender gap in access and usage of technology, Philippines is an outlier with 84 percent of women owning mobile phones in contrast to 78 percent men (Table 1). These differentials are largely the result of structural factors such as restrictive social norms, the disproportionate burden of domestic responsibilities, time poverty, unpaid care work, that hold women back. For women to avail the opportunities that technology offers, these structural factors must be addressed.

TABLE 1
ICT ACCESS AND USAGE IN SOUTH AND SOUTH EAST ASIA

Country	Network Coverage	Households with Internet Access	Internet Use			Mobile Phone Ownership		
			Total (% of population)	Female (% of total female population)	Male (% of total male population)	Total (% of population)	Female (% of total female population)	Male (% of total male population)
Pakistan	89	34	17	13	21	45	26	65
Afghanistan	90	11	16	NA	NA	47	NA	NA
Bangladesh	100	38	28	5	8	71	31	54
India	99	24	41	15	25	60	38	71
Nepal	92	3	20	NA	NA	NA	NA	NA
Bhutan	98	44	46	NA	NA	NA	NA	NA
Sri Lanka	99	53	35	NA	NA	NA	NA	NA
Singapore	100	98	95	77	75	88	88	89
Brunei	99	54	95	100	92	94	99	91
Malaysia	97	92	90	88	91	96	95	98
Indonesia	98	78	54	51	57	63	58	68
Philippines	99	18	47	NA	NA	72	84	78
Vietnam	100	75	70	67	74	79	79	80
Lao PDR	95	2	26	NA	NA	NA	NA	NA
Cambodia	99	74	79	79	79	93	93	94
Myanmar	95	NA	24	19	29	62	57	68
Thailand	99	85	78	77	79	84	84	83

Source: Digital Development Dashboard, by International Telecommunication Union (ITU) and World Poll 2016, Gallup.

Platforms and Home-based Work for Women

Most countries in South Asia have lower female labour force participation rates than South East Asian countries. Nonetheless, whether by choice, or by compulsion in the face of restrictive social norms, research confirms that most women in South and South East Asia often prefer to work from home (Berg et al, 2018; Sharma and Kunduri, 2015). Moreover, women value flexibility that allows them to balance domestic responsibilities and income generation (Berg et al, 2018). The platform economy—specifically labor platforms, online marketplaces, and social media—is creating new work and entrepreneurship opportunities for women that are both

home-based and seemingly offer high levels of flexibility. Evidence suggests that this form of work is growing among women in the region.

Often resorted to as a policy solution for engaging more women in the workplace, home-based online work and its expansion after the COVID-19 pandemic still requires careful policy engagement to safeguard the quality and quantity of work for women.

The rise of home-based platform work gives workers in the Global South access to employment opportunities in the Global North without having to migrate. This specifically refers to "crowd" work in which workers are paid by the task, such as tagging, transcription, and data entry.

While precise data on the numbers of home-based digital platform workers are unavailable, oversupply, intense competition for work, low compensation, and lack of labour protections are well-documented issues (Graham and Anwar, 2019). Depending on how individual platforms are set up, home-based platform workers may have only the "Terms and Conditions" agreement as proof of their engagement with the platform; no avenues for contesting pay or blocks from the platform; and no sick leave or other traditional social protections. The project of governing such platforms and turning insecure jobs into good jobs cannot be managed at the scale of individual countries; labor governance systems must operate across boundaries (Randolph et al., 2021).

There are dangers with a wholesale promotion of home-based digital work as a panacea to increase women's labour force participation, such as the reinforcement of confining gender norms or the further burdening of women with unpaid care work. This raises the question for policymakers: should we take the low-hanging fruit of promoting home-based digital work in the interest of marginal benefits of slightly more income and bargaining power for individual women? What is the longer-term strategy for women to access work outside the home, if desired?

As for the nature of platform work itself, there is the risk of online work reproducing offline biases. New technologies alone will not correct long-standing power imbalances. In fact, gender disparities may be reinforced and amplified (Athreya, 2021). Just as offline gender-based violence present challenges to women's ability to work, online harassment too hinders women from doing their jobs. To safely work, women online have to often self-censor and self-police themselves. For example, women drivers for ride-hailing platforms face unique safety challenges and discrimination, including lower client ratings and the threat of violence. Virtual spaces, unregulated by offline laws on harassment, then, lead to a greater potential for gendered violence. Beyond personal safety, there are also privacy issues; data sets are routinely collected from low-wage workers, often in the absence of adequate literacy, data rights, and protection frameworks.

The aggregate impact of various forms of paradigmatic technological change - such as automation of manufacturing, algorithm-based management practices, and platform-based business models - on gendered gaps in hours worked, quality of work or earnings may not be easily classed as positive or negative. While automation may displace women from labour intensive manufacturing, other sectors such as e-commerce or online freelancing may create more opportunities for them. Historically, women's work has been more likely to be informal, precarious, contingent and unpaid and while new emerging forms of work such as platform-based work may improve the quantity of opportunities, the quality of work may not be high. Left unchecked, if technological change is allowed to erode the overall quality of work, impacting both men and women, the gender gap could narrow, but not towards better jobs.

4. RECOMMENDATIONS

The current wave of technological change, often referred to as Industry 4.0, has been in effect long enough to provide a glimpse into the many opportunities technology offers. But it also provides evidence of restructuring labour markets in ways that advantage formal over informal workers; women over men; and high skilled over less skilled workers. Without interventions to stem these unfolding trends, technology will deepen inequality. As it is, South and South East Asia are grappling with an uneven recovery in the wake of the pandemic.

Against this backdrop, policymakers must:

1. Move away from an unhelpful binary and provide a broader base with social protections

The definitional ambiguity and the breaking down of conventional modes of employer provided social security, social and labour protections call for a fundamentally new policy and regulatory approach that is fit for an economy where the nature of work is changing. The starting point for this is also moving away from strict formal informal binaries. Rather than segmenting benefits on labour status tied to informality or formality, policymakers must design viable models that iteratively expand the base of workers that receive social security, other social and labour protections.

2. Use technology and platforms to identify, aggregate, and through them, provide social security to workers.

As technology provides opportunities for digital entrepreneurship and other forms of contract-based work, this could increase the numbers of self-employed workers that are responsible for their own social protection. The conventional mode of social security provision where an employer provides these benefits to an employee, regulated by

the government, breaks down. This could raise the incidence of informal employment. On the other hand, if government were to use technology and platforms to identify, aggregate and provide social security to workers that would otherwise be disaggregated and potentially invisible, it could harness technology to advance worker welfare. This in-turn depends on having data on the employment trajectories of workers.

3. Data sharing agreements

Brokering data-sharing arrangements with technology companies and platforms can help ensure fairness and transparency in platform governance. Such data-sharing norms can also be enshrined in regional or national instruments; the "ASEAN Framework on Digital Data Governance" from the Master Plan in ASEAN Connectivity 2025 is one such initiative. Governments, simultaneously, must protect citizens' data against misuse and address any privacy concerns. Countries such as Vietnam and Indonesia use data sovereignty to protect citizen data against misuse, that is, they subject data collected by transnational digital platforms to the laws within the country it is collected (ASEAN, 2020). Data-sharing agreements should also ensure the appropriate use of data for policymaking, maintain consumer privacy, and protect or avoid major threats to fair competition in the private sector. An additional benefit of data-sharing between platform firms and governments is that the latter can act as a neutral repository for data from multiple platforms and engender better analysis of and recommendations for the platform labour market (Randolph et al., 2019).

4. Skills training

In a rapidly changing digital ecosystem, it is important that skills build on requisite education and are aligned to market demand. As changes accelerate even more, workers will need to regularly skill, reskill and upskill to adapt to the market and government-led skilling programs can help ensure equitable access to skill-building. For instance, Singapore recently

adopted recommendations that included helping self-employed persons (SEPs) develop their skills; here, platforms worked with tripartite partners and Government agencies to ensure that SEPs such as insurance agents, financial advisers, estate agents, media freelancers and tourist guides – in addition to regular employees – have access to technical skills training through Singapore's National Skills Frameworks. The development of non-technical skills training is also vital, to ensure that SEPs can run businesses (ASEAN, 2019). But while skill development is fruitful, it cannot replace high-quality education offered at primary, secondary and tertiary levels. Additionally, most skilling programs are public sector driven which means that supply-side measures that do not adequately align with employer or market demand. For skills training to be effective, the private sector must be an active participant providing regular input into the curriculum, instituting opportunities for training on the job or through internship and apprenticeship programs (ASEAN, 2019).

5. Address structural barriers to women's participation

To ensure meaningful participation of women in the economy, it is important to address two structural factors: reduce and redistribute the unpaid care burden, and address and reduce gender-based violence. While technology can enable progress, social problems in the offline world are often reproduced in the online world, potentially making the digital ecosystem unsafe for women. Women continue to experience harassment and threats to safety which, in turn, cause emotional and mental distress leading to self-censorship and declined online participation. Because virtual spaces may be unregulated by offline laws on harassment, there may be a greater potential for gendered violence. There is thus an urgent need to address legal lacunae around such issues so that women can leverage the benefits of technology and participate in the emerging ecosystem of digital work.

6. Establish effective redressal mechanisms

It is imperative that countries in the Global South also explore state-governed platforms and grievance redressal mechanisms for workers, especially those countries looking to enhance women's participation in the workforce (Randolph et al., 2021).

7. Make efforts to ensure that women have access to technology, relevant education and training.

For gender equality in the labour market, greater investments and efforts to equip young women with digital skills as well as skills for green jobs are critical to ensure that there are some niche opportunities for women to succeed. New pathways for young women to return to education can be combined with mentoring, coaching and other support.

Policies that target improving non-standard working arrangements, such as online crowd work or platform work, to make them good jobs will benefit everyone but especially women. Minimum wage policies or equal treatment laws can help precarious jobs become less so. Improving job quality from the bottom up, in this way, may address some of the gender-related issues in South and South East Asian labour markets.

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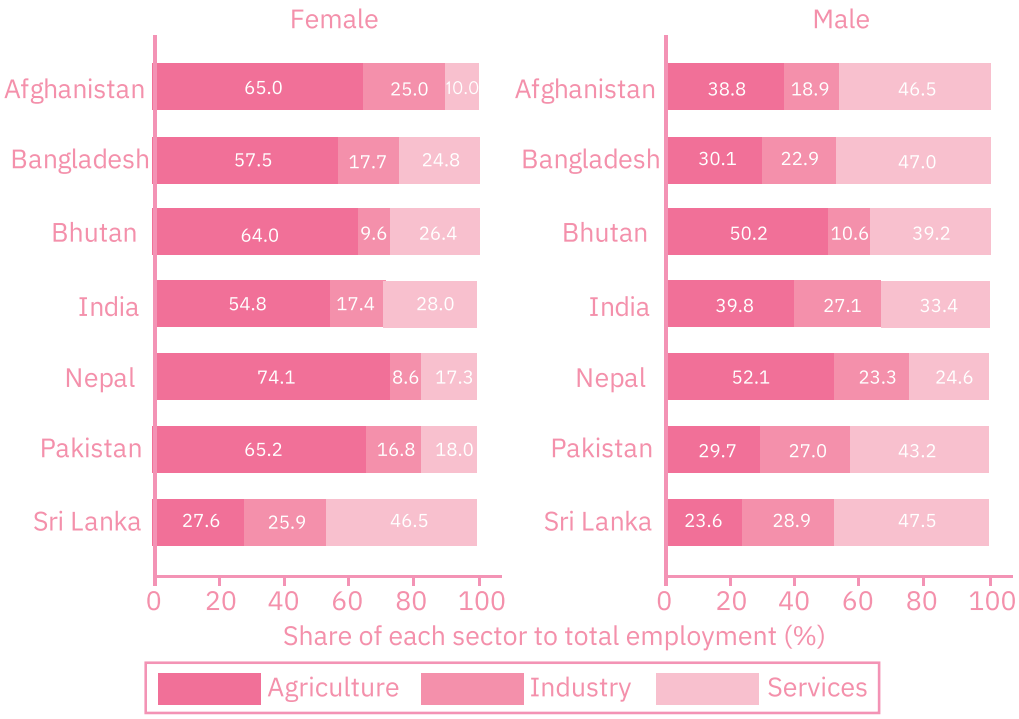
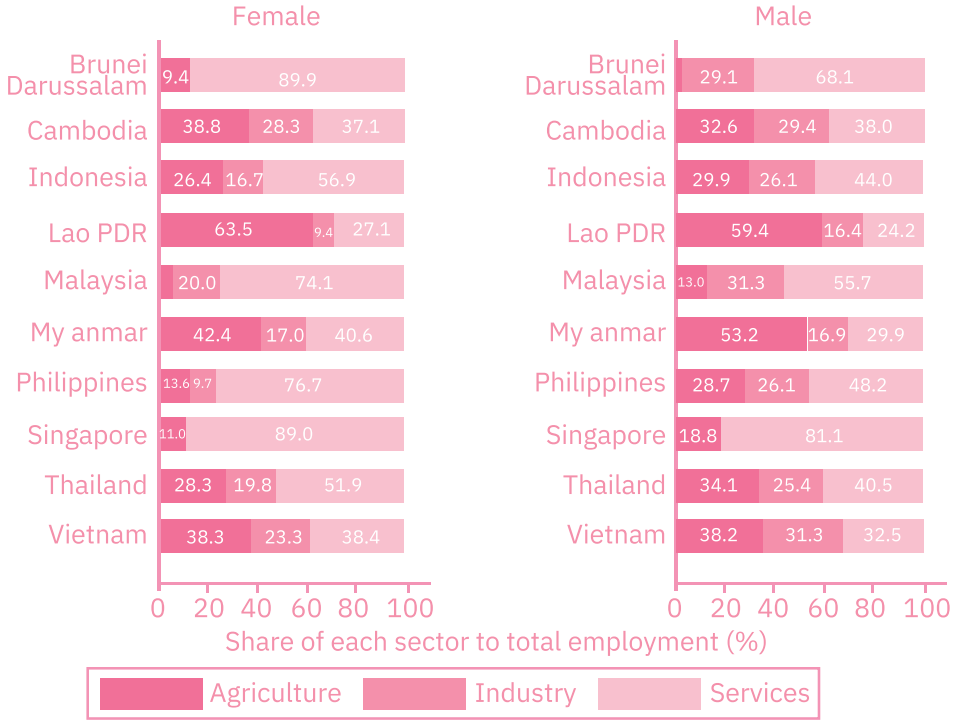
6. ANNEXURE

SHARE OF FEMALES AND MALES IN EACH SECTOR IN SOUTH AND SOUTH EAST ASIA (2019)





Source: World Development Report 2019, World Bank.

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8. 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.

7. 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.

JUSTJOBS NETWORK

JustJobs Network is a private, nonpartisan organization finding evidence-based solutions to one of the most pressing challenges of our time: How to create more and better jobs worldwide. We produce empirical research on good job creation, focusing our work on the critical knowledge gaps in the global employment landscape. JustJobs convenes a global network of diverse stakeholders—including policy shapers, academics, and grassroots leaders — to deepen

the practical implications of our research endeavors and amplify their impact. Through the combination of cutting-edge research and global knowledge sharing, we aim to forge a fresh, dynamic channel for policy dialogue on employment at national, regional and international.

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