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Cover photo: Tens of thousands of mobility restrictions related to COVID-19 brought cross-border travel to a standstill. © IOM 2022

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A POST-PANDEMIC REBOUND? MIGRATION AND MOBILITY GLOBALLY AFTER COVID-19¹

Introduction

The impact of COVID-19 on human populations cannot be overstated. The pandemic caused 12 per cent of worldwide deaths in 2020/2021.² In Western Europe, the 2020 mortality increase was the highest since the Second World War, and in Eastern Europe it was the highest since the break-up of the Soviet Union.³ COVID-19 vaccines were able to prevent approximately 19.8 million excess deaths.⁴ But this did not prevent COVID-19 from altering overall life expectancy in many countries: life expectancy at birth declined for males in the United States of America by 2.2 years, in Lithuania by 1.7 years, and comparable declines were recorded in 11 countries for males and 8 countries for females.⁵ Even though the worst of the pandemic is over in most places, successive waves of new variants continue to disrupt everyday life (see Figure 1 and Appendix A).

This chapter focuses on the transformative effects of the COVID-19 pandemic on global migration and mobility, providing an update to the chapter on COVID-19 in the previous World Migration Report.⁶ The chapter asks: How have travel and movement restrictions changed since the last report? How have migration and mobility patterns evolved across the same period? What are the most important long-term implications of these trends? The chapter reveals that human migration and mobility have rebounded considerably since the nadir of the pandemic in mid-2020, but remain below 2019 levels for most of the world. This prolonged reduction, together with increased variation in overall levels of human migration and mobility during the COVID-19 pandemic, has had a transformative impact.

¹ Alan Gamlen, Professor, The Australian National University; Marie McAuliffe, Head, Migration Research and Publications Division, IOM; S. Irudaya Rajan, Chairperson, International Institute of Migration and Development.

² IISD, 2022. In addition, during 2020/2021, around 15 million excess deaths were reported across the world (ibid.). An estimate produced via a machine-learning model for 223 countries and regions showed that the excess deaths is two to four times higher than the reported number of confirmed deaths due to COVID-19 (*The Economist*, n.d.).

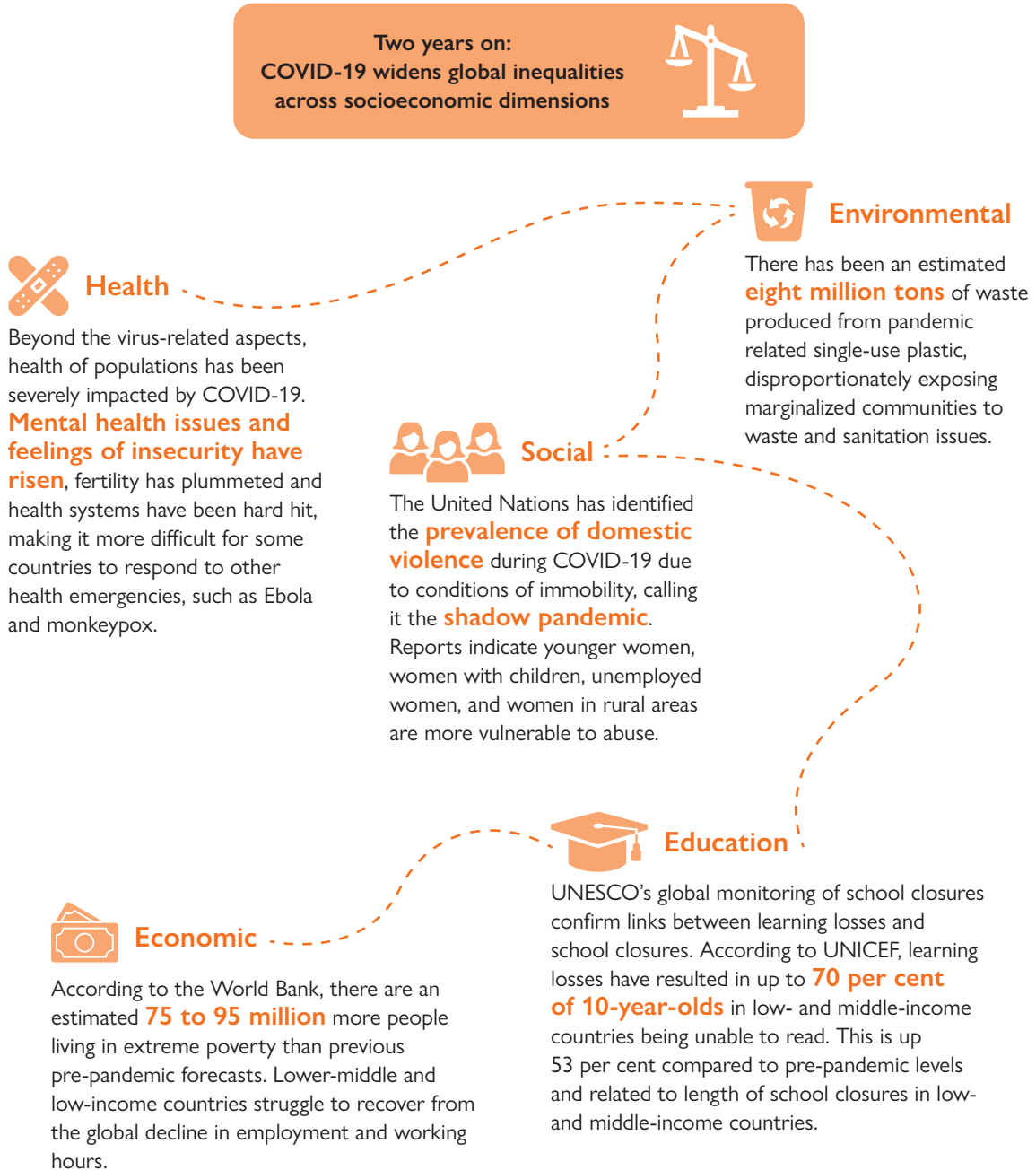
³ Aburto et al., 2022.

⁴ Watson et al., 2022.

⁵ Aburto et al., 2022.

⁶ See McAuliffe et al., 2021a, which analysed the first 12 months of the COVID-19 pandemic.

Figure 1. Examples of the broad impacts of COVID-19

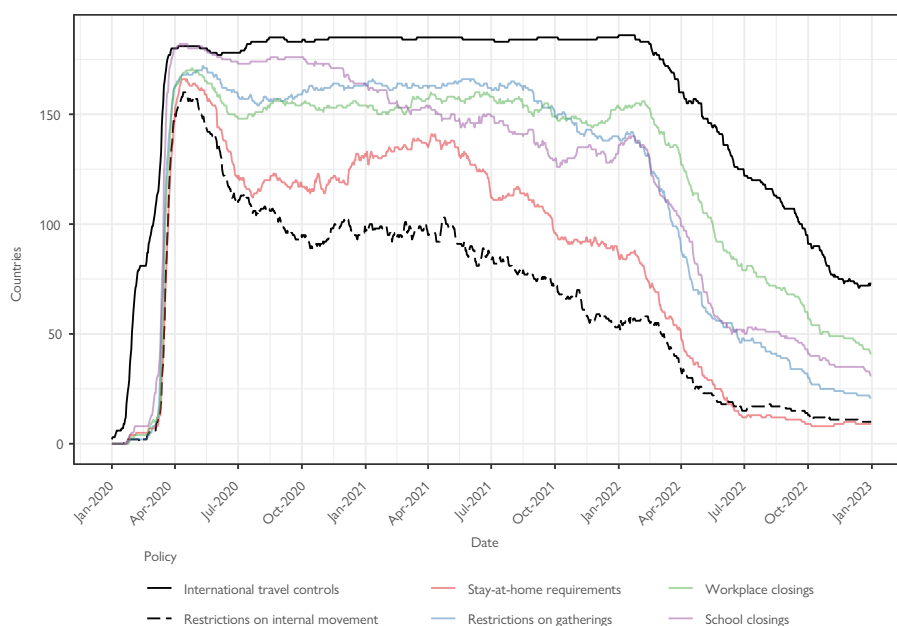


Source: See Appendix A for details.

A labyrinth of travel restrictions

One of the earliest and most important responses to COVID-19 by States has been the imposition of travel restrictions, both internal and international. International travel restrictions were implemented particularly quickly and extensively, and they have persisted well beyond the acute phase of the pandemic in many places: far more so than other COVID-19 restrictions (Figure 2).⁷ On 1 January 2020 almost no States had international travel controls, but by 1 April almost all States had them. This level of border closure persisted for almost three years, until January 2023. By comparison, other pandemic control measures – including internal mobility restrictions, school and workplace closures, stay home orders and restrictions on gatherings – have been both less widespread and less durable than international travel restrictions.

Figure 2. Government responses to minimize COVID-19 transmission, by number of countries, January 2020 to January 2023



Source: Hale et al., 2023.

Note: As at 1 January 2023. The term “international travel controls” is used by Oxford, and includes screening arrivals, quarantining arrivals, banning arrivals or total border closure. It is also important to note that categories are COVID-19-related only and do not reflect other travel restrictions that may have already been in place, such as those related to visa restrictions, entry bans based on specific citizens, and departure or exit restrictions.

⁷ The Oxford Government Response Tracker documented policies from January 2020 through to the end of December 2022.

At the regional level, there have been significant differences in COVID-19 response measures, particularly travel restrictions (see Appendix B). Over a sustained period, Asia maintained the highest rates of all types of restriction throughout the first two years of the pandemic, whereas Africa experienced gradual declines in all types except international travel restrictions. The patterns in Europe differ markedly from elsewhere, with easing of international and internal travel restrictions during the summer holidays in mid-2020 and mid-2021, and a sharp drop in all restrictions from May 2022. But the wider story is consistent across world regions: more than three years after the onset of the COVID-19 pandemic, there are many more COVID-19-related restrictions on mobility than existed in December 2019, and in some world regions, international travel is still tightly controlled. For example, on 1 January 2023 over 30 African States maintained international travel controls that did not exist prior to the pandemic.

The imposition of international travel restrictions early in the acute phase of the pandemic underscored how migration has been increasingly “securitized” by States, sometimes at the expense of human rights and proportionality of responses to national emergencies.⁸ Some analysts anticipated that States might use the pandemic to undermine human rights through the imposition and continuation of extraordinary measures well beyond the COVID-19 public health emergency:

[A] state of emergency can sometimes be used as a pretext for abuses, such as arbitrary detention, censorship, or other authoritarian measures. ... There are increasing concerns that some governments might capitalize on emergency powers to undermine democratic principles, eliminate dissent, and violate the principles on necessity and proportionality. Most problematic are expansions of executive powers and repressive measures, which might continue after the national emergency in the respective countries.⁹

The current situation bears out such fears. Over two and a half years after the global pandemic was declared, and more than 20 months after the first vaccines were rolled out, several countries still imposed significant international travel and movement restrictions, despite substantially reduced public health risks. So-called “zero-covid” policies continued in some locations, with commentators pointing to population control measures being given priority over economic and social recovery.¹⁰

⁸ Chetail, 2020; McAuliffe, 2020; Ponta, 2020.

⁹ Ponta, 2020.

¹⁰ Syailendrawati et al., 2022; Lu, 2022.

Stranded migrants during the COVID-19 crisis

The impacts on migrants who had become stranded due to travel restrictions and were unable to return home or move elsewhere were profound for some groups, particularly those who were already in exploitative or otherwise vulnerable situations prior to COVID-19. By mid-July 2020, an estimated 2.75 million international migrants had become stranded globally, with the highest numbers stranded in the Middle East and North Africa region (and Gulf countries especially).¹¹

Immediate impacts involved loss of employment due to COVID-19 lockdowns and other measures (including in countries without adequate social protection systems), falling into irregular status and facing detention or deportation, major health-related impacts such as the increased risk of COVID-19 infection and illness, and major family-related disruptions. In many cases, the effects of these impacts were discernibly gendered due, for example, to underlying structural differences in labour markets and gender power differentials connected to temporal and geographic aspects. For instance, domestic migrant workers were particularly hard hit during the pandemic, the majority of whom continue to be female (and who have been migrating along specific corridors for decades).¹² See the migrant's voice text box below for a female domestic worker's experience of becoming stranded during COVID-19.

One of the more dominant and recurring findings of migration research globally relates to the significant differences experienced by migrants of different genders in terms of the overall burden of care, with consequent mental and physical health impacts.¹³ While there has been little in the way of focus on stranded migrants as a distinct cohort, the added pressure of being stranded – and often without support – heralded some gender-based responses from women's groups in different locations around the world. In India, for example, self-inspired responses of women's groups included voluntary community kitchens that provided free meals to stranded migrants, some of which continued for almost five months.¹⁴

Indirect but nevertheless profound gender-related impacts on safety and well-being connected to COVID-19 measures are likely to be felt for generations to come. In some Indian municipalities, for example, child-protection authorities reported that COVID-19 resulted in an increase in (girl) child marriages due to disrupted education, household economic shocks, increasing reliance on marriage payments, disruptions to local government services and programmes and increased guardian-related deaths due to COVID-19.¹⁵

¹¹ IOM, 2020.

¹² See, for example, ADB and UN Women, 2022; Almasri, 2022; Power, 2020.

¹³ ADB and UN Women, 2022.

¹⁴ Kolet et al., 2021.

¹⁵ Thangaperumal et al., 2022.

Migrant's voice: Trapped during COVID-19

Htoo Gay War quit her job as a domestic worker in January [2020] because her employer refused to allow her to take one day off each week – just before Thailand reported its first case of the novel coronavirus pandemic. Three months later, the pregnant 30-year-old from Myanmar has been unable to find a new job as Thailand has declared a state of emergency, shutting malls, schools and bars to curb the spread of the virus, which has infected some 3,000 people.

“I want to go home to be with my parents, because at least they can take care of me while I’m out of work and don’t have any money”, she said from the central province of Pathum Thani.

“But I can’t go back now that the borders are closed”, she said, adding that her family are scraping by on her husband’s salary of 8,000 baht (\$247) per month.

Thailand has about 2.8 million registered migrant workers mainly from Myanmar, Cambodia and Laos, government figures show. But the United Nations estimates that 2 million more work informally across the country.

At least half a million migrant workers in Thailand have been left unemployed as a result of the coronavirus crisis, estimates the Migrant Working Group, a network of non-governmental organisations promoting migrant rights.

Source: Abridged extract from Wongsamuth, 2020.

A rebound in movements

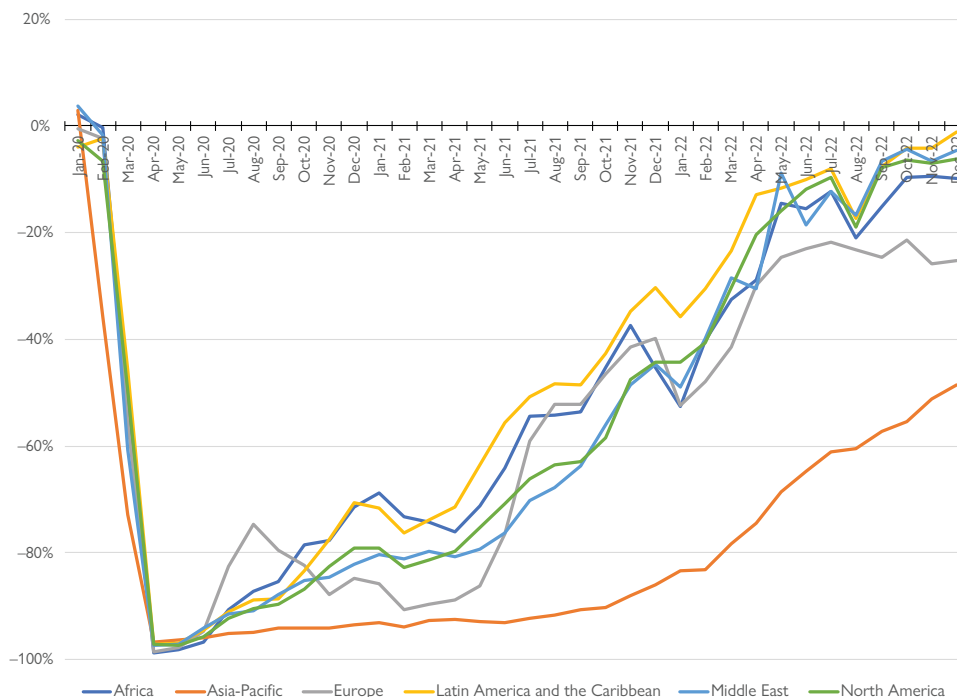
The restrictions discussed above caused major disruptions to all forms of human mobility, from air travel within and between countries, to local community visits to workplaces and stores. All these forms of mobility have rebounded considerably, but at very different rates for different countries and for different forms of mobility. By December 2022, all forms of air travel had recovered significantly but remained well below 2019 levels.¹⁶ International passenger numbers were still between 1 and 49 per cent lower than before the pandemic, while domestic passenger numbers sat 9 to 42 per cent lower in all world regions except North America, where they were 6 per cent higher than in 2019. Local community mobility – consisting of visits to transit stations, workplaces, pharmacies, grocery stores, and places of retail and recreation – has rebounded more vigorously than air travel, but there are striking differences among countries. In general, less developed countries have experienced a much more rapid resurgence of community mobility, while the recovery of community mobility in more developed countries has been more muted.

¹⁶ ICAO, 2022. Where relevant, reference to geographic regions used by ICAO has been included in the discussion. See notes under Figures 4 and 5.

Air travel

Air passenger numbers have risen rapidly since early 2020 when lockdowns brought the world to a halt, but many airlines remained decimated even in late 2022. International air-travel passenger numbers were still below 2019 levels in all world regions. In Africa, they were still down by 10 per cent and in Europe by 25 per cent. One reason is that would-be travellers and migrants still face more complex and riskier regulatory environments than they did in 2019, involving long visa backlogs, the possibility of sudden border closures, reduced airline capacity, and sky-high prices. It often makes the most sense to delay travel plans. In Asia and the Pacific, these factors are compounded by the large distance between international borders in a region characterized by large national territories and widely dispersed archipelagos. In this world region, the number of international air passengers is still 49 per cent lower than in 2019, far lower than in any other world region.

Figure 3. International air travel passengers compared to 2019, by region



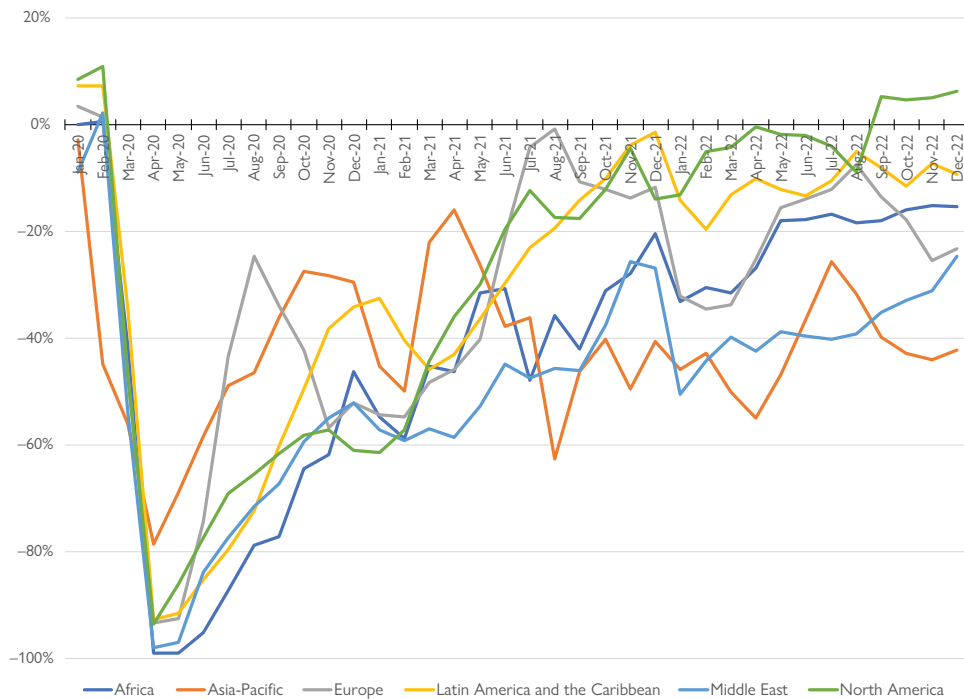
Source: ICAO, 2022.¹⁷

Note: The figure reflects ICAO geographic regions and does not imply official endorsement or acceptance by IOM. Please refer to ICAO (2022) for more information.

¹⁷ ICAO, 2022: "Regional breakdown follows ICAO's six (6) statistical regions (Doc 9060). The same key impact indicators are presented under four (4) paths of two (2) scenarios, in comparison to: Baseline scenario, 2019 level and 2020/2021 level by international and domestic, as well as month, quarter and year. To avoid double counting: Number of 'international' passengers departing from each country and territory are aggregated in each region; Gross passenger operating revenues of all airlines serving 'international' routes from each country and territory are aggregated at regional level." ICAO, 2022:45: "2022 figures and estimates herein reflect the latest operational data and schedules filed by airlines but are subject to substantial changes, and will be updated with the situation evolving and more information available."

The recovery of domestic air travel passenger numbers is more geographically uneven. In some cases, international movement has been replaced by internal mobility. Domestic passenger numbers have rebounded to 6 per cent above 2019 levels in North America, but they remain well below pre-pandemic levels in Latin America and the Caribbean (down 9%), Africa (down 15%), and Europe (down 23%). They are a full quarter below 2019 levels in the Middle East, where complex political and security challenges deter people from moving between cities and regions within several major countries. Domestic passenger numbers are still 42 per cent below 2019 levels in Asia and the Pacific, where domestic travel often involves moving between distant, isolated islands or cities.

Figure 4. Domestic air travel passenger numbers compared to 2019, by region



Source: ICAO, 2022.

Note: The figure reflects ICAO geographic regions and does not imply official endorsement or acceptance by IOM. Please refer to ICAO (2022) for more information.

It is important to note that in some parts of the world, land and sea travel for domestic and international mobility can be more significant than air travel. While, unlike air travel, there are no global data available on this transportation sector for comparative purposes, studies show that livelihood strategies were deeply affected by COVID-19 immobility. The text box below, for example, highlights key findings and responses to the impact of COVID-19 on cross-border traders in East Africa.

The impacts of COVID-19 on cross-border trade in the East African Community

Women SMEs [small medium enterprises] constitute about 74% of the traders. The estimation of the trade value in some Partner States is approximately US\$ 145.4 million in Rwanda and US\$ 606.6 million in Uganda. Cross-border trade is also estimated to account for the livelihood of about 60% of EAC residents hence its significance. Due to the COVID-19 pandemic, there has been increased restrictions on the movement of goods and people across borders threatening the livelihoods of traders & their families, and reduced revenue for the Partner States.

...

... Cross-border trade provides an important source of income for cross-border communities, and vulnerable groups, including women and smallholder farmers. Many of these communities live subsistence existences and require weekly trade across the border to purchase essentials to survive. The majority of informal cross-border trade consists of perishable agricultural products such as tomatoes, peppers, cassava, fish, and eggs. Traders receive very short notice – a couple of days in most cases – to prepare for border closures. The result is spoiled stock and hefty losses for traders.

...

Strengthening of Joint Border Communities with regards to procedures for ease of movement of persons, goods, and service between borders ... will help to ensure that livelihoods amongst the local communities is not disrupted. ... The EAC Region must cooperate to coordinate and harmonize COVID-19 border requirements and regulations to reduce delays, while not undermining the safety of trade. A Regional response plan plays a crucial role in coordinating the responses to the pandemic of the Partner States. It facilitates free and timely flow of cross-border trade. ... Financial institutions should lower conditions for accessing finances by women. ... Government should provide a government COVID-19 recovery fund and programs that are targeting specifically women cross border traders. This will help to boost finances for women whose businesses have been affected by the outbreak of COVID-19.

Source: Abridged extract from EALA, 2021.

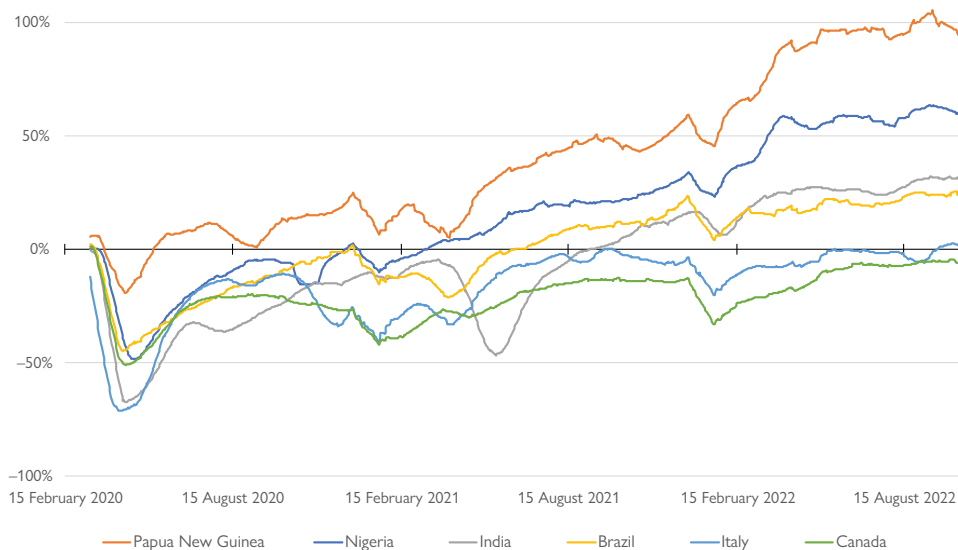
Community mobility

In early 2020, most human beings were forced to stop all forms of mobility, including “community mobility” consisting of visits to transit stations, workplaces, grocery and pharmacy stores, and places of retail and recreation.¹⁸ Community mobility has since rebounded at different rates in different places. In general, by December 2022, it was clear that less developed countries were rebounding faster than more developed ones, which is the opposite of what intuition might suggest.

¹⁸ Using Google data on these categories of visits, we analysed community mobility trends for six major countries, one from each United Nations Region, ranked here by Human Development Index Score (HDI). Nigeria: Africa, population 211 million, HDI 0.535. Papua New Guinea (PNG): Oceania, population 9.8 million, HDI 0.558. India: Asia, population 1.4 billion, HDI 0.633. Brazil: Latin America, population 214 million, HDI 0.754. Italy: Europe, population 59 million, HDI 0.895. Canada: Northern America, population 38 million, HDI 0.936). Population figures are from UN DESA, 2022. HDI figures are from UNDP, 2022.

Community mobility rebounded with striking vigour in much of the developing world. In Nigeria, all types of visits plummeted by an average of 48 per cent in April 2020, but rebounded to an average of 59 per cent above pre-pandemic levels in the first half of October 2022. Despite its different geography, Papua New Guinea showed similar trends: all kinds of visits initially dropped by a monthly average of 19 per cent in April 2020, but subsequently shot up to around double their pre-pandemic levels in the first half of October 2022. In India, visits dropped by an average of two thirds during April 2020, but climbed back to a third above pre-pandemic levels in the first half of October 2022. This may be because many developing countries depend heavily on primary industries, which require moving physical objects, so that clearing pandemic backlogs may involve temporary mobility spikes. A more tentative and intriguing hypothesis is that some structural transformation may explain this vigorous resurgence of community mobility, perhaps related to large-scale outflows from urban to rural areas, which may drive longer-term changes in the relationship between cities and their regional hinterlands.

Figure 5. Changes in community mobility since before the pandemic, selected countries



Source: Google, 2022.

Note: This chart shows the average percentage difference (relative to the period before the pandemic) in visits to pharmacy and grocery stores, retail and recreation places, workplaces and transit stations. All trendlines are 28-day moving averages. Further information on Google mobility data is available at Google, 2022.

The rebound of community mobility has been much more subdued in more developed countries. In Italy, most forms of community mobility remained 1 to 8 per cent below pre-pandemic benchmarks on average in early October 2022, with the exception of visits to grocery and pharmacy stores, which rose to a fortnightly average of 19 per cent above pre-pandemic levels. In Canada, visits to retail and recreation areas, grocery stores, and pharmacies had only rebounded to slightly above pre-pandemic levels. Remarkably, in the first half of October 2022, visits to transit stations remained 21 per cent lower than before the pandemic. Visits to workplaces remained 17 per cent lower on average than pre-pandemic levels during the first half of October. These last two figures in particular probably reflect a structural shift towards remote working in developed countries (see discussion on counter-urbanization in the next section).

An interesting case is Brazil, which combines the characteristics of both developing and developed countries. Here, “essential” mobility bounced back robustly: compared to pre-pandemic baselines, visits to workplaces were 58 per cent higher on average during the first half of October 2022. Visits to pharmacies and grocery stores were 26 per cent higher on average for the same period, mirroring the trends of less developed countries. However, “non-essential” mobility had only just recovered to 2019 levels, similar to trends in more developed countries. Visits to transit stations averaged 4 per cent above pre-pandemic baselines in early October 2022, while visits to places of retail and recreation were up just 7 per cent.

As well as temporary disruptions, the pandemic has caused structural shifts in how people move around their communities. In all six countries, “essential” visits to grocery stores and pharmacies have rebounded most vigorously. But for other forms of community mobility, there are sharp differences between the developed and developing worlds. In less developed countries, pandemic recovery is more likely to require mobility, whereas in more developed countries community mobility has declined, partly because such countries have both the occupations and the information and communications technology (ICT) infrastructure to enable remote work.

Post-pandemic transformations

The strong grip of COVID-19 on our lives has loosened, along with “normalcy” being restored in the daily workings of most socioeconomic and cultural institutions, mirroring the pre-pandemic era. However, there have been visible social transformations (temporary and structural) driven by the pandemic, and the domino effect of these changes can be observed across regions. For instance, decisions taken by different developed countries and pharmaceutical companies to safeguard their interests had a large domino effect on developing countries in terms of shortages of vaccines and unequal distribution of health-care products and services, which in turn caused declines in the quality of general health care and hampered recovery in affected countries.¹⁹ The pandemic also induced long-term changes to consumption patterns in developed and developing countries. For example, prior to COVID-19 in the United States, retail products and services such as groceries and health care were resistant to e-commerce platforms. However, during the pandemic the adoption curve bent significantly upward, changing consumption patterns and thereby widening the use of e-commerce platforms to include daily grocery shopping, resulting in estimated e-grocery sales of approximately 150 billion United States dollars (USD) in 2020.²⁰

¹⁹ Cati, 2022.

²⁰ Walton, 2020.

Another major post-pandemic phenomenon was the coupling of high inflation and global economic slowdown. In the second quarter of 2022, Global GDP growth began to stagnate at around 3 per cent, and was projected to further slowdown to 2.25 per cent in 2023.²¹ The key factor in the global growth slowdown is the ongoing tightening of monetary policies in major economies, in response to high inflation.²² The effect of the Russian Federation–Ukraine war has put additional upward pressure on prices, particularly for energy and food. These changes have been influenced or aggravated by lower migration. In conventional migrant-origin regions this has resulted in rising unemployment, inflation,²³ and intensification of State control.²⁴ (As an example of country-level insights, see the text box below for discussion on COVID-19 research in India.) In more developed migrant-destination countries, the impacts of lower migration have been historically low levels of unemployment, resulting in acute skills and labour shortages and the added inflationary pressure of rising wages. The impact of the post-pandemic transformations will depend on the longevity of these effects and the recovery path of different regions. Only time will tell how these post-pandemic transformations will affect future migration and mobility patterns.

Post-pandemic ambiguity in India: a case for regional specificity and new methods of analysis

The impact of the pandemic has been severe on both internal and international Indian emigrant workers, particularly low-skilled emigrants on short-term contracts, migrants working within the informal economy and undocumented workers.^a The exact impact has varied by the occupation and income level of workers.

India has a national diaspora of around 18 million Indians abroad, the world's largest.^b India is also the world's largest recipient of remittances, at USD 87 billion in 2021.^c Loss of jobs along with wage theft and lack of social security during the pandemic has plunged many Indian migrants into deep debt and insecurity.^d Amidst the global panic, reverse migrants had to incur huge expenses on air tickets, COVID-19 tests and quarantine centres.^e According to the Ministry of External Affairs, over 1,385,670 Indian nationals were repatriated by the Government within six months of the nationwide lockdown.^f Many more international migrants returned without government support.

The size and speed of internal migration also dropped considerably during and after the pandemic, resulting in a crisis of mobility.^g The pandemic has had an overwhelming effect on internal labour migration patterns and has reshaped work in both rural and urban areas. There has been a decline of almost 10 per cent in blue-collar workforce mobility towards cities, which has drastically cut the labour supply for major industries.^h The official estimate of reverse internal migration is 51.6 per cent for men and 11 per cent for women.ⁱ Though women outnumber men in internal migration, a disproportionately high percentage of female migration is identified as migration as a dependant (which excludes securement of jobs post-migration). This could explain the gender gap observed. There is insufficient data to properly capture the effects of the pandemic on migration in India. Data omission is severe regarding gender minorities, especially the transgender community.

²¹ OECD, 2022.

²² Ibid.

²³ Condon et al., 2022.

²⁴ Barriga et al., 2020.

Some advocate for a region-specific approach for India to tackle the issue of reverse migration, on the basis that the pandemic has affected different states differently.ⁱ The continuing and immediate effects of the pandemic require an analysis that addresses the structural conditions, complexity, uncertainty and regional specificity to help us rethink development and migration. In order to understand post-pandemic transformations and to form effective policy interventions, the delayed demographic effect of pandemic migration, mortality and fertility trends needs to be extensively studied using an inclusive approach.

^a Srivastava, 2021.

^b UN DESA, 2021.

^c World Bank, 2021b.

^d Kumar and Akhil, 2021.

^e Government of India, 2020.

^f Rajan et al., 2020.

^g World Bank, 2020.

^h Bhattacharyya and Menon, 2021.

ⁱ Mishra, 2022.

^j Dreze, 2020.

Growth slowdown and remittances: a heavy burden for some?

The World Bank predicted that global remittance figures would decline by 20 per cent due to COVID-19 in April 2020, revised to 14 per cent in October 2020, in comparison to pre-pandemic levels.²⁵ However, remittance flows ended up declining by just 2.4 per cent globally, with USD 540 billion going to low- and middle-income countries in 2020,²⁶ just 1.6 per cent below 2019 levels.²⁷ In 2021, remittance flows grew by 7.3 per cent to reach USD 589 billion.²⁸

After controlling for economic activity and other pandemic measures, remittances responded positively to COVID-19 infection rates in migrant countries.²⁹ In short, migrants seem to send more money to support their family when the COVID-19 infection rate goes up, which functioned as an automatic stabilizer for the home country (in terms of their output and consumption). This phenomenon stands in opposition to the World Bank's prediction of a pandemic-induced decrease in remittances, but is consistent with the Bank's long-term observations that remittances are counter-cyclical: when other economic indicators go down, migrants send more money, to help their struggling families and communities at home. In addition, studies have established a long-term relationship between remittances and real GDP, wherein a 10 per cent increase in remittances was associated with 0.66 per cent permanent increase in GDP.³⁰

Some analysts point out that the increase in remittances could also reflect the switch in the mode of sending remittances from informal channels to formal channels that was induced by pandemic restrictions.³¹ Prior to the pandemic, evidence suggests that significant proportions of remittances were being transferred to families through

²⁵ World Bank, 2020.

²⁶ The remittance inflows rose by 6.5 per cent for Latin America and the Caribbean, 5.2 per cent for South Asia and 2.3 per cent for the Middle East and North Africa.

²⁷ World Bank, 2021a.

²⁸ World Bank, 2021b.

²⁹ Kpodar et al., 2021.

³⁰ Francois et al., 2022.

³¹ Kpodar et al., 2021.

informal channels (such as *hawala* or *hundi* or *fei-chien* networks, or in person).³² However, with lockdown measures, greater digitalization and reduced remittance transfer fees, migrants have undergone a behavioural switch, and have started relying more on formal channels to remit their transfers, as shown in the text box below.³³ Using flight arrival data, one study found that lower numbers of flight arrivals were associated with an increase in official remittances, after controlling for other factors.³⁴ A study using Mexican data revealed that the largest rise in remittances and bank accounts were registered in municipalities that were heavily dependent on informal channels during pre-pandemic times.³⁵

African money transfer firms thrive as pandemic spurs online remittances

Having fled an economic implosion in his native Zimbabwe, Brighton Takawira was able to support his mother back home with modest earnings from a small perfume business he set up in South Africa.

Then the pandemic struck. Borders closed. The buses he had used to send his cash stopped running. The pandemic gave remittance companies an advantage over their main competition in Africa: the sprawling informal networks of traders, bus drivers and travellers used by many migrants to send money home.

“I had to send something, even a few dollars”, said Takawira, though it meant sometimes going without bread. So he tried out an online remittance company on a friend’s recommendation.

He is one of many African migrants being pushed towards digital transfer services, often for the first time, during the pandemic.

This is fuelling a boom for Africa-focused money transfer companies, despite predictions from the World Bank of a historic 20% drop to \$445 billion in remittances to poorer countries this year due to a pandemic-induced global economic slump.

“We saw an increase of transfers as the diaspora wanted to help their family”, said Patrick Roussel, who heads mobile financial services for the Middle East and Africa at French telecom company Orange – a dominant player in French-speaking Africa. “We’ve seen an influx of new customers, and we see them mainly coming to us from the informal market”, said Andy Jury, chief executive of Mukuru, the company Takawira now uses.

Like Takawira, many had to dip into savings or make other sacrifices to do so, analysts and company officials say.

Jury and other industry executives say that shift is likely to last as digital remittance services are typically cheaper, faster and safer than informal networks, which are difficult for governments to regulate. Mukuru, which focuses mainly on African remittances and allows customers to send both cash and groceries, has seen a roughly 75% acceleration in growth compared to last year.

³² El Qorchi et al., 2003.

³³ Fernandes et al., 2022.

³⁴ Quayyum et al., 2021.

³⁵ Dinarte et al., 2021.

Remittances to sub-Saharan Africa officially totalled \$48 billion last year, according to the World Bank. Experts, however, say that figure tells only part of the story. Much of the money Africans ship home via informal networks is absent from official data. As those networks ground to a halt during lockdowns, formal money transfer businesses – particularly digital platforms – were suddenly the only game in town.

Source: Abridged extract from Bavier and Dzirutwe, 2020.

The resilience and recovery of remittances have not been universal. East Asia and the Pacific posted a decline of 7.9 per cent in remittances; in Europe and Central Asia they fell by 9.7 per cent, and in sub-Saharan Africa³⁶ by 12.5 per cent.³⁷ Several South Asian economies underwent international remittance shocks when oil prices collapsed in the initial phase of the pandemic, causing a sharp economic contraction across the Gulf region where many South Asian migrants reside.³⁸ This led to a sudden drop in foreign exchange earnings, which coincided with an increase in structural unemployment, and led to worsening welfare for millions of low-income families.³⁹ However, international remittance inflows to all major South Asian countries (India, Pakistan and Bangladesh) increased in 2021, with Pakistan recording the greatest growth over 2020 (19.6% compared to 8.0% for India and 2.2% for Bangladesh). A study of eight ASEAN (Association of Southeast Asian Nations) countries recorded a decline in income in 73 per cent of sampled households in 2021.⁴⁰ Thailand experienced an economic contraction of 6.5 per cent, which pushed the poverty rate up to 8.8 per cent.⁴¹

It has long been recognized that migrants make transnational contributions to their homelands and kin abroad that go far beyond remittances.⁴² The pandemic has drawn attention to the increasingly important role that contributions of time, money, expertise and connections from diaspora groups can make to the alleviation of human suffering.⁴³ Such contributions have been steadily growing in recent years, facilitated by the expanding ability of highly dispersed community members to maintain a sense of congregation using digital social media tools, which have become increasingly pervasive. A key reason for the growing attention paid to “diaspora humanitarianism” since 2020 has been that this trend has accelerated, with the rise of remote work providing a huge stimulus to tech companies that provided tools for online-only collaboration during COVID-19 lockdowns.⁴⁴ In addition, lockdowns severely restricted the ability of conventional humanitarian organizations to access crisis zones and provide assistance.⁴⁵

³⁶ The decline in remittance flow to sub-Saharan Africa was significantly affected by a 28 per cent decline in remittance flows to Nigeria. Exclusion of Nigeria from calculations show a 2.3 per cent increase in remittance inflow (World Bank, 2021b).

³⁷ World Bank, 2021a.

³⁸ Arezki et al., 2020.

³⁹ Withers et al., 2022.

⁴⁰ Morgan and Trinh, 2021.

⁴¹ World Bank, 2021c.

⁴² Newland and Patrick, 2004; McAuliffe et al., 2019.

⁴³ Horst et al., 2015.

⁴⁴ Bursztynsky, 2020.

⁴⁵ *The Lancet*, 2020.

As a result, those in need in many parts of the world have had to depend almost exclusively on the contributions of friends and family living in more stable circumstances. The result has been, in some cases, a sense in crisis zones of having been abandoned by mainstream international humanitarian organizations, and a sense of increased solidarity with and dependence upon immediate family and community members, wherever they may be. This has also resulted in migrant groups, including refugee-led organizations, needing to become increasingly self-reliant, as international humanitarian responses have been deeply affected by COVID-19, as highlighted in the text box below.

Stories from the frontlines: Refugee-led organizations in the shadow of COVID-19

My name is Mary Tal, and I am a lawyer who grew up in the West African nation of Cameroon. I worked for Human Rights Defense Group before I became a refugee myself and had to flee home in 1998. When I was granted asylum in Cape Town, South Africa, I found my calling of serving fellow refugee women which led us to founding the Whole World Women Association (WWWA) in 2007. WWWA works to empower refugee women and children from all over the African continent through leadership and societal integration training, promoting HIV/AIDS awareness, providing legal assistance and protecting refugee rights.

When the COVID-19 pandemic reached South Africa in March 2020, our work changed completely in ways we were not prepared for. To name a few challenges, funding for the essential services we usually provided became scarce, our clients suffered from mental and emotional fatigue, and misinformation about COVID-19 circulated. Another challenge that broke my heart was knowing that some single mothers who we work with died from the virus leaving behind orphans. Other single mothers lost their jobs, the only source of income for their children. In response to these challenges, we at WWWA are providing food, masks, and sanitation supplies to the thousands of refugee women we support. We have also committed to supporting the children of our clients who have passed away for six months, and are helping their families pay for burial costs and to find a way to connect the children with their families, many of whom live in other countries. We cannot do this work alone. There needs to be better policies for supporting those who are most vulnerable during the pandemic. Our voices need to be heard by decision makers in order to humanise policies and better help refugee-led organisations support their communities.

Source: Abridged extract from *The Elders*, 2020.

In countries that experience political and climate challenges, such as the Sudan, COVID-19 increased the socioeconomic vulnerability of internal migrants.⁴⁶ Research on seasonal migrant workers in Eastern Sudan reported the inability to send remittances as a major constraint since the start of the pandemic,⁴⁷ and identified inflation as a significant ongoing threat to livelihoods.⁴⁸ Most Middle Eastern and North African countries have experienced high inflation,⁴⁹ and the price of staple foods has increased by more than 20 per cent in countries such as Djibouti,

⁴⁶ Eastern Sudan faces political issues since the Sudanese Revolution in 2018, recurrent political instability related to the Tigray conflicts and the resulting sudden influxes of refugees, as well as climate challenges such as repeatedly high rainfalls (Amin, 2020).

⁴⁷ Jourdain et al., 2022.

⁴⁸ UNDP, 2020.

⁴⁹ Messkoub, 2022.

the Islamic Republic of Iran, Lebanon, the Syrian Arab Republic and Yemen.⁵⁰ The coming years will likely see ongoing uncertainty, transformations and counter-transformations.⁵¹ It is therefore important to monitor the recovery process closely, and to develop migration, diaspora and remittance policies that are holistic and shock resistant.

In a comparison between pandemic disruption and the global financial crisis, remittances to developing countries have fared far better in the pandemic. However, the recession in major destination countries was deeper during the pandemic than during the global financial crisis. A study showed that a 1 per cent increase in the number of COVID-19 cases per million population led to a 0.03 percentage point increase in remittances, on average.⁵² Regional specificities and recovery measures underscore how pandemic-induced changes in migration and labour-mobility patterns are influencing the post-pandemic economy. Internal policy measures such as cash transfers work along with remittance inflows to safeguard economies against crises. In Latin America, there was an increase in public spending of 2.9 per cent from 2019 to 2020.⁵³ Cash transfers were widely deployed as a post-COVID-19 policy measure in this region.⁵⁴ Regional employment has not fully rebounded to pre-COVID levels, but the difference is now small.⁵⁵ Meanwhile, international tourism began to recover in the Caribbean.⁵⁶ According to International Monetary Fund (IMF) estimates in July 2022, growth in Latin America and the Caribbean is at 3 per cent, a significant reduction from 2021, but a healthy level by global standards.⁵⁷

On the other hand, European Union countries as well as OECD countries that are not members of the European Union are the origin of 55 per cent of remittances sent globally.⁵⁸ In particular, the United States, Switzerland, Germany, France and Luxembourg are among the top ten remittance-sending countries globally.⁵⁹ In the migrant-destination countries, inflationary pressures were on the rise mainly due to increasing energy and commodity prices, production bottlenecks and rising demand.⁶⁰ According to the IMF, a quick recovery of economic activity in many of the regions has increased core inflation relative to levels before the crisis.⁶¹ The inflationary pressures have been the strongest in countries where demand (especially of consumer goods) has recovered the fastest.⁶²

⁵⁰ World Bank, 2021d.

⁵¹ World Economic Forum, 2022a.

⁵² Quayyum et al., 2021.

⁵³ ECLAC, 2021.

⁵⁴ The four countries in the region with the highest spending on transfers in 2020 as a percentage of GDP are Mexico (8.6%), Chile (11.5%), Argentina (12.9%) and Uruguay (15.1%) (Solorza, 2021).

⁵⁵ Maurizio, 2022.

⁵⁶ Ibid.

⁵⁷ Adler et al., 2022.

⁵⁸ EMN and OECD, 2020.

⁵⁹ Ibid.

⁶⁰ World Bank, 2022.

⁶¹ Adrian and Gopinath, 2021.

⁶² Ibid.

Automation, digital outsourcing and the changing role of labour mobility in the global economy

Between its catastrophic impacts on the global airline industry and its lasting changes to patterns of community mobility as mentioned above, the long tail of COVID-19 is reshaping the role of mobility in economies everywhere. In particular, falling mobility rates have gone hand-in-hand with rising rates of digitalization and automation, in a mutually reinforcing pattern.⁶³

Growing digital transformation has major effects on migrants and migration processes. Because of the pandemic, migrants now increasingly rely on digital sources for information and remittance transfers while governments increasingly rely on new digital systems to manage migration.⁶⁴ Adapting to online service provision has been a key focus during the pandemic health crisis, especially to cater to migrant populations and other vulnerable groups. For example, 14 out of 27 European Union countries adopted or switched to online health-care service provision, including videos and tutorials in different languages, as well as online consultations.⁶⁵ While these integration technologies can support migrant populations, the designs, development and implementation of these technologies must centre human rights, and human rights must not be restricted by the limits of technical feasibility.⁶⁶

Meanwhile, increasing digital transformation is itself partially a result of changing migration and mobility trends due to the pandemic. For example, a key impact of movement restrictions has been to drastically reduce labour supplies to major economic centres. In the international context, this means fewer immigrants to the main destination countries, while in the domestic context it means fewer internal migrants and commuters to dense urban areas. These reduced levels of migration and mobility have led to extremely tight labour markets in cities across the developed world. In theory, a smaller supply of immigrant labour should lead to higher wages in destination regions. It should come as little surprise therefore that many labour economists have declared the post-pandemic period a golden era for workers, involving plentiful job vacancies, rising wages, so-called “quiet quitting” (in which employees put less effort into their work), and a “great resignation”.⁶⁷

In theory, higher wages should in turn stimulate innovation, as firms reduce their dependence on costlier (immigrant) labour by investing in labour-saving technologies. This too is a prominent feature of the post-pandemic economy. On one hand, this has involved automating tasks in agriculture, manufacturing and non-tradeable services such as retail, hospitality and health care that, in the several decades prior to the pandemic, had become highly dependent on migrant labour.⁶⁸ For example, despite an overall downturn in the technology start-up sector, AgTech firms such as United States-based FarmVise are attracting increasing venture capital to develop their autonomous weeding robots, based on demographic projections in which farmers are ageing and migrant workers are increasingly difficult to source.⁶⁹

⁶³ McAuliffe et al., 2021b.

⁶⁴ McAuliffe, 2021; United Nations Network on Migration, 2020.

⁶⁵ European Commission, 2022.

⁶⁶ McAuliffe et al., 2021a.

⁶⁷ Williams, 2021.

⁶⁸ Adrian and Gopinath, 2021.

⁶⁹ Heater, 2022.

On the other hand, automation has involved “digital outsourcing” from the higher-skilled sectors of service and knowledge economies. As firms struggle to find savings in the economic aftermath of the pandemic, one of the easiest decisions is to cut expenditure on business travel and downtown office space, while investing more in digital transformation in the hope of increasing productivity. The resulting digital outsourcing involves firms adopting online labour platforms to allow for tasks to be performed remotely, including legal and financial services, data analytics, software development and design, translation, transcription, image annotation and content moderation.⁷⁰

At the domestic level, increased digital outsourcing is contributing to much higher rates of working from home, and thus lower levels of commuter mobility. A widely cited econometric study suggested that remote work will persist because the pandemic jolted firms past the inertia tying them to unnecessary in-person work patterns, while reducing the stigma of working from home, catalysing a wave of innovative remote-work technologies, showing employees that remote work could be more satisfying, and demonstrating to employers that it could also be cheaper.⁷¹ During 2020/2021, there was strong evidence of counter-urbanization – internal migration away from cities – especially in high-income countries. In the United States, an estimated 37 per cent of jobs can be worked from home,⁷² and during the pandemic this allowed the average outflow of people from urban neighbourhoods to double in 2020.⁷³ Such reversals to decades of relentless urbanization went hand in hand with decreased mobility within and between cities, driven by mobility restrictions accelerating the adoption of remote work.

As part of these trends, “work from home” is metastasizing into “work from anywhere”, with substantial implications for the role of labour mobility in the global economy. At the international level, the rise of online digital labour platforms has accelerated a trend of firms in more developed countries outsourcing tasks to workers in less developed countries. Even before the pandemic, the bulk of labour demand on such platforms originated in countries such as Australia, Canada, Germany, New Zealand, the United Kingdom and the United States, while the resulting work itself was largely performed in countries such as India, the Philippines and Ukraine.⁷⁴ Prior to COVID-19, so-called “digital nomad” communities – predominantly comprised of professionals dependent on digital media – advocated for an alternative mode of work with the aid of ICT. However, COVID-19 presented an opportunity for non-nomads to experience the digital nomadic life, while digital nomads reflected on COVID-19’s negative impacts on their highly valued “freedom to move”, forcing them to reassess the viability of nomadism.⁷⁵

These patterns are not uniform or universal; for example, there is much geographical variation in patterns of rural–urban migration and remote working since the pandemic. In 2020, Spain experienced net migration losses of 6 per cent from high density areas, and a drop of 15.4 per cent in urban migration; in contrast, sparsely populated regions saw net migration gains, and have now rebounded to pre-pandemic patterns.⁷⁶ Similarly, in the United Kingdom,⁷⁷ with the implementation of the Government’s European Union exit strategy in July 2021, there was a visible increase in mobility intensity across urban areas, which came close to pre-pandemic levels.⁷⁸ In 2020 Australia saw a net loss of 11,200 individuals from capital cities to less populated rural regions, along with a 52 per cent

⁷⁰ ILO, 2021a.

⁷¹ Barrero et al., 2021.

⁷² Dingel and Neiman, 2020. These jobs mainly include financial work, business management, professional and scientific services.

⁷³ Whitaker, 2021.

⁷⁴ ILO, 2021a.

⁷⁵ Ehn et al., 2022.

⁷⁶ González-Leonardo et al., 2022.

⁷⁷ There was a mobility decline of 44 per cent, with the sharpest decline in the cities exceeding 50 per cent in 2020 (Rowe et al., 2023).

⁷⁸ González-Leonardo et al., 2022.

decrease in the use of public transport, and a reduction in demand for commercial space in cities of 24 per cent.⁷⁹ However, remote work cannot be extended to labour-intensive, tourism-heavy economies.⁸⁰ Tourism-dependent countries such as Aruba, the Maldives, Thailand, Antigua and Barbuda, Cambodia and Costa Rica have introduced policies and special funds to spur domestic and international tourism because tourism declined so drastically as a result of pandemic movement restrictions.⁸¹ They are not alone. International tourism rebounded by 4 per cent in 2021, but it remains far below pre-pandemic levels.⁸²

Health care and demographic effects: a scattered picture

There has been widespread criticism of pandemic interventions to control the movement of migrants, which have created barriers to accessing health and social services in countries of destination.⁸³ During the peak of the pandemic, internally displaced persons (IDPs) were unable to follow prescribed public health measures; combined with their already precarious living conditions, this led to markedly higher infection rates.⁸⁴ Rising racism and xenophobia sparked discussions on the status of migrants and the differences that arise in the provision of services.⁸⁵ However, the complexity of multi-pronged policy responses and the absence of recorded data at the global level makes it impossible to measure the overall impacts on migrants during the pandemic.

That said, many countries made robust efforts to address the specific needs of migrants during the pandemic (see text box on COVID-19 and regularization, below). Basic or emergency health care was guaranteed to migrant workers, irrespective of their status, in Argentina, the Republic of Korea, Thailand and 20 Member States of the European Union, amongst others.⁸⁶ Undocumented migrants were provided with free access to emergency health services related to COVID-19 in quite a few countries and municipalities around the world, including in Belgium, Croatia, Cyprus, Estonia, Greece, France, Finland, Israel, Italy, Lithuania, Luxembourg, Malta, Mexico, Spain, Poland, Slovakia, Slovenia, Sweden and Switzerland.⁸⁷ Some countries provided targeted public health materials and information for migrant populations. Migrants in Norway reported that they received sufficient pandemic information through official channels, which was correlated with high levels of trust in government and official sources.⁸⁸ Saudi Arabia and Bahrain have made recruitment companies take responsibility for migrants' health insurance prior to departure, and have issued administrative circulars setting out guidelines for both employers and employees.⁸⁹

⁷⁹ Byrne, 2021.

⁸⁰ According to World Tourism Organization estimates, the pandemic disrupted tourism by lowering international travel by 73 per cent in 2020 (UNWTO, n.d.).

⁸¹ Babii and Nadeem, 2021.

⁸² UNWTO, n.d.

⁸³ IFRCRCS, 2018.

⁸⁴ Ag Ahmed et al., 2021.

⁸⁵ WHO, 2021.

⁸⁶ FRA, 2011.

⁸⁷ Ibid. Note that these examples are not exhaustive: other countries may have also provided free access. Several countries also offered the possibility for undocumented migrants to remain without penalty; others instituted regularization programmes, which enabled access to health services.

⁸⁸ Madar et al., 2022.

⁸⁹ ESCWA, 2020.

COVID-19 and regularization

The COVID-19 pandemic resulted in some countries taking exceptional measures to respond to the heightened needs of irregular migrants. Early in 2020, Portugal acted quickly by temporarily regularizing the status of all migrants. This was followed by Italy who implemented a targeted regularization for migrant workers in key sectors of the economy. In February 2021, Colombia announced that it will regularize more than 1.7 million Venezuelans in its territory. ... Other countries which introduced regularizations as a response to COVID-19 include: the Dominican Republic, Malaysia and Thailand.

Source: IOM, 2021.

The wider health impacts of COVID-19 have demographic implications that may reshape future migration significantly. The pandemic disrupted child immunization programmes in several world regions, increasing the vaccination gap by 8 million, and led to the postponement of 60 lifesaving mass immunization campaigns in 50 countries affecting 228 million people.⁹⁰ Around 10.5 million children lost one or more caregivers.⁹¹ The health impacts of the pandemic have fallen more heavily on the developing world, in ways that will shape future demography and migration.

Major economies have been affected by both excess mortality and changing fertility patterns.⁹² France recorded its lowest birth rate since World War II.⁹³ Chinese authorities registered 15 per cent fewer babies in 2020:⁹⁴ annual births declined from 14.65 million in 2019 to 12 million in 2020, with a further decline to 10.62 million in 2021.⁹⁵ The resulting population crunch from lower fertility is set to cause future economic and debt crises. Governments will soon seek to repay debts they racked up to provide social support and financial stimulus during the pandemic. But because of lower birth rates, there will be fewer taxpayers to shoulder this burden. This will hamper growth and force many countries to simultaneously raise fertility, recruit more migrant workers in key sectors, and invest in more in automation of key jobs.

⁹⁰ WHO, 2022a.

⁹¹ Cha, 2022.

⁹² Bosley and Jamrisko, 2021.

⁹³ Horobin, 2021.

⁹⁴ Bloomberg, 2021.

⁹⁵ Yang et al., 2022.

Conclusion

Human migration and mobility have rebounded remarkably since the early days of the COVID-19 pandemic, when most of humanity stopped moving all at once. However, the sharp rate of rebound masks a massive underlying shift: almost three years after COVID-19 was declared a pandemic, much of the world is still less mobile than it was before the pandemic, a fact with profound medium- to long-term implications for populations, societies and economies around the world.

The emergency phase of the pandemic has passed, but a “long tail” of infections and public health responses continues to disrupt migration and mobility. The harshest restrictions have receded, but they have left behind a more complex and restrictive migration policy landscape, one with new risk profiles for different categories of movers, to the frustration of those seeking a return to the hypermobile 2019 world.

Against this background, migration and mobility flows have rebounded, but not to pre-pandemic levels. International airline passenger numbers remain stubbornly below their 2019 baselines, especially in Europe, and in Asia and the Pacific, where they are 25 to 49 per cent lower. Domestic air travel is a more mixed picture: it was not affected as badly as international air travel and it has recovered more quickly, but people in different world regions have had very different experiences of pandemic restrictions on domestic flights. Community mobility, fascinatingly, has rebounded vigorously in lower income countries, but sluggishly in higher income ones.

Through these changes to migration and mobility, the pandemic has catalysed or accelerated some major long-term social transformations. For example, in migrant origin countries, the pandemic has highlighted the ongoing importance of remittances sent by migrant workers to their families and communities in the homeland. Remittances declined far less during the worst of the pandemic than even the most optimistic experts predicted, and they rebounded far more quickly, suggesting once again that such flows are not only large in size but also disproportionately important because they are countercyclical: when other economic indicators went down during the pandemic, remittances stayed firm and soon rose.

In destination countries, persistently lower levels of migration and mobility are also having profoundly transformative effects. For instance, they are forcing employers to adapt to less flexible labour markets than they had become accustomed to over the previous decades. Firms are being forced to reduce their dependence on distant labour sources and invest more into “digital outsourcing” (in which human labour is performed remotely at a lower cost) and automation (in which the need for human labour is reduced or cut entirely from certain tasks).

It may seem counter-intuitive to predict lower levels of demand for migrant labour while unemployment remains at historically low levels, and employers across the developed world are lobbying governments to increase immigration. However, the current tight labour market in rich countries is not the result of increasing demand for immigration, but is rather the result of drastically falling supply of migrant workers, and this is forcing firms to make decisions that will lock in levels of demand that, while much higher than in mid-2020 while COVID-19 was raging, will probably be significantly lower than pre-pandemic levels.

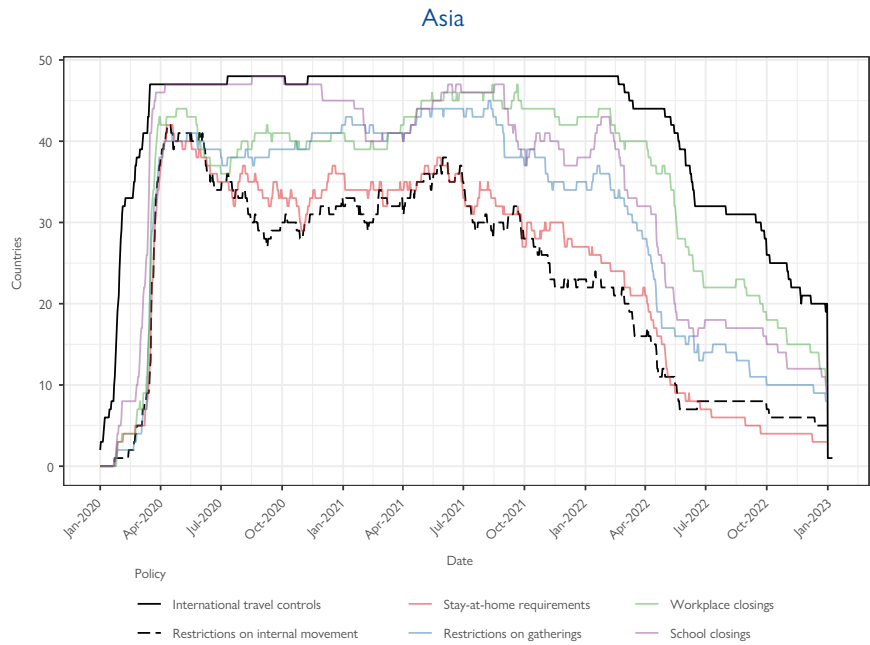
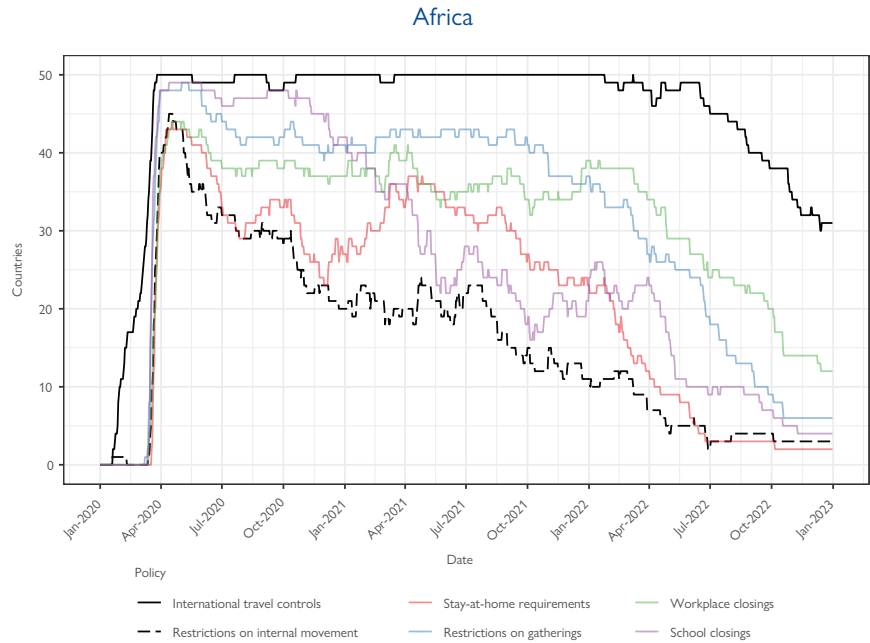
Appendix A.

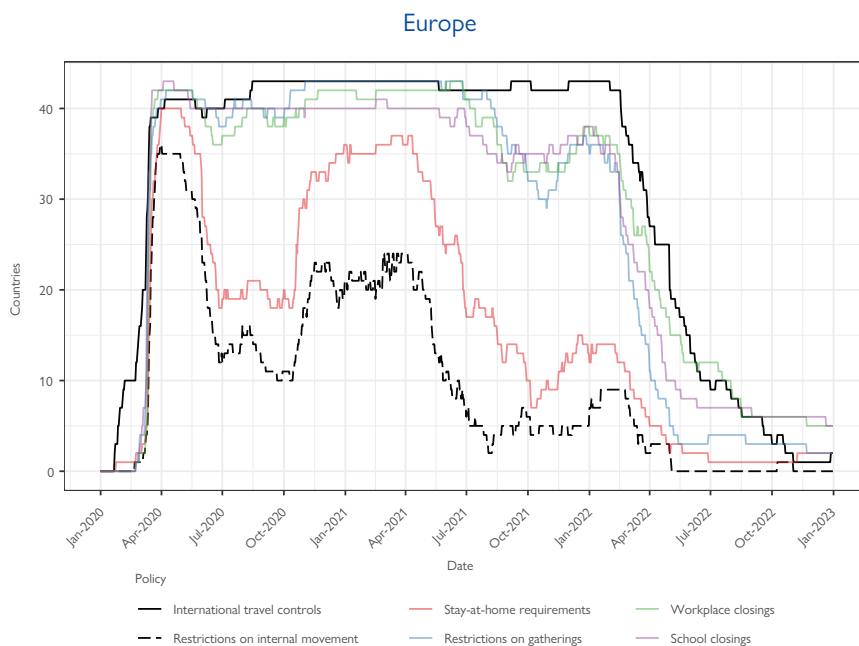
Health (non-virus)	Environmental	Social	Economic	Education
<p>Following the decrease in access to HIV-testing during 2020-2021,^a WHO approved HIV-self test became available for USD 1 in low- and middle-income countries, making it the lowest marked price to date.^b</p> <p>Decreased mobility during the pandemic resulted in fewer road traffic collisions globally, however, there occurred increased severity in injury and death due to speeding, minimal crowds, open roads, and alcohol and drug use.^b</p> <p>According to WHO, the pandemic resulted in a 25% increase in the occurrence of mental health conditions like anxiety and depression, where young people and women were more impacted.^m</p> <p>A 2021 report examining the impact of the pandemic in Burkina Faso, Kenya, Ethiopia, Malawi and Uganda, finds that the disruption to sexual and reproductive health services led to increases in pregnancies, gender-based violence and dangerous abortions.^s</p>	<p>Pandemic related single-use plastic generated from personal protection equipment, increases in online shopping, and take-out containers, amounted to 8 million tons of waste globally, with implications for our oceans.^c</p> <p>The use of energy decreased in 2020 shifting the power mix to renewable energy during this year, however, the mix has reverted to pre-pandemic trends.^l</p> <p>The term “anthropause” emerged in 2020 due to the decline in human impact on the environment. While some wildlife benefited from reduced disturbance, the pause in human activity during these years may have impeded protection efforts for at-risk animals.ⁿ</p> <p>At the onset of the COVID-19 pandemic, air quality was more likely to improve in regions where mobility policies were stricter.^f Air pollution has also been connected to higher rates of COVID-19 mortality.^u</p>	<p>The United Nations has identified the prevalence of domestic violence during COVID-19 as the “shadow pandemic”. Reports suggest younger women, women with children, unemployed women, and women in rural areas are more vulnerable to abuse.^d</p> <p>There occurred an increased risk of child marriages during COVID-19 due to limited educational opportunities, conditions of economic precarity, disruptions to social services, and the passing of a caretaker.^l</p> <p>Overall, increases in care duties as a result of the pandemic created a larger divide between men and women.^o According to the ILO, more than 2 million mothers across the globe left the workforce in 2020.^p</p> <p>To account for limitations in social gatherings during the pandemic, online religious worship gained traction, though it does pose issues of digital accessibility.^g A survey found that while group activities declined in 2020, the pandemic did not have a significant impact on individual religious or spiritual engagement.^w</p>	<p>Global working hours declined in 2020, recovering in 2021 among high- and upper-middle-income countries. Lower-middle and low-income countries continue to experience challenges in recovery, whereby such losses create a greater divide between countries.^e</p> <p>According to the World Bank, there are between 657 million and 676 million estimated to be living in extreme poverty in 2022. This is approximately 75 million to 95 million more than pre-pandemic forecasts.^k</p> <p>Experts estimate the flow of global remittances to reach USD 5.4 trillion in 2030 owing to increased digitalization. Global remittances grew in 2021, where the MobileRemit Africa report observed a 48 per cent increase in transfers via mobile networks.^q</p> <p>In assessing the prevalence of videoconferencing platforms at work, increased fatigue among workers is a key finding.^x Additionally, scholars are questioning how to instil corporate values, build relationships, and how to solve gender inequity and exclusion on such platforms.^y</p>	<p>In COVID-19 recovery plans, in-person schooling is critical in reversing learning losses across the globe.^h According to UNICEF, learning losses have resulted in up to 70 per cent of 10-year-olds in low- and middle-income countries being unable to read, this is up 53 per cent compared to pre-pandemic levels.^g</p> <p>A global report on education claims girls were less likely to access remote learning. Barriers to learning at a distance included the influence of gender norms as well as connectivity and accessible technology.^l</p> <p>Enrolment patterns in higher education have stabilized with the return to in-person teaching and learning, suggesting that higher education will not undergo a complete digital transformation.^r</p> <p>UNESCO’s Global Monitoring of School Closures finds that lower-income countries reported the longest duration of school closures between May 2020 and June 2021. Learning losses also corresponded to the length of school closures in some low- and middle-income countries, raising concerns about the growing learning gap globally.^z</p>

^a DiNenno et al., 2022.
^b WHO, 2022b.
^c Peng et al., 2021.
^d UN Women, 2021.
^e ILO, 2021b.
^f Ahlgen et al., 2022.
^g UNICEF, 2022.
^h Yasin et al., 2021.
ⁱ Olabi et al., 2022.
^j Thangaperumal et al., 2022.
^k Mahler et al., 2022.
^l UNESCO, UNICEF and World Bank, 2021.
^m WHO, 2022c.
ⁿ Rutz et al., 2020; Yuhua, 2021.
^o World Economic Forum, 2022b.
^p ILO, 2022.
^q IFAD, 2022.
^r Abdrasheva et al., 2022.
^s APHRC et al., 2021.
^t Zhang et al., 2022.
^u Ravindra et al., 2022.
^w Edelman et al., 2021.
^x Lacasse and Cornelissen, 2022.
^y Nanyang Technological University, 2022.
^z Karl et al., 2021.
^{aa} UNESCO Institute for Statistics, 2022.

Appendix B.

Government responses to minimize COVID-19 transmission in Africa, Asia and Europe, by number of countries (January 2020 to January 2023)





Source: Hale et al., 2023.

Note: As at 1 January 2023. The term “international travel controls” is used by Oxford, and includes screening arrivals, quarantining arrivals, banning arrivals or total border closure. It is also important to note that categories are COVID-19-related only and do not reflect other travel restrictions that may have already been in place, such as those related to visa restrictions, entry bans based on specific citizens, and departure or exit restrictions.

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