Future of Business and Finance

Stefan Güldenberg
Ekkehard Ernst
Klaus North *Editors*

Managing Work in the Digital Economy

Challenges, Strategies and Practices for the Next Decade

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Future of Business and Finance

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“There seems a general rule that, the more obviously one’s work benefits other people, the less one is likely to be paid for it.”
In memory of David Graeber (12.2.1961, New York City – 2.9.2020, Venice)

Prologue

It is the year 2030; digital technologies are pervasive in complementing and augmenting human capabilities. However, despite earlier fears, humans have not been replaced with robots. For most people, work remains the key source to make a living. Not everybody has benefited from these changes to the same extent, though. Social and economic divisions run deep between "digital losers" and "digitally enabled value creators" and between those who have stable jobs and those who "clickwork" on a short-term contract basis (the "gig economy"). People with the right skills and competences can look for meaningful and fulfilling jobs. Self-employment has grown considerably along with changed contractual relations and new forms of learning.

In 2030, we live in a world that has changed: for some radically and for others so far barely noticeable. Changes coexist with old organizational and leadership practices. The COVID-19 crisis at the start of the 2020s accelerated several trends like increased digitalization, automation, e-commerce, and remote work. Most importantly, it triggered policy and sentiment shifts in the EU and elsewhere that had many societies questioning their work cultures. It also demonstrated which jobs are "systemically relevant" and which are not, starting a societal dialogue about how we value these jobs and how much we are willing to pay for them.

This social dialogue had already started much earlier in the aftermath of the global financial crisis of 2008. Despite a seeming acceleration in technological change, much heralded with the introduction of the smartphone, working conditions, livelihoods, and productivity did not improve much. What little productivity gains were observed were eaten up by "bullshit jobs", employment so completely pointless, unnecessary, or pernicious that even the employee cannot justify its existence.[1] Instead of enjoying our lives, benefiting from reduced working time through a 15-hour workweek or a 4-hour workday already called for by John Maynard Keynes in the 1930s, we continue to struggle in jobs that the more relevant to society they are, the less they pay. Instead, the superfluous nature of many of our jobs creates

[1] See Graeber, D. (2018) Bullshit Jobs: A Theory, Simon & Schuster, as well as the German documentary film *The Cleaners* released in 2018, which shows the character of these bullshit jobs specifically in the digital economy relentlessly open and very vivid.

psychological discontent and stress. Employees, as part of their conditions of employment, feel obliged to give sense and meaning to their occupation. The rise of these jobs is intimately linked to the specific nature of current technological change, which is focused on increasing interconnectivity and the need to manage and oversee ever more complex networks of people and transactions. Or to give a concrete example from the care industry: Rather than seeing more doctors and nurses, we observe a rapid increase in compliance officers, adding little value to patients' health.

In the process, we have lost the meaning of work: Work is not working any more for us. To claim back the future of work, therefore, we do not only need to address the economic and technological challenges that the digital transformation brings. We also have to consider the point that David Graeber and other Occupy Wall Street activists have made and face its cultural and societal challenges. When we think about the future of work, we should think about our lives and societies as work and life are much closely linked together than we might think. The average person will spend 90,000 hours of their life working. For some of us, it is even well over 100,000 hours, as the line between professional and private life and work has blurred.

Because work is so central to our lives, the future of work lies at the heart of a peaceful coexistence and a sustainable society. The way in which we shape the world of work rather than leaving it to itself makes a decisive contribution to our economic prosperity and social peace. Therefore, we should not only be observers of the digital transformation and technological development but actively intervene where we see undesirable consequences and where the world of work is too far removed from basic human needs. Work is such a profoundly basic human need, not only because it still secures the economic basis for our survival, but also because it contributes decisively to creating meaning for our lives. Our work is not only part of our life, but it is our life. So let's make work again: for us as human beings and our world as a whole.

How, then, can we confront the changes yet to come to our working lives? Will the digital transformation replace some of our jobs? Will we simply move on and create new ones, or will we take this opportunity and reinvent the meaning of our lives? If so, can we afford to do so? Even though we cannot possibly answer these questions yet, one thing is certain: Because work is so important for us and our lives, discussions about the future of work will intensify on all levels, political, organizational, and individual. By 2030, new solutions for managing work must have been found and tested in daily business, including answers for the following questions:

- What are the most pressing challenges of the digital transformation of work for employees, leadership, and organizations? Which new ways of value creation are emerging? And how do human beings interact with machines in 2030?
- What impact will these changes have on individual lives by 2030? In particular, how will the meaning of life and work change in 2030? And how do we learn in 2030?

- How does leadership change in 2030? What does human resource management look like in 2030? How have labour relations evolved? How have social partners and trade unions' actions evolved in 2030?
- Which recommendations and guidance can be given for managing one's work and the work of others in a digitalized, globalized, and turbulent world?

The purpose of our book is to answer these questions. Written as though we are in 2030, it offers different perspectives on what the world could look like a decade from today. It asks: How did we end up here? What could we have done differently? How could we have shaped things to accelerate change to improve outcomes for more people? This book offers a unique chance to understand and analyse the path that brought us to this juncture. It allows us to think ahead and work to reshape those trends that we do not want to define in the decade between 2020 and 2030. How could we have avoided certain challenges and dead ends? And how could we have sped up certain transformative processes to reap and share the benefits of change more broadly? Most importantly, how can we create a virtuous circle of shared prosperity that will leave us much better off by 2030?

Looking forward to the year 2030, this book collects insights from different scholars in the field on the world of work and provides well-founded insights and guidance to (self-)manage work in a globalized and digitalized economy. International researchers and practitioners who have contributed to this volume draw a picture of the type of jobs and work, their dynamics, and location that we are likely to experience in 10 years' time. Adopting the "persona" approach, the book also illustrates how these changes will impact on people. Many cases and examples make this work a compendium for learning and implementing new leadership and management practices.

This book assists entrepreneurs, managers, knowledge workers, human resource professionals, consultants, trainers, and coaches in business, public administration, and non-profit organizations to shape the future of work.

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We wish you inspiring reading and look forward to your feedback.

Vaduz, Liechtenstein — Stefan Güldenberg
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Spring 2021

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Part I

Life in 2030

The World in 2030: Looking Back Ten Years from Now

Sabina Dewan, Ekkehard Ernst, and Eric Gravel

1 From the News: "Global Leaders to Reach Agreement on a New Stakeholder Model"

After 10 years of intensive debate, the recently established Group of 40 adopted the Agenda 2040 in its meeting yesterday to promote a new, sustainable way of doing business. Bringing together governments from the richest 40 countries in the world, the G40 sets up several principles initially put forward by the 2019 Business Roundtable of the CEOs of major American companies who led the call for a shift to a stakeholder capitalism model.

A fundamental guiding principle behind Agenda 2040 is the use of legal innovations around blockchain technology that has become a business standard over the last 10 years in many areas. Whether in supply chain management, e-identity, or international payment systems, blockchain has become the industry norm. With Agenda 2040, governments hope to lay the ground for cross-system standards that help regulate existing contractual relationships while at the same time ensure that international legal norms, such as labour rights, are properly protected. The stakeholder business model enshrined in these guidelines adds several important elements that will strengthen business leaders' incentives to take a more holistic view of their companies and to integrate different interests into their strategic outlook.

Advanced economies among the G40 group hope that with these new principles, a more equitable sharing of gains from technological dividends, especially in the digital economy, can be achieved. Rewarding consumers for their data is expected to be strengthened by the Agenda 2040. Emerging countries, on the other hand, place their hope in stronger

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recognition of the wealth of natural capital they have to offer as well as more substantial incentives to improve working conditions, both of which are highly valued by the guiding principles that make up the Agenda 2040.

Governments in their final statement at the last G40 summit expressed hopes that this new Agenda 2040 will finally produce the shared prosperity for their countries that current technologies have promised for so long.

(From the Global Legal Chronicle, Cancun, 15 May 2030).

2 The Pendulum of Global Wealth Has Swung Back

A decade ago, the global balance of economic power seemed to shift away from advanced economies to emerging ones. Now in 2030, a decade after the COVID-19 pandemic swept the globe, advanced countries, spearheaded by the United States, have once again consolidated their position in the global economy. The health crisis wiped out the development gains that emerging and developing nations had slowly accumulated following a period of economic liberalization and globalization that had started in the late 1990s. Large emerging economies such as India, in particular, saw a significant set-back in their quest to improved living standards. Global income distribution had been dubbed the "global elephant" as a large middle class emerged in less well-off countries in the 2010s. With the changes that occured over the last ten years, however, income distribution started to resemble the traditional (inverted) income distribution pyramid again, underscoring the idea that the richer you are, the faster you grow (Milanovic 2020).

Yet, it was not so much that economic growth accelerated in the small number of OECD countries. Instead, emerging and developing countries saw their growth rates slow during the crisis, and they were unable to find their way back to precrisis levels. The pandemic erected barriers to growth that stymied a global convergence in living standards. Growth rates did not recover much in advanced economies either, and the impression of accelerating technological progress remained confined to sectors that benefited from investment in information and communication technologies.

From the vantage point of 2030, new technologies neither delivered on their promise to boost aggregate productivity significantly nor did they act as an equalizer. Over the last decade, technology continued to become an integral part of people's lives, but it did not lead to the massive restructuring that many had expected. Virtual meetings over smartphones or computers have become a standard way of communicating without replacing more traditional meetings and conferences. Tracing apps, from goods to people, have become routine, whether to know where your shipment is or whom you might have been in contact with. Indeed, the pandemic helped establish new standards and protocols that struck a balance between public policy and privacy concerns. Earlier fears of massive rates of unemployment due to technological advances did not materialize but neither did the wave of technological innovation bring substantial productivity gains. Instead, we have found new ways of keeping our workforce relevant, providing it with the necessary skills to use the latest tools and apps. This has helped to keep them in the labour market but did not deliver massive gains in income or living standards.

Some promising trends are emerging but have not yet developed their full potential. For instance, cryptocurrencies and their underlying technology, blockchain, have disrupted supply chain management over the past 10 years. The pandemic in 2020 also helped to promote this trend. Nevertheless, the potential of cryptocurrencies and blockchain to produce a better, more efficient allocation of scarce resources, thanks to digitally defined property rights, remains unrealized. The hype over the potential of artificial intelligence made way for disillusionment as gaps in regulatory governance and legal challenges prevented a more comprehensive adoption of potentially path-breaking technologies. The world in 2030 has turned out to have more gadgets with few gains.

This first chapter sets the stage against which these technological changes have been taking place and discusses some of the other concurrent megatrends. Many of these trends were already visible in 2020. Demographic shifts, accelerating climate change, and a (partial) retreat from globalization were already in the making when we entered the last decade. New challenges emerged as the decade unfolded, but most of them were grounded in these deep-running trends. Disenchantment after the hype over the potential of artificial intelligence arose quickly as new technologies faced significant technical shortcomings and regulatory barriers. And after two global crises, most states lacked the capacity to instigate new, innovative changes. Instead, in many countries, civil society organizations emerged, but their combined ability to act has not increased sufficiently by 2030 to substitute for what state institutions were not able to deliver. Let us explore the path that we have taken over the last 10 years and discuss what obstacles we have faced and how we overcame them. Let us also look at the challenges that we still need to confront. Let us look back at our journey to 2030.

3 Global Growth Has Slowed, Not Least due to Demographic Challenges

Global growth has slowed as major economies drew back from globalization and struggled with their ageing populations. As a result of these developments, the decade between 2020 and 2030 only saw a lacklustre expansion of production and incomes despite an initially rapid recovery from the pandemic-induced recession.

Investment remained flat, mostly owing to high uncertainty and depressed demand in the first half of the decade. Reduced consumption, especially in services, led to a decline in production, which induced further job losses. Firms that survived the COVID-19 crisis took the opportunity to automate their processes, making the recovery job-poor and doing little to stem the unemployment rates in developed countries and informal employment in developing ones.

From the United States to China, from Germany to Japan, most advanced economies, and some emerging ones, started to struggle with ageing populations (see Fig. 1). Most developed countries saw a rise in their silver economy as the rising number of older people expanded their demand for care services. On the other hand, the pandemic had brought significant disruption to other services, wiping out a large

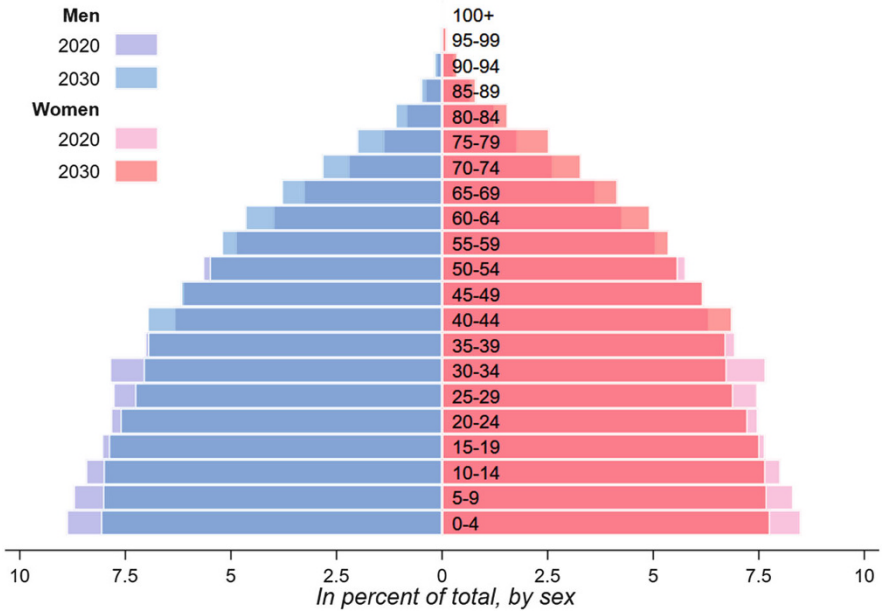

Fig. 1 Population pyramid—2020 vs 2030. Note: the chart compares the relative size of different age groups for men and women between 2020 and 2030. Age group shares are measured with respect to the total population size for men and women separately. Source: https://www.populationpyramid.net/world/

part of job-intensive activities. Moreover, rising dependency ratios continued to strain welfare systems and fiscal budgets as more pensioners demanded health care at the same time as fewer earners paid into the system, further depressing economic growth.

The faltering demographics in these countries did not only affect the growth and composition of consumption. It also had a direct impact on the provision of essential services. As more of the workforce retired, shortages of labour reappeared over the past decade. This shortage is more pronounced in sectors like health care that are seeing growing demand. As the labour force participation rate declined, the burden of performing existing work fell to fewer people intensifying questions about a work-life balance and quality of life. As a consequence, women's labour force participation rates started to decline again over the past decade as the burden of taking care of elderly relatives fell disproportionally on them.

These labour market shortages were not compensated by a fast-growing youth population in developing economies over the 2020s. The rising population in countries such as Nigeria and India has been straining infrastructure and public services—from utilities to health care and the provision of quality education and skills training—preventing these countries from reaping the full benefit of their demographic dividend. In addition, the pandemic caused significant collateral damage to international migration, preventing labour supply from evolving more in sync

across countries and continents. Overall, even though demographic development in low- and low middle-income countries has been more dynamic than that of advanced economies, it has not provided sufficient stimulus for global growth, having had little impact on the world economy.

The reallocation of jobs across industries and occupations, accelerated by the pandemic, constituted a further drag on economic growth. High value-added services in tourism and transportation have since been replaced by more local, domestic consumption. Protectionism, already a concern before the outbreak of the pandemic, has become more fervent. Global supply chains have become more fragmented and complex as firms attempted to limit their exposure to a single supplier. This trend has, however, reduced efficiency gains from international trade and specialization. Activities that were hitherto offshored to emerging and developing countries in an attempt to save on labour costs have now been brought back, thanks to flexible automation, to protect against disruption in supply chains. Such reshoring, although limited in size, has prevented emerging countries from further technological and capital transfer, which is much needed for their continued development. Even though most economies have since returned to a more stable growth path, productivity gains remained meagre, and global living standards in 2030 barely exceed those of a decade ago.

One important consequence of the continued low growth over the last decade was a further increase in inequality. The labour income share, measuring the sum of all wages and earnings distributed in an economy as a share of national production, continued its downward trend in most major economies as labour markets struggled to recover from the severe hit they took in 2020. Personal income distribution also became increasingly skewed, with a few billionaires reaping large gains from their investment in selected, fast-growing industries, especially around digital technologies.

4 Job Market Challenges Prevail. . . Amidst Some Green Sprouts

The pandemic undid most of the meagre gains in jobs and earnings that had been hard-won prior to 2020. Since then, several forces that accelerated the destruction and reallocation of jobs continue to weigh on a full labour market recovery, not least the fallout from the pandemic, automation, and climate change. A key barrier to a successful transition is the lack of sufficient public resources to address and accompany these shifts.

With slow growth and strained fiscal budgets, governments across the world have struggled to provide their populations with sufficient public services necessary to assist them in their labour market transitions, a trend already visible before the crisis (Alvaredo et al. 2018). Workers who lost their jobs due to accelerating automation in the aftermath of the pandemic could not rely on sufficient support to transit to new occupations through education and reskilling programmes. The transition to clean energy sources or simply anaemic growth further limited their success in finding

alternative job opportunities. Certain occupations were particularly hard hit, as were people who lacked the right competencies to shift out of their previous job profiles. In particular, many medium-skilled occupations proved to be dead-ends, out of which a career switch proved exceedingly difficult (Del Rio-Chanona et al. 2020).

Skills gaps widened further as young people struggled to enter or complete education, partly as a consequence of school closures during the pandemic. Even after the immediate health crisis had been overcome, governments struggled to provide education and skills to the growing number of job seekers. Private sector initiatives that promised to fill the gap mostly targeted the lucrative high-skilled workers transiting between jobs. This exacerbated the mismatch between the requirements of existing jobs and the labour supply, even as the economy struggles to generate enough employment for the growing cohort of labour market drop-outs. In developed nations, a shortage of labour resulting from an ageing population was compounded by insufficient reskilling and upskilling of prime-age workers despite increasing attempts to find innovative solutions for lifelong learning. In developing countries and despite their growing populations, insufficient investment in education and training continued to exacerbate a lack of skilled personnel to supply talent for higher value-added sectors. In addition, these countries faced severe brain drains as "qualified migrant programmes" invited skilled and credentialed workers from developing countries into developed ones, thereby causing the most skilled workers to leave. The compensatory income flows through remittances is an essential source of income for many families in these countries but provide little to support long-term economic prosperity as they are mostly spent on consumption rather than on building assets (Chami et al. 2018).

Climate change caused additional strain on labour markets, especially in many developing countries, where a large percentage of the population still relies on agriculture for employment. Rising surface temperatures meant worsening working conditions, especially for all those who are working outdoors, such as construction, mining, or agricultural workers. The resulting heat stress was particularly severe for workers in countries that could provide little infrastructure to protect against the rise in temperatures (Kjellestorm et al. 2019). Possibilities for workers to move to milder climates were often prevented due to tightening migration laws despite obvious mutual benefits.

The costs of insufficient job creation, however, were shared unequally across different labour market groups. Besides young people, women faced a particularly challenging jobs decade. Partly as a result of the shock brought about by the pandemic, barriers to entry for women to the labour market went up again. The restructuring of global supply chains meant less demand for (female) employment in apparel and footwear in many developing and emerging economies. Moreover, even though the awareness for women's rights continued to grow over the 2020s, gender norms and biases continue to relegate women into low-level jobs in many parts of the world. As working conditions deteriorated further during the crisis at the beginning of the decade, for many women, the trade-off of working in inferior conditions was no longer worth it, and they decided to drop out of the workforce instead. In addition, those developing countries that saw an increase in their per capita incomes

experienced a particularly sharp decline in the rates of female participation in the labour force. Rising incomes allowed second-income earners (mainly women) to leave the labour market and allowed young women, in particular, to stay longer in education. Other culprits include migration and the nuclearization of families where there are fewer women in the household to contribute to domestic work.

Green sprouts started to appear at the end of the decade. Despite the skills gaps and mismatch, education levels did continue to rise across the board; however, this was simply not fast enough. This increase in education levels has benefited mainly (young) women. In advanced economies, the share of highly educated women has caught up to or even exceeded that of men, and gender pay gaps gradually declined but have not yet disappeared. Educational gaps between men and women continue to be larger in emerging and developing countries but are closing there as well, especially among those countries with ambitions to catch up to advanced economies. Even in countries and regions where traditional role models continue to be prevalent, the rising educational achievement of women has strengthened their role in the labour market. This is exemplified by Saudi Arabia that managed to implement major milestones of its Saudi Vision 2030 enacted back in 2016.

5 The Nation-State Returned to the Commanding Heights... Exhausted

The previous decade had started with a novel experience: Concerns about the state of the economy were demoted in favour of public health considerations. More importantly, policymakers had been swift in recognizing the extraordinary challenge the situation represented to maintain existing lifestyles and provide substantial lifelines. This included not only major state guarantees to businesses and monetary and fiscal support measures but also considerations to bring back large parts of the economy under the protection of the (national) state, essentially reverting three decades of neoliberal state disengagement of the economy. In other words, we were observing a return of the state to the commanding heights of the economy, last experienced in the aftermath of the war economy of the 1950s.[1]

But this return of the state came at a price. Two major socioeconomic crises in less than 15 years left many advanced economies exhausted. Economic resources that were meant to improve infrastructure, education, and health care were diverted to keep the economy afloat. The funds were used to provide minimum income security to those most in need and to pay back the large amounts of debt that had to be piled up to address the previous crises. The situation looked even worse in emerging economies where lack of capacity to respond led to a much deeper crisis, with little room to recover quickly. Ten years after the crisis, most of the countries in the Global South have still not made up for the loss in livelihood and jobs that they

[1] https://www.pbs.org/wgbh/commandingheights/hi/story/index.html

had lost during the global pandemic. And many only survived, thanks to the support from the international community through debt restructuring and donor aid.

Piling up debt to respond to the crisis was not a free lunch. Indeed, much debate during the previous decade focused on the merit of paying back this debt or trying to grow out of it. As growth did not pick up and inflation did not accelerate, it became increasingly clear that only a conservative management of public finance and hence a continuous reduction in public debt through fiscal savings would allow countries to have sufficient ammunition to address another economic slowdown in the future. Resilience, thus understood, became the mantra of the decade and created a further drag on economic growth. More importantly, choices made on how to repay the debt caused significant spending constraints. Only infrastructure, education, and non-essential health care or innovation spending could be easily cut back but with adverse consequences for growth and productivity potential that would usually have been boosted by such public investment.

The pandemic also accelerated the debate on the right institutional model and on institutional innovation that opened new avenues, albeit often in diverging directions. The return of the state had offered openings for a neo-authoritarian approach. Initial experiences in China, South Korea, and Israel had seemed to suggest that a strict, centralized approach to disease management, together with the detailed tracking of large proportions of the population, offered an efficient way of limiting the outbreak and further spread of the virus. As the crisis unfolded, however, decentralized and democratic approaches demonstrated their strength in finding tailor-made, country-, region-, or even city-specific answers to both the health and the socioeconomic crisis. Both models showing merit in different phases of the crisis, the world came up even more polarized regarding their institutional set-up: Democracy vs command control is no longer only a philosophical question but shapes geopolitics and our multilateral system and depended largely on the conditions found prior to the pandemic.

Another institutional innovation that was born out of the crisis and that has started to develop into a new, powerful instrument of the state is sovereign wealth funds that were set up out of necessity to deal with the crisis. Indeed, one of the key challenges at the beginning of the crisis was to ensure that economic supply would not collapse. Many small- and medium-sized enterprises but also big companies in transportation or tourism would not have survived without the helping hand of the state. To avoid overburdening these companies with debt, many countries resolved to setting up funds similar to the German Stabilization Fund that took equity stakes in companies in exchange for support. As these funds matured and economies recovered, their managing boards decided to enlarge the portfolio of companies in which they invested, mostly to direct their investments towards digital companies, benefiting from the extraordinary capital gains and returns these companies offered. As we enter the fourth decade of the century, these sovereign wealth funds have become an essential tool both for macroeconomic stabilization management and for regulating the microeconomy, notably in digital services.

6 Major Challenges Have Remained Without an Answer

Despite the return of the strong state, whether in its authoritarian or democratic form, major global challenges have remained largely unaddressed. Climate change, ramping urbanization, and the adverse consequences from ever-increasing digitalization have yet to be resolved. Working poverty, informal work, and poor working conditions continue to be widespread and have even increased in many parts of the world. To a large extent, the challenges to the multilateral system that the global polarization over the last 10 years has created prevented political energy being directed towards these challenges.

Take climate change, for example.

The greater incidence of natural disasters, changing weather patterns, and fluctuations in temperature are not one-off events, but unmistakably the effects of intensifying climate change. Restrictions following the pandemic that struck the world in 2020 led to a sharp decline in economic activity, trade, air, and other forms of travel. This made a significant dent in carbon emissions, but as the crisis subsided, these activities resumed. The pandemic reinforced the belief that coordinated action across countries, to counter global challenges such as pandemics and climate change, is both possible and necessary.

Nevertheless, attention to climate change remains fickle at best and varies across countries depending heavily on the nation's respective level of development. In developed economies, public awareness has fuelled a decline in consumption-based emissions, but the outsourcing of emission-intensive production to developing and emerging economies offsets these gains (Jiborn et al. 2020). Production and growing populations in developing countries demand more energy. In many of these countries, renewables such as solar and biofuel expanded, but dirty coal continues to be a key source of energy. Managing the transition from carbon-based fuels to clean fuels, particularly in terms of the associated employment shifts, has proved to be challenging in both the developed and developing worlds.

The consequences of this slow transition towards a low carbon emission economy are increasingly visible. Over the last decade, climate change has increasingly disrupted economic activity. It has had an adverse impact on infrastructure and logistics, upsetting tight production and delivery schedules in value chains. This, in turn, prompted a quest for flexibility on the part of suppliers to be able to adjust their workforces and inventories to climate shocks.

From rising sea levels and floods to draughts, fluctuations in climate are also making agriculture untenable. Water, in particular, has become a scarce and precious commodity, even more than in the past. Animal husbandry has become more challenging as feed and water for animals are limited. In the developing world, this has had an adverse impact on the economic participation of women as they tend to be the caregivers for animals. Against this backdrop, more people are in search of nonagricultural livelihoods, mostly in urban areas, adding to labour market challenges there.

In response, policymakers have placed greater emphasis on cultivating nonagricultural rural livelihoods in recent years. One way is to capture more of the

processing end of the value chain rather than focusing on cultivation. This effort to spur economic activity outside land-strapped metro areas is also accelerating urbanization in an attempt to limit land flight by transforming rural areas to become more urban (Mukhopadhyay et al. 2020). Nevertheless, with agriculture becoming more challenging, the search for different livelihood options continues to fuel migration into urban and peri-urban geographies, intensifying urban sprawl. The two trends together, morphing places and migration-induced urban sprawl, mean that urbanization has proceeded at breakneck speed, albeit without creating jobs at the same pace.

Technological shifts also impacted working conditions.

At the start of the last decade, many had hoped that the digital revolution would facilitate structural transformation and bring substantial improvements in aggregate economic productivity by moving employees into high-skilled, well-paying occupations. Yet, digital tools did not bring the expected productivity gains. First, shortfalls in complementary public infrastructure investments in (city) transportation, communication, and waste management stymied the scaling up of private sector development, especially but not exclusively in emerging economies as demonstrated by ongoing infrastructure shortcomings in Germany, Italy, or the United States. Second, machine learning applications that focused on improving productivity in routine and repetitive tasks saw gains quickly eroded by an increasing amount of red tape and compliance-related activities. Third, over the course of the last decade, digital-only innovation ran into sustainability concerns as the energy hunger of digital devices quickly outstripped the available energy from renewable sources.

Automation helped manufacturers by offering higher rates and volumes of production. At the same time, it also disrupted the developing world's traditional advantage in labour-intensive manufacturing. A few developing countries are still trying to fend off automation in manufacturing by exerting downward pressure on wages and working conditions, but this also bears an adverse impact on aggregate demand. Moreover, trade protectionism, compounded by the lasting effects of the trade shocks emanating from the global pandemic in 2020, has made it impossible for other parts of the world to emulate the success of the Asian export-led growth model. Notably, countries in sub-Saharan Africa, already excluded from many processed goods industries at the beginning of the decade, have continued to face challenges in moving up the economic value chain.

In the absence of the conventional trajectory of leveraging labour-intensive production for economic growth, some nations tried to cultivate a technology-enabled knowledge economy focused on the tradable service sector to yield new jobs, for instance, in business process outsourcing, that are offshored from the Global North (Galperin and Greppi 2019). However, the lack of sufficient investment in building human capital to support the growth of the knowledge economy prevented many developing countries from benefiting from such jobs. Instead, location-based services in the gig economy have seen much faster growth in the developing world than the knowledge economy.

Meanwhile, the developed world has also seen growth in location-based service provision in the gig economy. It also dominated high-end trade in sophisticated knowledge products that demanded a high degree of innovation, education, and