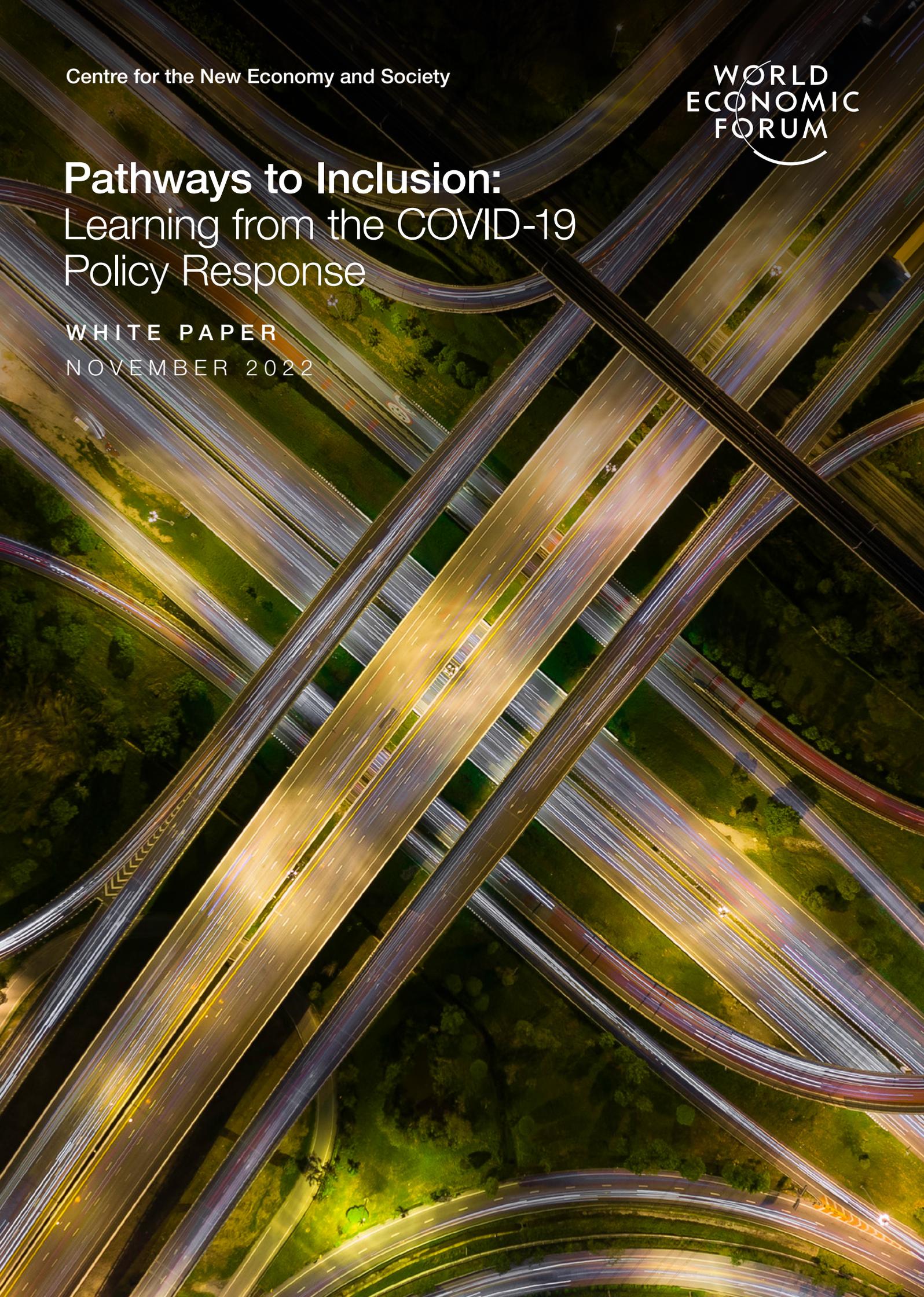


Centre for the New Economy and Society



Pathways to Inclusion: Learning from the COVID-19 Policy Response

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Executive summary

The past two years have been a traumatic time for economies and societies worldwide, roiled by the COVID-19 pandemic. The extensive lockdowns introduced in response to the pandemic saved many lives but they also had adverse knock-on effects, including dramatic economic disruptions. These in turn were partially alleviated by the introduction of further extraordinary economic and social policy measures. While most of these countervailing

measures were not entirely new, they were deployed on an unprecedented scale.

This paper asks whether there are aspects of the response to COVID-19 that could inform economic and social policy beyond the pandemic. It reviews five widely adopted emergency measures, then suggests six possible lessons for post-pandemic policies that could contribute to building more inclusive societies.

Five key pandemic responses

Among the five headline policies, a wide set of **employment support** programmes saved millions of jobs and contained bankruptcies, with only minor negative effects on productivity or banking-sector solidity. Yet, the cost per job saved was sometimes higher than necessary and the support period for firms lasted too long.

Similarly, temporary extensions of **social safety nets** helped mitigate poverty incidence, especially among the most vulnerable (e.g. those with lower levels of education or with precarious contracts). In some circumstances, deploying such measures at a time of evident need led to public opinion becoming more supportive of welfare expenditure. However, this may have created an expectation that such extraordinary measures could become permanent.

Public capital expenditure has been another important component of stimulus packages, offsetting a slump in private investment, as well

as reducing infrastructure deficits and reinforcing climate objectives. However, the resurgence in public investment was insufficient to meet the increasing demand in some segments (e.g. digital connectivity) and was poorly aligned with wider societal needs, such as households' access to water, energy and housing, or resilience to natural disaster risks.

Moreover, a massive increase in **remote working** forced business organizations to change in ways that will last beyond the emergency and that hold out the promise of reductions in commuting time and improvements in work-life balance and productivity. However, new sources of inequality could potentially emerge between those who can and cannot work remotely.

Finally, the extensive use of **remote learning** had a negative effect on the education of young students but showed promising applications for students in higher education and for adults' life-long learning.

Lessons for future policy-making

From the retrospective analysis of these five policy areas, six forward-looking lessons emerge. First, countries should **build smarter, customized, well-publicized social protections**: employment support could be used outside of crisis events to address less universal disruptions, provided that targeting is improved through screening mechanisms, prosecution of abuses, incentives to minimize the length of programmes, and inducements for workers to move from subsidized to unsubsidized sectors, or return to work after lay-offs.

Second, the report points to the need to **expand reskilling, upskilling and adult learning for all**. Stronger linkages between job support and reskilling are crucial to turn temporary subsidies into lasting employment opportunities. Thus, reskilling must become better integrated into the structure of countries' safety nets and job-retention schemes.

Third, policy-makers should **promote living wages and bolster household finances**. Despite recent nominal wage increases, the fragility of households'

financial buffers during the pandemic has reinforced the need for fairer social contracts for workers, with a greater focus on living wages, but also the importance of ensuring better training opportunities, enhanced bargaining powers, and revised tax-structures and in-work benefits.

Fourth, care is needed to **ensure remote working promotes equality**. This means updating rights and responsibilities in legal frameworks for remote workers, and recalibrating firms' talent management practices to equalize career opportunities, ensuring equal access to the infrastructure and skills required to work remotely.

Fifth, government and business leaders are called on to **strengthen care systems to support gender equality**. Women were often employed in the sectors most severely hit by the pandemic and they are much more likely to have to juggle professional and household tasks than men. This warrants targeted measures that can improve women's opportunities in the job market, including ad-hoc reskilling and upskilling, better access to leadership positions and, most importantly, enhanced care systems.

Sixth, countries should **invest in educational content, talent and infrastructure**. Education and training are cornerstones of social mobility, but countries are currently underinvesting in these areas. Equipping future generations with better skills will involve updating curricula and smarter spending on school equipment, digital infrastructure and teacher training while disinvesting in less-core (non-teaching) activities.

Advancing social inclusion, however, requires resources that governments increasingly struggle to find at a time when public debt burdens have reached historic highs and interest rates are surging. Decision-makers should look at alternative approaches. In the absence of silver-bullet solutions, a two-step approach may involve: (1) greater public-private innovation and collaboration on financing social services; and (2) government-enforced conditionalities aligning private-sector interests with societal goals.

As new shocks and challenges weigh on the recovery process, learning from the societal stress tests caused by the pandemic may help to uncover the types of policy innovations we need to address existing and emerging vulnerabilities, building a pathway to more inclusive societies.

1

Introduction



The COVID-19 crisis has been an extraordinary challenge for economies and societies across the globe, exacerbating pre-existing inequalities. Aside from its direct public health impacts, the pandemic led to far-reaching restrictions on people's movement and interactions, with profound societal and economic consequences. The wave of countervailing policy responses designed to mitigate the adverse effects of shutdowns on households

and businesses was unprecedented in scale and has introduced some new policy approaches that could be used to reduce social disparities in the future. The purpose of this paper is to review key parts of this wave of emergency policy-making, assess the extent to which measures are relevant for "normal" times and highlight potential lessons for post-pandemic policies aimed at building more inclusive societies.

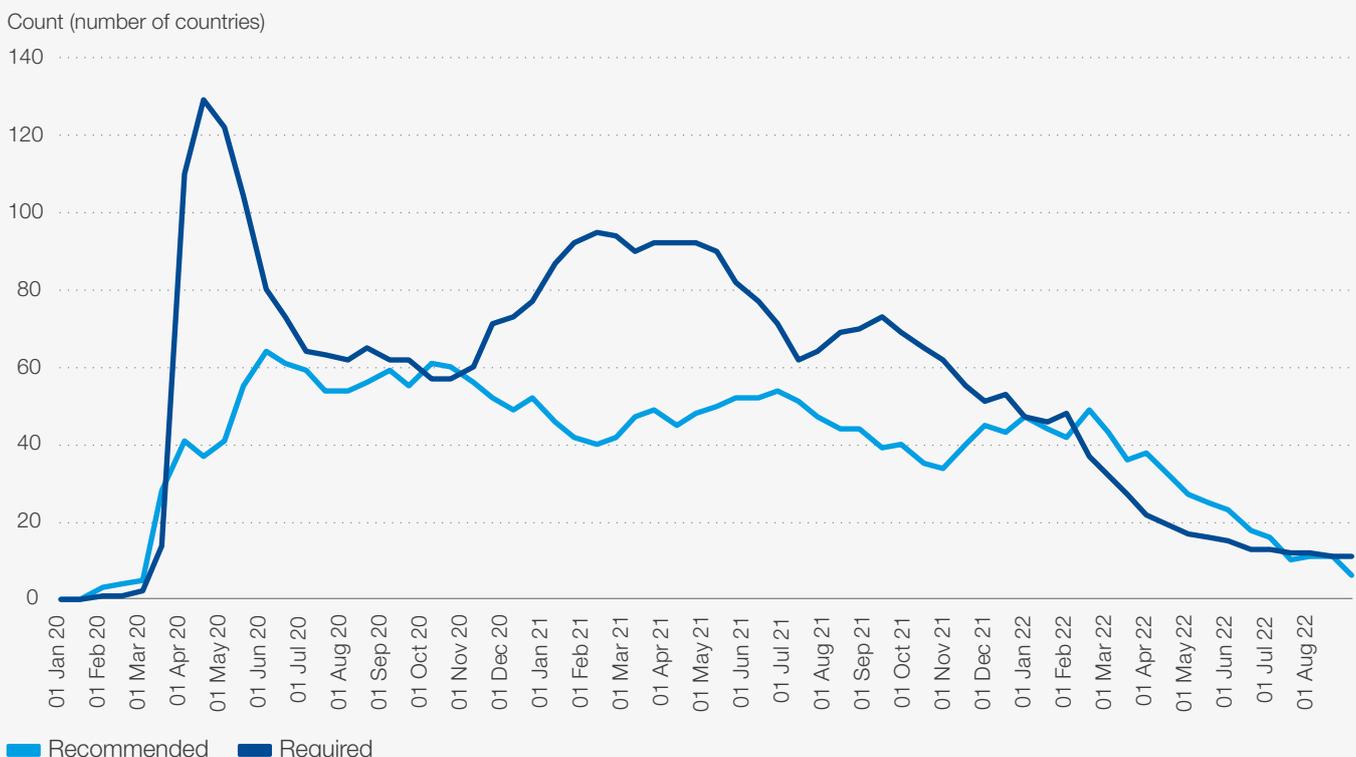
1.1 The COVID-19 response

The extremely rapid spread of COVID-19 starting in early 2020 profoundly destabilized public health systems around the world, leading to more than 600 million infections and 6 million deaths in the two years that followed.¹ To slow the progress of the virus and save human lives, various forms of social distancing – with large variations in mode, intensity and duration – were implemented globally. Between 2020 and 2022 more than 160 countries introduced stay-at-home requirements for at least two weeks (Figure 1) and more than 180 countries applied some form of workplace closure.² Although the merits and trade-offs of these restrictions have been the subject of heated debate, most policy-makers judged them necessary to manage the public health emergency.

However, such restrictions on human movement and interactions severely impaired economic activity, with far-reaching consequences for households' livelihoods and companies' operations, which policy-makers sought to minimize.

At the outbreak of the pandemic, households' limited financial resilience was already an issue of particular concern. Globally, 61.2% of the world's employed population were in informal employment,³ with limited safety nets available and little in the way of private savings. Even in advanced economies, many households had limited savings with which to weather the crisis. Across OECD (Organisation for Economic Co-operation and Development)

FIGURE 1. Number of countries with stay-at-home requirements



Note: "Recommended" corresponds to countries' policies coded as "Recommended not to leave the house". "Required" corresponds to countries' policies coded as "Required not to leave the house with exceptions for daily exercise, grocery shopping and 'essential trips'" or "Required not to leave the house with minimal exceptions".

Source: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford

countries, about 10% of the population was financially insecure before the pandemic (Figure 2),

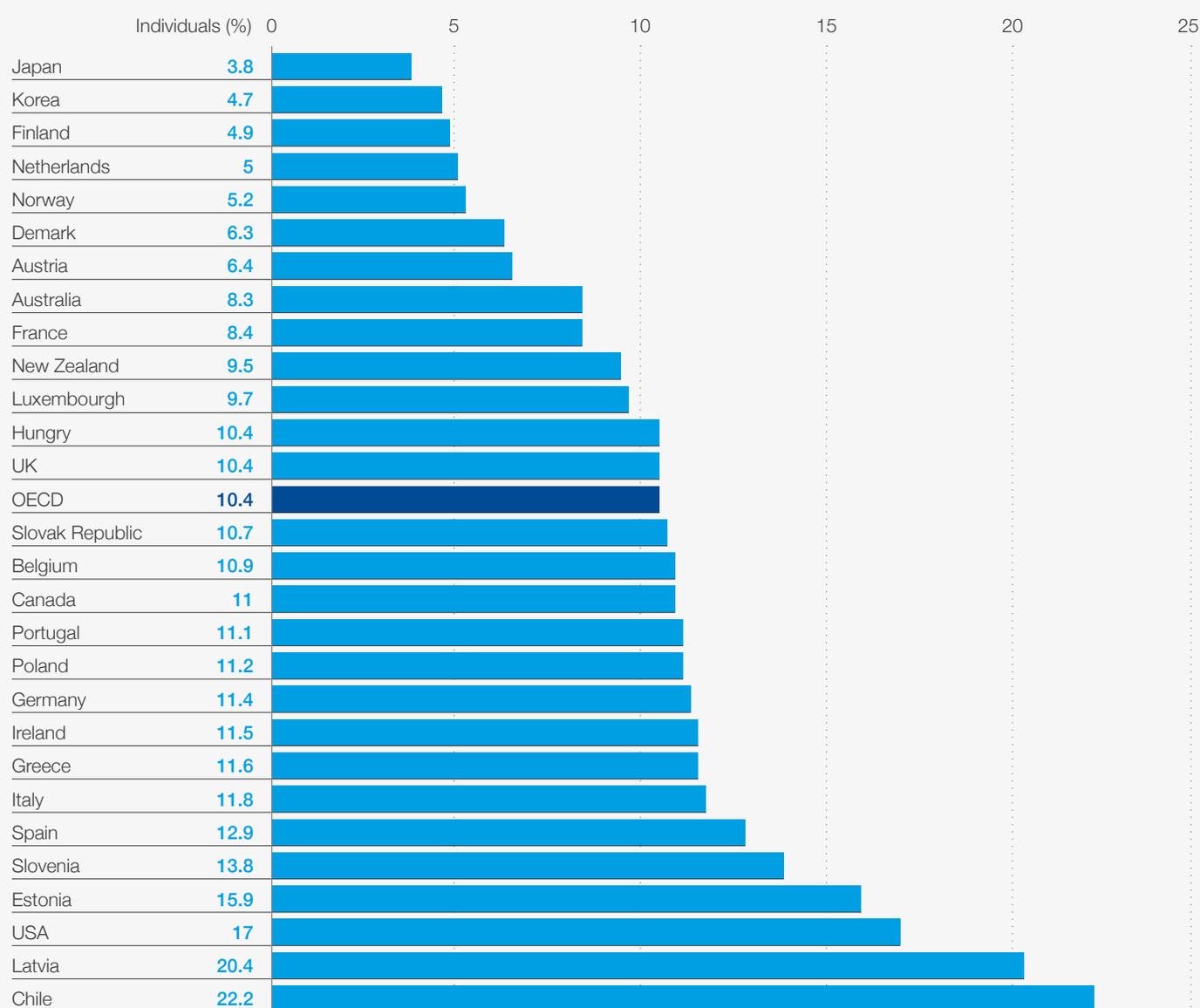
with peaks above 17% in the USA, Latvia and Chile. In the US, this translates into almost a third of households not having sufficient emergency funds to cover their basic expenses for more than three months.⁴ In addition, social protection was often inadequate. Globally, only 31% of the working-age population was covered by comprehensive social security and more than 4 billion people were not covered by any type of social protection.⁵

These vulnerabilities shaped policy-makers' response to the pandemic. Policy-makers were also cognizant of the social tensions that had arisen in many countries during and after the 2009 global financial

crisis. When the pandemic broke out, countries were already grappling with inequalities and growing demands for social protection. This meant that special attention was paid to social outcomes in the design of COVID-19 responses. Policy-makers also spent much more extensively than they had in response to the financial crisis. The pandemic saw public expenditure as a proportion of GDP jump by 8 percentage points in advanced economies and 2.5 percentage points in developing economies (Figure 3). This compares to increases of 3.8 and 1.6 percentage points during the financial crisis.

Another prominent feature of the pandemic response was the widespread use of digital technologies to maintain activity and interaction despite severe physical constraints.

FIGURE 2. Share of financially insecure people (pre-COVID), OECD countries



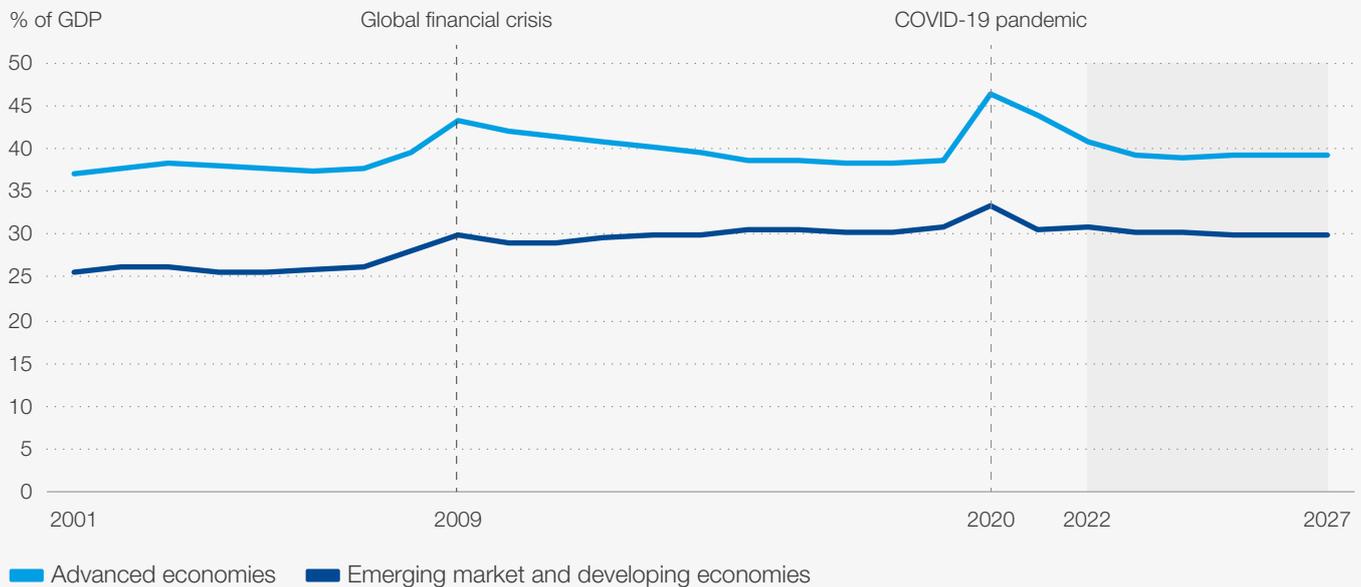
Note: Financially insecure people are those who are in households that are not necessarily income-poor, but have insufficient liquid financial wealth to support them at the level of the income poverty line for more than three months. Liquid financial wealth is defined as cash, quoted shares, mutual funds and bonds net of liabilities of own unincorporated enterprises. Year: 2015 or most recent available.

Source: OECD Statistics Working Papers, OECD Employment Outlook 2022

Remote working and teaching were made possible by cheap videoconferencing and cloud-based collaboration software, as well as through the provision of domestic internet bandwidth capable of sustaining large data flows and real-time video

exchanges. These technologies are less than a decade old. Had the pandemic occurred 15 years earlier, it would have been much more difficult to make the organizational adjustments required for virtual interaction on a such a vast scale.

FIGURE 3. General government expenditure (% of GDP)



Source: IMF, World Economic Outlook, April 2022

1.2 Towards more inclusive post-pandemic policies

This paper examines a range of COVID-response policies to see what can be learned from them and retained for the future. We approached this task from the perspective of economic inclusion, seeking lessons for post-pandemic policy-making that might help to build more prosperous and cohesive societies. While most of the emergency policy-making in response to the pandemic was designed with short-term crisis management in mind, the scale and character of some of the interventions may yield insights about potential “business-as-usual” approaches to social and economic policy now and in the future.

The report focuses on five of the most common policy interventions with economic and social implications:

1. Programmes aimed at maintaining or sustaining employment
2. Programmes aimed at supporting unemployed people and/or those in atypical contracts,
3. Remote working policies
4. Remote learning policies
5. Increased public capital investments

The next section provides an overview of these policies, assessing their scale and novelty, their objectives and the results they achieved. The final section of the paper builds on this assessment by considering what can be learned to inform the design of future policy. Six lessons are highlighted in particular, four relating directly to pandemic-response measures and two to blind spots revealed by the pandemic. The conclusion underlines the mounting difficulty of funding economic and social policies against a backdrop of elevated public indebtedness and rising interest rates.

This analysis shows that more must be done to build more inclusive socioeconomic systems. Crises can be catalysts for transformation, and it is notable that since the pandemic the political discourse in many countries has swung in favour of greater solidarity, signalling a potential desire to break with the past and build a new future.⁶ However, this opportunity for reform may not last for long and should not be wasted.

2

Five key pandemic interventions



In this section, five widely adopted policy responses to COVID-19 are described. This analysis takes the major health-related interventions (notably, lockdowns of various intensity) as a given and focuses on the steps taken to secure socioeconomic outcomes, such as protecting employment and incomes,

preventing a rise in inequality or maintaining continuity of education. In some cases, this involved the introduction of new policies. In others, it included the deployment and/or extension of policies that were already in place but that acquired new significance with the outbreak of the pandemic.

2.1 Employment support

As noted above, the vast majority of countries introduced stay-at-home policies and workplace closures in response to the outbreak of the pandemic. The scale of the resulting economic disruption was vast, with global GDP slumping by around 5% relative to early 2019, leading to huge interventions designed to prop up economic activity and employment.⁷ A range of different interventions are grouped together here, from furlough schemes and wage subsidies to credit guarantees and equity injections. Although different in their technical characteristics, these policies share the common goals of saving current and future jobs by keeping companies afloat and maintaining workers' contractual links with their employers.⁸

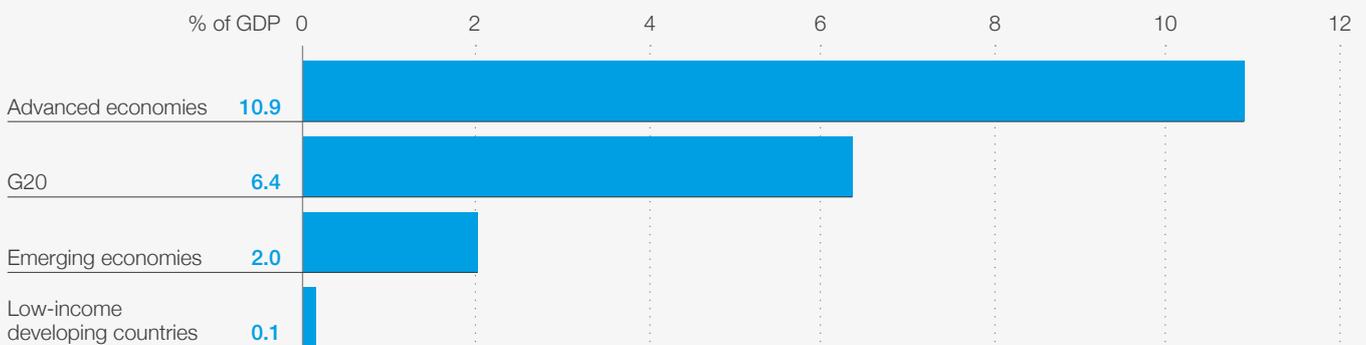
The rationale for these measures is clear. Left unchecked, the pandemic would have triggered massive unemployment and income losses, with destabilizing consequences for households, firms and society more generally. Moreover, research shows that a surge in unemployment could have had grave permanent effects. Recent studies have shown that five years after experiencing a job loss, a worker's average earnings tend to have declined by between 10% and 20%, even in economies such as Sweden, Denmark or the US, and by more than 30% in countries with dual labour markets, such as Spain, Portugal or Italy.⁹

To avoid this kind of scarring, most countries relied on schemes to protect jobs and prevent

bankruptcies. In many cases, these measures were not newly introduced in response to the pandemic, but they were deployed on an unprecedented scale and in some cases had rarely been used before. The resources dedicated to these measures varied considerably across advanced and developing countries. This is easier to gauge for support to businesses than for direct employment support because of the prevalence of informal employment in low-income countries: liquidity support measures for businesses amounted to just 0.1% of GDP in low-income countries, compared to 11% of GDP in high-income economies (Figure 4).¹⁰

For example, in sub-Saharan Africa, countries jointly activated credit guarantee facilities totalling about \$8 billion.¹¹ By contrast, among advanced economies the figure was much higher: the Paycheck Protection Program (PPP) in the US alone, for example, distributed loans totalling almost \$800 billion,¹² while in Germany, Italy and France the equivalent programmes had budgets of around €760 billion, €400 billion and €330 billion, respectively. In some instances, conditionalities were attached to government support for businesses, such as requiring firms to suspend dividends, limit the remuneration of managers or retain employees. For instance, PPP loans in the US were conditional on the retention of workers.¹³

FIGURE 4. COVID-19 financial support to businesses



Note: These figures correspond to below-the-line expenditure, including equity injections, loans, asset purchases or debt assumptions and contingent liabilities (guarantees and quasi-fiscal operations).

Source: IMF Fiscal Monitor, Database of Country Fiscal Measures in Response to the COVID-19 Pandemic, June 2020

In several advanced economies, existing mechanisms to reduce working hours in response to downturns were broadened in response to the pandemic by widening the eligibility criteria or prolonging the duration of benefits. In France, the duration of *chômage partiel* benefits was extended from six months to 12. In Germany and Italy,

eligibility for *Kurzarbeit* and *cassa integrazione* was eased to grant funds to more firms. In countries where structural automatic stabilizers like these did not exist, new programmes were introduced, albeit on a temporary basis, such as the UK's Coronavirus Job Retention Scheme (CJRS) or South Africa's TERS programme.¹⁴

Did these interventions work?

To a large extent, these programmes achieved their main objectives. An estimated 50 million jobs across OECD countries were saved directly or indirectly.¹⁵ Bankruptcy rates were also contained. For instance, about 200,000 American companies filed for bankruptcy in 2020, a much lower number than the 600,000 recorded in 2009.¹⁶ In other words, government support prevented the crisis from pushing healthy firms out of the market, thus keeping productive capacity and good jobs in place for the recovery.

One of the anticipated risks of such widespread support was so-called “zombification” – the support of fundamentally unhealthy companies destined to go out of business anyway. However, the evidence suggests that this was less of a problem than expected. Only a small share (4–8%) of the supported firms could be classified as zombies, and across multiple countries most funds went, as intended, to robust firms facing liquidity problems.¹⁷

Similarly, the risk that extensive credit support would lead to problems in the banking sector did not materialize. In fact, the share of non-performing loans is lower today than it was before the outbreak of COVID-19, and bank leverage has increased only marginally.¹⁸ This reflects the commitment of central banks to provide credit support, and banks' solid capitalization (a legacy in part of the global financial crisis).

Despite these positive outcomes, it is worth noting areas in which the design and targeting of such programmes could be improved. In some cases, the cost of saving jobs was high. For example, the cost per job saved under the US PPP was estimated at \$170,000–\$260,000 per year, which is considerably higher than the average \$58,000 paid in wages to small-business employees.¹⁹ In addition, unclear exit strategies sometimes prolonged firms' support more than was necessary and impeded companies' incentives to restructure after reopening.

2.2 Social safety nets

As a second set of steps, many governments undertook various ad hoc interventions to strengthen social safety nets. This was done because, when put to the test by the pandemic, existing social security and health insurance mechanisms often proved insufficient, revealing coverage gaps that would have led to substantial increases in poverty in the absence of remedial action.

Even with job retention schemes in place, the pandemic saw unemployment rates increase, leaving millions of people on low or no incomes. Among workers, a recent study demonstrates that across the UK, US and Germany numerous groups risked falling through the cracks. Workers in alternative contract arrangements, those with lower levels of education, people who could not work from home and women were all much more likely to lose their livelihood or to experience declining earnings than other workers.²⁰ Moreover, these groups were often inadequately insured and/or ineligible for employment-support programmes.

To remedy these gaps, a wave of social protection measures was announced in the months following

the outbreak of the pandemic. The level of social expenditure was extraordinary in many countries. Between February and December 2020 more than 1,600 social protection policies were announced globally, including measures covering income protection, unemployment, health and housing.²¹ According to figures from the United Nations, between December 2020 and May 2021 total spending on social protection rose by almost 270%, to \$2.9 trillion globally.²²

The nature of the social support measures varied. In some cases, targeted grants were provided to workers that were not covered by any existing social protection scheme. Some governments focused on extending coverage to unprotected groups, while others sought to increase benefit levels, introduce new benefits, adapt administrative and delivery mechanisms, and mobilize additional financial resources.²³ For example, the US allocated more than \$760 billion to direct payments, including \$600 billion to unemployment insurance. Notably, unemployment benefits were extended to self-employed people, freelancers and gig economy workers. There were similar moves in other OECD

countries, with eligibility for social protection being extended to temporary, agency and some categories of self-employed workers.²⁴ Spain introduced a new permanent guaranteed minimum income programme, covering 2.3 million vulnerable people, while Canada's Canada Emergency Response Benefit (CERB) programme paid \$2,000 every four weeks to anyone unable to work.

Developing countries, too, made strides towards closing social protection gaps. For instance, in Ghana, where the high share of informal workers makes furlough schemes unviable, cash and in-kind transfers were scaled up rapidly using mobile money transfers that targeted resources to specific

individuals.²⁵ Similarly, Liberia's Social Safety Nets Project instituted the first ever digital cash transfer programme in the country.²⁶

One common feature of many such programmes was a greater level of unconditional payments, in order to ensure the maximum reach of pandemic support: overall, there was an 11% increase in unconditional transfers compared to figures pre-COVID 19.²⁷ In some cases, new social protection payments proxied universal basic income (UBI) experiments. For instance, in the US cash payments to individuals were granted independently of tax-filing or minimum income levels.

Did these interventions work?

The evidence suggests that exceptional levels of social expenditure had significant effects, including marked reductions in poverty. For instance, the American Rescue Plan reduced the number of people falling beneath the poverty threshold in 2020 by more than 12 million people and reduced childhood poverty by 56%.²⁸ Other examples include: South Africa, where poverty was reduced by more than 23%; Brazil, where 5.6 million would have fallen below the poverty line in the absence of cash transfers; and Ethiopia, where cash transfers mitigated food insecurity.²⁹

In addition to providing short-run support to those in need, there is also evidence that the pandemic led to changes in public attitudes towards welfare expenditure. For instance, the 2020 Understanding America Study found that during the pandemic individuals became more supportive of the long-term expansion of social protection programmes or more in favour of "bigger government".³⁰ Similarly, in Spain people's support for government healthcare expenditure increased.³¹ These changes in mindset may possibly have created unfunded expectations that temporary social expenditure could become permanent.

2.3 Public capital expenditure

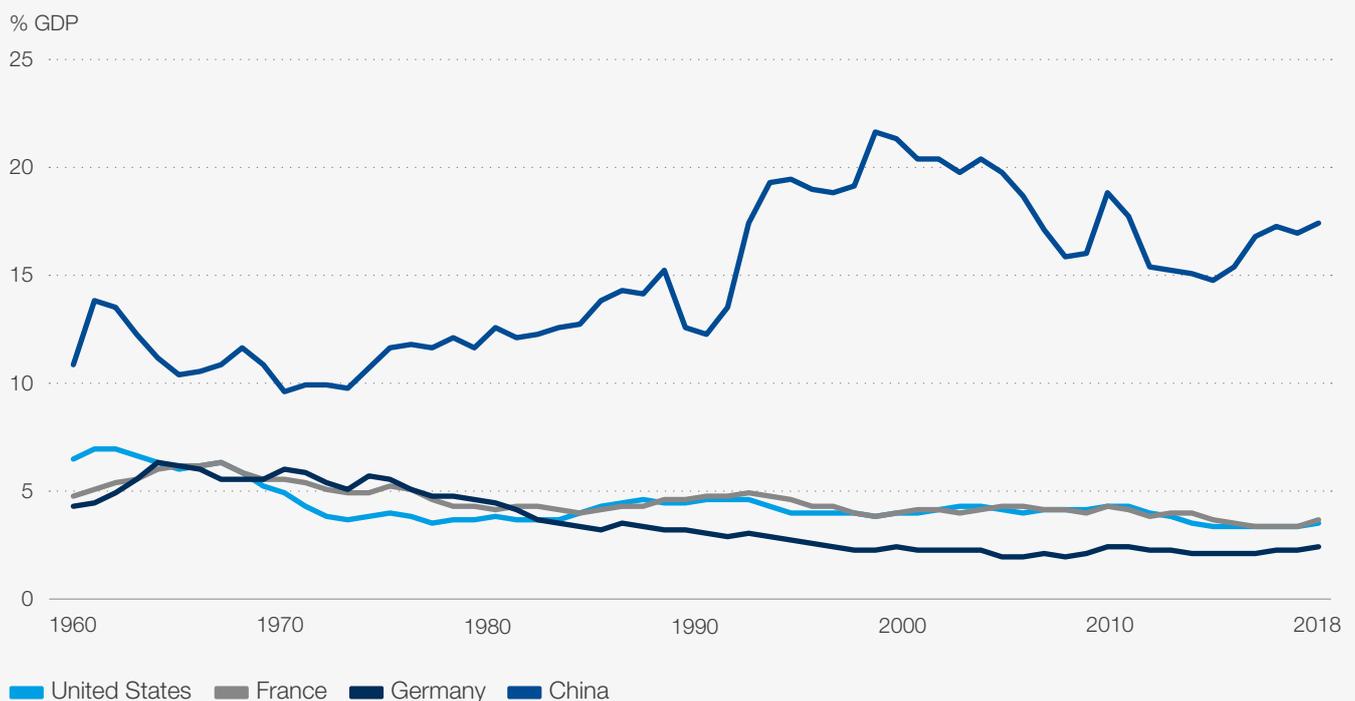
Governments' capital expenditure picked up with the outbreak of the pandemic. Often, this was to counterbalance private investment, as numerous private-led projects were suspended, postponed or cancelled.³² Another driver of rising public investment was the fact that many economies entered the crisis with significant infrastructure deficits. In advanced economies, the ratio of public investment to GDP had steadily declined from an average of 2.4% in the 1990s to a historic low of less than 2% in the 2010s (Figure 5).³³ In the US, for example, it is estimated that \$2.6 trillion is needed by 2029 to fix the country's roads, bridges, schools and airports.³⁴ In developing countries, the public investment ratio has increased over the same period, reaching 7% before the pandemic, but large infrastructure gaps have persisted. These are estimated at more than \$3.5 trillion and have prevented, for example, access to electricity for 760 million people and access to broadband internet for 450 million.³⁵

The pandemic thus offered an opportunity to reverse these infrastructure trends while also providing much-needed economic stimulus. And public infrastructure projects are ideal candidates for supporting aggregate demand during downturns because the multipliers are on average about twice as high as for tax cuts and transfers. Infrastructure development in recessions has both a short-term (anticipation-driven) impact on GDP

(albeit somewhat smaller than direct government consumption) and a larger impact six to eight years later, with positive spillovers in terms of employment opportunities as well as access to transport, healthcare, housing, the internet and green energy.³⁶

Investments in infrastructure – particularly digital, transport and health – were on average the second-largest budget item in governments' COVID-19 stimulus packages, boosting construction and maintenance projects. Although not a new policy tool, per se, in many countries these investments represented a major departure from previous allocations of funds. In 2021, the US approved \$550 billion in spending on upgrading physical infrastructure.³⁷ More generally, G7 countries have pledged to invest \$600 billion of public and private resources to finance infrastructure projects by 2027.³⁸ Among emerging and developing countries, India has increased its health infrastructure expenditure, reaching a total of \$28 billion allocated to health-related measures in 2021.³⁹

FIGURE 5. General government investment (%GDP)



Source: IMF, Investment and Capital Stock Dataset (ICSD)

Did these interventions work?

According to official estimates, the increased public investment included in pandemic recovery funds will generate millions of jobs over the next few years. According to the International Monetary Fund (IMF), an increase of 1% of GDP in public investment can boost GDP by 2.7%, private investment by 10% and employment by 1.2%.⁴⁰

However, the success of public capital expenditure as a countercyclical measure has not yet translated into reduced infrastructure gaps. In domains where demand increased as a result of the pandemic (such as digital infrastructure), additional investments will still not suffice to meet the increased needs for quality connectivity. Another factor is the lag between the announced allocation of funds to infrastructure spending and the actual beginning of construction. While GDP responds immediately to government announcements

because agents anticipate the arrival of grants and funds, there are many further steps before new infrastructure enters service, particularly for more complex projects.⁴¹

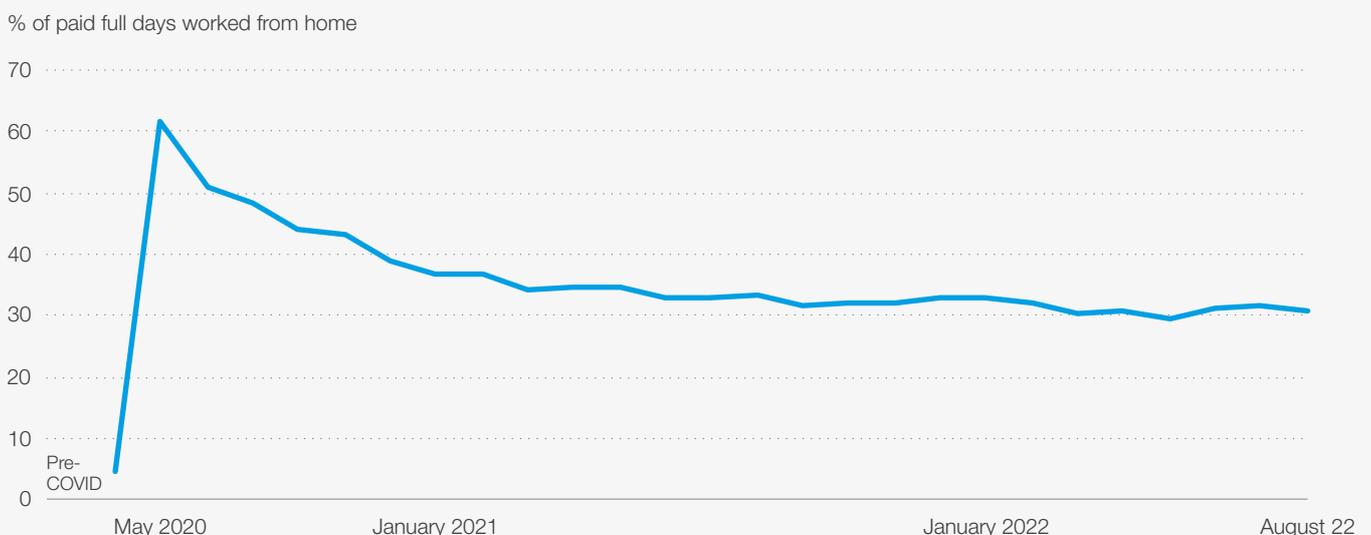
One notable feature of many of the pandemic investment responses was their alignment with wider societal goals. This is particularly true of climate objectives, which were prioritized in many infrastructure plans. Indeed, in one survey of infrastructure experts, almost half said that they believe low-carbon and net-zero targets have a higher priority today than they had before the pandemic.⁴² However, less positively, a significant number of projects announced have been criticized for not being sufficiently aligned with wider societal needs, such as households' access to water, energy and the internet, or the requirements of areas at particular risk of natural disasters.⁴³

2.4 Remote working

Incentivizing remote work, and in some cases making it compulsory, was an important component of countries' strategies in fighting the pandemic. Enabled by recent technological developments, the possibility of home working at scale allowed many economic activities to continue, even while prohibiting or reducing physical contact between people. As pandemic restrictions kicked in, global home-based working

doubled rapidly, going from 8% in January 2020 to 20% in May 2020.⁴⁴ In the US, the increase was much more dramatic: between February and March 2020, the ratio of working-from-home days jumped from less than 5% pre-COVID-19 to more than 60%. Moreover, this effect has persisted throughout the different phases of the pandemic and the loosening of restrictions, and today stands at about 30% (Figure 6).

FIGURE 6. Remote work in the United States



Note: Work from home is expressed as a percentage of full paid working days per month. Pre-COVID value is based on Barrero et al. estimates using data from the 2017–2018 American Time Use Survey.

Source: WHFresearch, based on Barrero, Jose Maria, Nicholas Bloom and Steven J. Davis, 2021, "Why Working from Home Will Stick", National Bureau of Economic Research Working Paper 28731

In developing countries, despite the estimated share of jobs that can be done remotely being low at about 15%,⁴⁵ during the pandemic more than a third of workers in companies in sub-Saharan Africa surveyed by the International Labour Organization (ILO) were working from home.⁴⁶ The feasibility of remote working in these countries is restricted by a range of factors, including lower shares of employment in the service sector, power-supply challenges and weak digital infrastructure. On

the other hand, large shares of the workforce are employed in agriculture or in activities conducted from home such as the manual production of garments or accessories. There is thus a difference between telework, which refers primarily to service activities conducted digitally, and home-based activities outside the service sector. According to the ILO, 260 million people globally are employed in home-based work, 86% of whom are located in developing countries.⁴⁷

Did these interventions work?

It is difficult to gauge the impact of the massive extension of remote working, because a counterfactual is hard to find. However, given the extent of the activity that moved from workplace to home, it is reasonable to conclude that material levels of economic activity were preserved. It is also notable that high levels of remote working have persisted, not only because of health considerations but because of a wider change of mindset and work culture that has led to changes in business organization that were inconceivable before the pandemic.

An October 2021 Gallup poll found that only 9% of people who were in nine-to-five office jobs pre-pandemic wanted to return to that schedule, and more than 54% of them would prefer a hybrid organization going forward.⁴⁸ Similarly, companies in developing countries' service sectors are also adapting to hybrid work. For instance, about 30% of African companies are changing their hiring criteria in tasks that can be performed remotely, offering more fully remote positions.⁴⁹

These changes have brought both costs and benefits for employees and employers. The positive impacts on work-life balance have to be weighed up against considerations such as efficiency and productivity when staff are working without full

office facilities, with reduced access to internal information, with more difficult employment-relationship management, and with reduced creativity and social interaction due to fewer interactions with colleagues.

The significant decrease in commuting that has resulted from greater remote working patterns has also led to efficiency gains, including reduced energy consumption and emissions, as well as a significant reallocation of employees' time from transport to work, estimated at between two and six 40-hour weeks of additional work per year.

However, reduced levels of commuting feed through to reduced footfall and demand for many businesses that rely on commuters as their core customer group. More generally, while there seems to be a broad welcoming of the shift to remote working, the change potentially leads to a new source of division and inequality within labour markets, between those who work in sectors where remote working is possible and those who work in sectors where it is not possible. This was starkly evident in the early months of the pandemic, when many of the lowest-paid workers had to continue going out to work while more fortunate professionals were able to switch relatively seamlessly to home working.

2.5 Remote learning

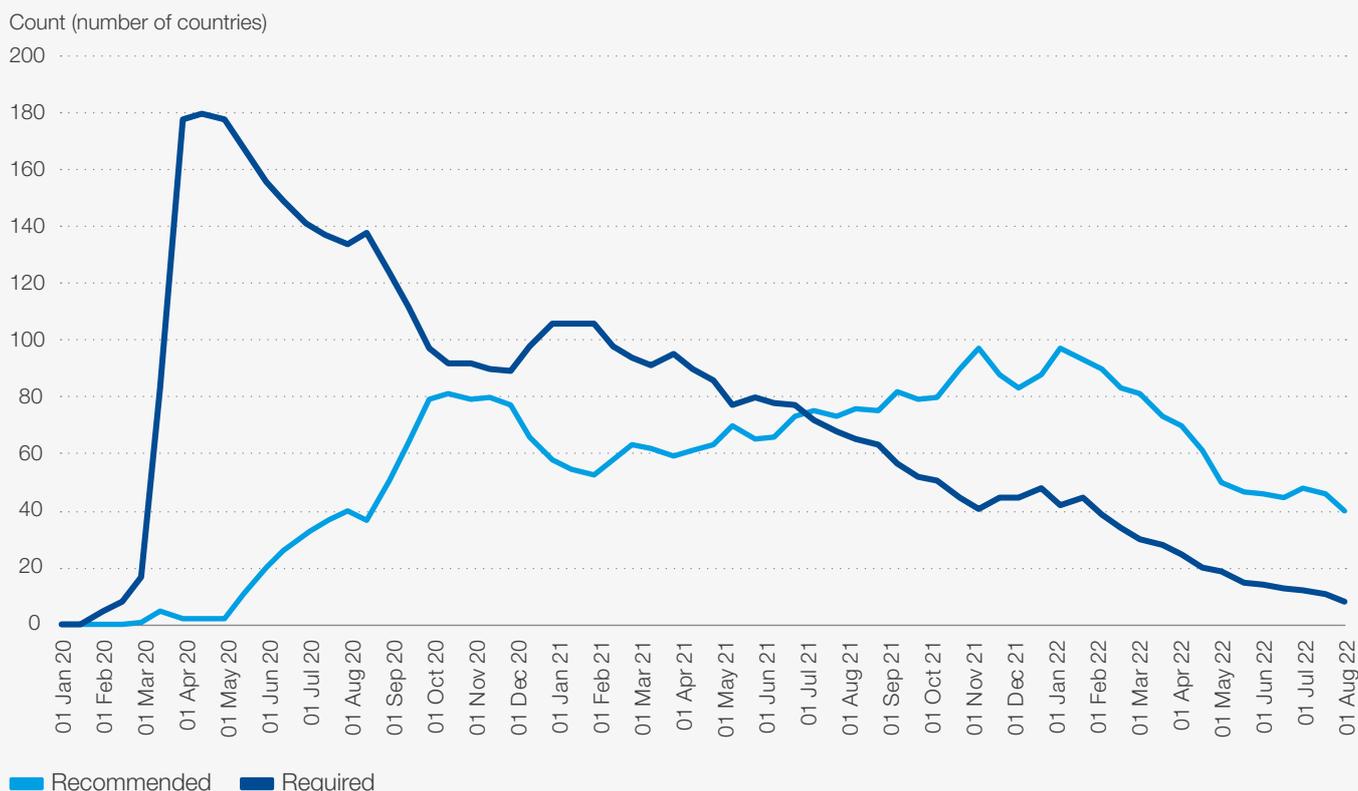
In a process analogous to the shift to remote working, during the early phase of the pandemic there were widespread school closures and a resulting increase in remote learning. There are strong reasons to avoid educational disruption. In economic terms, the adverse impact on literacy could have cost the global economy more than \$1.19 trillion. Education is crucial to providing children and young adults with access to human capital development and to better economic opportunities in the longer run.⁵⁰

In 2020 and 2021, almost every country's emergency policies included some suspension of in-person educational services. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), 1.8 billion learners at all education levels (80% of the global total) were kept out of educational institutions by national closures (Figure 7).⁵¹ As an alternative, about 90% of

countries provided remote education through online channels, 85% through TV and paper-based take-home materials and 70% using mobile phones. Most governments implemented multimodal remote learning: 80% in the Middle East and North Africa, 90% in Eastern Europe and Central Asia, and 97% in Latin America.⁵²

However, beyond school closures, education did not feature prominently in governments' pandemic responses. On the contrary, only 2% of COVID-19 relief spending was allocated to education. Moreover, 65% of lower-middle-income countries and 33% of upper-middle-income countries actually cut their education budgets.⁵³ So instead of bolstering the education system during a time of exceptional strain, in many countries investment diminished, which exacerbated learning losses and reduced the resources available for returning to classes.

FIGURE 7. Number of countries with school closures (2020–2022 daily data)



Note: "Recommended" corresponds to countries' policies coded as "Recommended closing, or all schools open with alterations resulting in significant differences compared to non-COVID-19 operations". "Required" corresponds to countries' policies coded as "Required closing (only some levels of categories, e.g. just high school or just public schools)" or "Required closing at all levels".

Source: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford

Did these interventions work?

Although school closures may have contributed to reducing the spread of COVID-19, large-scale remote schooling only partially made up for the loss of in-person education services. In general, remote- or hybrid-learning models had a negative effect on students in primary education, but more mixed effects on students in higher education. Conversely, remote learning and training had a positive impact on skills development and lifelong learning for adults.

In primary education, remote learning was problematic in both developing and advanced countries. Half a year of schooling lost translates, on average, to 3.9% losses in lifetime income. This means that globally the losses in lifetime income as a result of education disruptions during the pandemic could amount to \$10 trillion.⁵⁴ In developing countries, school closures often translated to no education, with a substantial loss in learning, especially for young children. For instance, in Tunisia, “learning-adjusted” years of education dropped from an average of 10 years to 6.7 years after COVID-19.⁵⁵ In Uganda, where schools were closed for two full years, the illiteracy rate among young students almost doubled.⁵⁶

In advanced economies, primary education was often available through online classes. However, evidence shows that, even in these contexts, school attendance diminished, and young students’ tests scores worsened in most countries across

multiple dimensions. Remote learning had a particularly strong impact on young children from socioeconomically disadvantaged households, due to a lack of family support and/or access to digital tools and equipment at home.

Turning to higher education, both secondary school and university students have expressed low satisfaction with distance learning during the pandemic. For instance, in South Korea, where internet access is not a barrier, students often lamented the lack of interaction and opportunities to engage with other students. At the same time, however, remote learning also made distance-collaboration among students easier, and improved access to universities for those living in remote areas.

Adult education was one area in which the shift to remote learning seems to have been clearly positive, with demand for lifelong learning spiking during the pandemic. This potentially reflects a range of factors, including the shift to remote working as well as a trend that saw an increase in the proportion of people resigning from their jobs, particularly in the US. One group of e-learning platforms saw their registrations jump from 76 million in 2019 to 189 million in 2021.⁵⁷ Although online courses are not a substitute for formal higher education, they contribute to developing job-specific skills that are viewed favourably by hiring managers and can improve career opportunities.⁵⁸

3

Lessons for inclusive economic policy-making



This section builds on the retrospective analysis above to consider how the pandemic should inform future social and economic policy-making. The focus here is not on how best to prepare for the next crisis, though that is important. The objective

is rather to understand what the implications for “business-as-usual” policy should be. What have we learned about how our societies and economies work, and about the policies that might make them work better? We point to six key lessons.

3.1 Build smarter, customized, well-publicized social protections

The exceptional increase in social protection spending discussed in the previous section represents a massive natural experiment that should help to inform policy design in the future. This is relevant not only for ensuring better preparedness for future crises but also for efforts to build in greater resilience to economic systems in “normal” times. The employment-support and worker-protection tools used during the pandemic can also be used to mitigate the impact of less universal disruptions, such as recession in an individual country or a shock experienced by one industry. For example, the StaRUG restructuring framework launched by Germany in 2021 has ongoing relevance.⁵⁹ It is designed to limit redundancies by helping companies with all aspects of industrial restructuring so that they avoid going into insolvency.

Based on the evidence from the pandemic responses, one broad pathway for improving employment protection and social safety nets is better targeting of support. Improved targeting means reaching those who most need the support being provided. Research proves that it is more effective to focus benefits on those in most need

than to broaden the range of the programme, even though the latter approach can reduce the likelihood of unforeseen coverage gaps arising.⁶⁰ Applied to employment-support programmes, the principle of improved targeting implies introducing screening mechanisms and incentives to ensure that firms in receipt of subsidies minimize the time they spend under support. It can also entail incentivizing workers’ movement from subsidized to unsubsidized sectors, encouraging the unemployed to return to work, and tracking and prosecuting abuses of support programmes.⁶¹

It is important to note that better targeting does not necessarily mean narrowing the scope of support. It involves ensuring that support also reaches eligible firms or individuals who fail to avail themselves of a benefit through negligence or lack of awareness. This is a persistent issue for active labour policies, which according to the ILO tend to have low take-up rates because individuals, especially in vulnerable groups, are unaware of their existence or intimidated by their registration requirements. Launching information campaigns or offering administrative assistance can help deal with this kind of problem.

3.2 Expand reskilling, upskilling and adult learning for all

A second pathway for improving safety nets involves building in greater linkages between support and reskilling, and investing more widely in reskilling, upskilling and adult education across economies. The rationale for improving the linkage between job support and reskilling is to ensure that more meaningful and lasting changes are made. On their own, subsidies to companies or individuals serve as a temporary sticking plaster, but they will not resolve any deeper issues affecting the companies’ or individuals’ long-term economic prospects. For this to happen, more far-sighted policies should plan to move workers from subsidized companies or sectors towards non-subsidized sectors and improve the employability of the unemployed workforce.

To this end, resilience at multiple levels – individual, company and the economy – can be boosted by better integrating reskilling into the structure of countries’ safety nets. For example, the “NL Keeps Learning” initiative was launched in the Netherlands during the pandemic to provide training to a variety of groups of workers (including the self-employed and non-standard employees), complemented by individualized career counselling.⁶² However such programmes have not yet become common practice, and more can be done in many countries to integrate reskilling into unemployment insurance programmes, as well.

3.3 Promote living wages and bolster household finances

The pandemic highlighted the precarious nature of many households' finances, and their vulnerability to even relatively short disruptions. The exceptional support that many governments introduced during the pandemic provided temporary relief, but it was not designed to resolve the underlying structural issues that predate the pandemic and which will persist after it in the absence of concerted intervention.

By showing how fragile households' financial buffers were, the pandemic has given new impetus to debates about decreasing labour shares of national income and has led to calls for a fairer social contract for workers, including higher wages. Decades of stagnating compensation, as well as the diffusion of temporary, precarious and low-paid work, have been instrumental in shrinking the middle classes and hollowing out households' financial resilience. Even where tight labour market conditions have led to nominal wage increases more recently, these have been offset by a resurgence of inflation and by particularly pronounced spikes in energy prices.

Building up financial resilience will require a greater focus on living wages, calibrated to assure workers a decent standard of living.⁶³ A growing number of companies and policy-makers have identified living wages as one element within a "Good Work Framework", and some companies have already committed to living wages for their employees and throughout their value chains.⁶⁴ Other potential contributors include measures (such as training) to help workers move into higher-skilled and higher-paid jobs, strengthening workers' bargaining power, and revision of tax structures and in-work benefits.

If households' financial resilience can be increased, this in turn will buttress wider social security and social protection. Simply put, the more people who are financially secure, the easier it will be to find the resources needed to protect the remaining most vulnerable households. Better remuneration of low-skilled but essential jobs would also more accurately reflect the risk and rewards in workers' duties and responsibilities. Many people in these low-skilled but essential jobs were among the most exposed to the risks of infection when the pandemic hit.

3.4 Ensure remote working promotes equality

As discussed in the previous section, what began as a massive experiment with hybrid and remote working can now be seen as perhaps the most dramatic structural change triggered by the pandemic. It will shape the future of work. Many workers now strongly prefer hybrid arrangements and by April 2022 office-attendance rates in the US had returned to only 40% of their pre-pandemic levels.⁶⁵ For some workers (especially carers), the possibility of remote work is seen as a stronger incentive to enter the labour market than, for example, higher salaries or the availability of affordable childcare.⁶⁶ The fact that remote work is here to stay is also signalled by recent changes to labour market regulations around the world. For instance, Australia, Canada and the UK have extended flexible work regulations to include telework, and Norway has made working-hours rules equally applicable to employees working from the company's premises or from home.⁶⁷

Vigilance will be required, however. A permanent switch to remote working has the potential to create or exacerbate societal cleavages and inequalities. Most "teleworkable" jobs tend to be clustered in high-skilled sectors, and so the benefits of remote working flow disproportionately to workers with higher skills,

who already enjoy higher incomes. The risk is that remote working could deepen the gap separating those at the top from those at the bottom in terms of income distribution. This is not just about the flexibility that comes with remote working. It can also have financial implications if, for instance, employees with the capacity to work remotely can negotiate a salary premium in return for going back to in-person working, a so-called "back-to-office premium" that is unavailable to those who cannot work remotely.

To guard against the emergence of new disparities, actions need to be taken on multiple fronts. To reduce inequalities among remote workers, legal norms need to better define workers' and employers' rights and responsibilities under these arrangements. For example, how many remote-working days are allowed, how will absence be disciplined, will overseas remote work be permitted, what are the provisions for injury-at-work insurance, is there a right to disconnect? Similarly, firms' talent management practices may need to be recalibrated; for example, to equalize career opportunities between workers who spend more time in the office and those who work more from home.

Finally, as the prevalence of remote working increases, so, too, does the importance of ensuring equal access to the infrastructure and skills required to work remotely. Investing in

infrastructure that enhances adequate connectivity across geographies and even human capital development will be essential to prevent disparities in access to telework opportunities by location.

3.5 Strengthen care systems to support gender equality

One dimension of inequality that was highlighted and exacerbated by the pandemic is the role of women in the economy. Put simply, women were more likely than men to suffer socioeconomic disadvantage as a result of the pandemic, but less likely to enjoy the benefits of the policy responses introduced. The extent to which gender was a blind spot for policy-makers during the pandemic underlines the continuing need for interventions to enable women to participate on equal terms.

Women are disproportionately employed in the sectors and occupations that were most severely hit by the pandemic. They also lost jobs in greater numbers. Data for 2020 from the Global Gender Gap Report points to both declining labour-force participation and an uptick in unemployment that was more persistent for women than for men.⁶⁸ The impact of the pandemic on women was also heavily shaped by the fact that they undertake a disproportionate share of household duties and childcare. This pattern intensified during the pandemic and meant, for example, that men and women tended to experience remote working quite differently.

This learning from the experience of the pandemic should inform the design of new policies as remote working becomes increasingly prevalent. The normalization of teleworking risks entrenching disadvantages for women if there is an implicit assumption that they will juggle professional and household tasks when working from home, thereby reducing the need for external childcare services and kindergartens.⁶⁹ This pattern of women doing more juggling of work and childcare was evident

during the pandemic when schools closed and many children were required to stay at home. The widespread extension of flexible work arrangements that is under way cannot be seen as a substitute for proper childcare services. On the contrary, it makes those services more urgently needed than ever.

Beyond remote working, there is a need to pay closer attention to the relative well-being of women. Improvements in social protection as discussed above would provide a safety net for a greater number of women working in precarious employment. But more proactive steps are needed. For example, improved women-targeted reskilling and upskilling has an important role to play in reducing the number of women who find themselves in precarious work. An increase in the number of women being promoted to leadership positions might encourage workplace policies that take greater account of women's circumstances and needs.⁷⁰ Above all, care systems should be strengthened to ease the informal burden placed on women. Greater investment in the care sector combined with more progressive tax deductions would make it easier for women to participate in the labour force, while changes in policy areas such as paid leave for fathers might help to rebalance the distribution of care responsibilities at home.

3.6 Invest in educational content, talent and infrastructure

After the pandemic, the scars from lost learning must be healed and the role of education and training as engines of social mobility must be reaffirmed. School closures have shown how children's future prospects diminish in the absence of formal education structures, with children from disadvantaged backgrounds at particular risk of being left behind. Investments in education have a high return: for each \$1 invested, \$5 in returns can be expected over a child's lifetime. A single year of education yields on average a 9% increase in wages, up to an increase of 15%.⁷¹ And, aside from the economic returns, education also fosters greater civic engagement, institutional trust, more tolerant political opinions and stronger participation in communities. It is a cornerstone of social inclusion and mobility that warrants greater policy attention focused on widening participation and equipping all students for the future.

As noted earlier, the shift to remote learning during the pandemic was patchy and problematic. But while a complete reliance on remote learning has proven suboptimal, experience during the pandemic also points to the fact that there is latitude to complement physical classes with digital assignments and activities, especially for older children and university students. This could go beyond the priority during the pandemic of

making up for a shortfall of in-person learning. With sufficient political will and resourcing, digital education could be more transformative – for example, if digital education could use extended reality to give children access to experiences unavailable in the classroom. Similarly, secondary schools and universities could expand into open co-learning spaces, increasing the chances for students to socialize and work together.

Building updated education infrastructure and human capital require investment, but this is an area where countries are currently underinvestment. The size of the global education sector is estimated at about \$5 trillion, yet it received only \$300 billion in investment in 2020.⁷²

Improving education, however, requires not only spending more but also spending smarter, with higher returns on investment to be achieved by focusing resources on digital infrastructure, teaching personnel or hiring practices, while disinvesting in all other activities and non-teaching personnel.

Aside from investment, a range of other policies will be needed to strengthen education systems with a view to supporting social mobility. These include updating curricula, as well as expanding, upskilling and empowering the teaching profession.⁷³

Conclusion: Financing policy innovations for the future

The peak of the pandemic appears to have passed, and most targeted support programmes have been discontinued. It remains to be seen whether the kind of longer-term reforms argued for in this paper will be adopted. However, one area where the pandemic's effects are certain to be felt for years to come is public spending. The extraordinary policies that the crisis necessitated involved huge public outlays, adding to debt burdens that were already at historic highs. This will underpin debates about public spending for many years to come. Already the macroeconomic backdrop is becoming increasingly challenging, with higher interest rates pushing up debt-servicing costs.⁷⁴

This pressure on public finances is likely to act as a significant constraint on governments' capacity to implement long-term improvements to social and economic policy. To avoid lapsing into inaction on critical societal needs, it is worth considering alternative approaches. This is a complex and contentious area, and a detailed discussion goes beyond the scope of this paper. However, a two-step approach that warrants attention would involve: (1) greater public-private innovation and collaboration on meeting societal needs; coupled with (2) government-enforced conditionalities to ensure the long-term balance of public and private interests.

There are already several examples highlighting the use of public-private collaboration and innovation to help finance social services. Social impact bonds have been used in a range of countries. Development partner financing plays an important role in funding social protection spending in developing countries. And in some advanced economies there is already some private-sector involvement in the provision of social safety nets – for example, through employer contributions to pension, unemployment, health or long-term care insurance costs.⁷⁵

The use of conditionality to ensure that private-sector interests align with societal goals can be as simple as “payment-by-result” schemes to ensure private service providers receive public money only when societal goals have been achieved.⁷⁶ But it can also involve more far-reaching reflection on what a policy's key objectives and criteria are. The pandemic provides a useful case study

here, and in particular the financing of vaccine development. On the one hand, the social returns on public investment in vaccine development are self-evident.⁷⁷ On the other hand, it can be argued that, given the extent of public investment and the level of private profit to which it contributed, governments ought to have insisted on a wider range of conditions to maximize the societal benefits, such as on pricing and technology sharing, for example.⁷⁸

We will be trying to understand the pandemic's impacts and implications for years to come, during which time we are very likely to be confronted with further global shocks, not least because of the developing climate crisis. The pandemic served as the most dramatic of societal stress tests, confirming some strengths and weaknesses we already knew about, but revealing others that were underestimated. As the acute phase recedes and other, neglected policy priorities return to the fore, it would be an easy mistake to try to move on too swiftly from COVID-19. But we should pay lasting attention to the societal needs and vulnerabilities it revealed and to the kind of policy innovations that might remedy them for the future.

References

- Aaron, H., 2020. The Social Safety Net: The Gaps that COVID-19 Spotlights, Brookings: <https://www.brookings.edu/blog/up-front/2020/06/23/the-social-safety-net-the-gaps-that-covid-19-spotlights/>.
- Adams-Prassla, A., Bonevab, T., Golina, M. and Rauh, C., 2020. Inequality in the Impact of the Coronavirus Shock: Evidence from Real-Time Surveys, Journal of Public Economics, Vol. 189, September 2020: <https://www.sciencedirect.com/science/article/pii/S0047272720301092>.
- Agence Française de Développement, 2022. Social Safety Nets and Food Insecurity in the Time of COVID-19: Selected MENA Countries: <https://www.afd.fr/en/ressources/social-safety-nets-and-food-insecurity-time-covid-19-selected-mena-countries>.
- Aiyar, S. and Dao, M. C., 2021. The Effectiveness of Job-Retention Schemes: COVID-19 Evidence from the German States, IMF Working Paper WP/21/24: <https://www.imf.org/-/media/Files/Publications/WP/2021/English/wpia2021242-print-pdf.ashx>.
- Alliance for Financial Inclusion, 2022. Credit Guarantee Schemes: Facilitating MSME Financing in Africa during the COVID-19 Pandemic, p.6 (see Excel database link): https://www.afi-global.org/wp-content/uploads/2022/03/Credit-Guarantee-Schemes-Facilitating-MSME-Financing-in-Africa-during-the-COVID-19-Pandemic_070322.pdf
- Al-Samarrai, S., Cerdan-Infantes, P., Bigarinova, A., Bodmer, J., Vital, M. J. A., Antoninis, M., Barakat, B. F. and Murakami, Y. 2022. EFW: Education Finance Watch 2021, Washington, D.C.: World Bank Group: <http://documents.worldbank.org/curated/en/226481614027788096/Education-Finance-Watch-2021>.
- American Society of Civil Engineers (ASCE), 2021. Investment Gap 2020–2029, Report Card for America's Infrastructure: <https://infrastructurereportcard.org/resources/investment-gap-2020-2029/>.
- Andrews, D., Charlton, A. and Moore, A., 2021. COVID-19, Productivity and Reallocation: Timely Evidence from Three OECD Countries, OECD Economics Department Working Paper No. 1676: [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP\(2021\)27&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2021)27&docLanguage=En).
- Araujo, J., Garrido, J., Kopp, E., Varghese, R. and Yao, W., 2022. Policy Options for Supporting and Restructuring Firms Hit by the COVID-19 Crisis, International Monetary Fund, Vol. 2022, Issue 002: <https://www.elibrary.imf.org/view/journals/087/2022/002/article-A001-en.xml>.
- Autor, D., Cho, D., Crane, L., Goldarm, M., Lutz, B., Montes, J., Peterman, W., Ratner, D., Villar, D. and Yildirmaz, A., 2022. The \$800 Billion Paycheck Protection Program: Where Did the Money Go and Why Did It Go There?, Journal of Economic Perspectives, Vol. 36, No. 2, Spring 2022, pp. 55–80: https://www.nber.org/system/files/working_papers/w29669/w29669.pdf.
- Azevedo, J.-P., Hasan, A., Geven, K., Goldemberg, D. and Iqbal, A. S., 2020. Learning Losses Due to COVID-19 Could Add Up to \$10 Trillion, Brookings: <https://www.brookings.edu/blog/future-development/2020/07/30/learning-losses-due-to-covid-19-could-add-up-to-10-trillion/>.
- Barnes, S., Hillman, R., Wharf, G., McDonald, G. et al., 2021. The Impact of COVID-19 on Corporate Fragility in the United Kingdom: Insights from a New Calibrated Firm-level Corporate Sector Agent-Based (CAB) Model, OECD Economics Department Working Papers, No. 1674, Paris, OECD Publishing: https://www.oecd-ilibrary.org/economics/the-impact-of-covid-19-on-corporate-fragility-in-the-united-kingdom-insights-from-a-new-calibrated-firm-level-corporate-sector-agent-based-cab-model_b6805eed-en;jsessionid=0GqR0ul_I551NENrTxloXRFgYFJ77Zu7s2PkIQMR.ip-10-240-5-37.
- Bénassy-Quéré, A., Hadjibeyli, B. and Rouleau, G., 2021. French Firms through the COVID Storm: Evidence from Firm-Level Data, VOX EU.CEPR: <https://cepr.org/voxeu/columns/french-firms-through-covid-storm-evidence-firm-level-data>.
- Bertheau, A., Acabbi, E., Barceló, C., Gulyas, A., Lombardi, S. and Saggio, R., 2022. The Unequal Cost of Job Loss across Countries, NBER Working Paper 297: <https://docs.iza.org/dp15033.pdf>.

- Bhavna, J., Suneela, G., Pradeep, A., Yogesh, B., Mahendra, S. and Raman, K., 2022. Health Budget in Light of Pandemic, Health Reforms from Mirage to Reality, Journal of Family Medicine and Primary Care, Vol. 11, Issue 1, January 2022, pp. 1–4: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8930145/>.
- Bighelli, T., Lalinsky, T. and di Mauro, F. 2021. Covid-19 Government Support May Have Not Been as Unproductively Distributed as Feared, VOX EU.CEPR: <https://cepr.org/voxeu/columns/covid-19-government-support-may-have-not-been-unproductively-distributed-feared>.
- Blavatnik School of Government, University of Oxford, 2022. Variation in Government Responses to COVID-19, Blavatnik School Working Paper: <https://www.bsg.ox.ac.uk/research/publications/variation-government-responses-covid-19>.
- Bonacini, L., Gallo, G. and Scicchitano, S. 2021. Working from Home and Income Inequality: Risks of a “New Normal” with COVID-19, Journal of Population Economics, Vol. 34, pp. 303–360: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7486597/>.
- Breuninger, K. and Newburger, A., 2021. Here's What's in the \$550 Billion Bipartisan Infrastructure Deal, CNBC: <https://www.cnbc.com/2021/07/28/heres-whats-in-the-550-billion-bipartisan-infrastructure-deal.html>.
- Bruni, L., Guven, M. and Monsalve, E., 2018. How Can African Governments Pay to Expand Their Safety Nets?, World Bank Blogs: <https://blogs.worldbank.org/africacan/how-can-african-governments-pay-to-expand-their-safety-nets>.
- Brussevich, M., Dabla-Norris, E. and Khalid, S., 2020. Teleworking Is Not Working for the Poor, the Young, and the Women, IMF Blog: <https://www.imf.org/en/Blogs/Articles/2020/07/07/blog-teleworking-is-not-working-for-the-poor-the-young-and-women>.
- Buettgens, M. and Green A., 2021. What Will Happen to Unprecedented High Medicaid Enrollment after the Public Health Emergency?, Urban Institute and Robert Wood Johnson Foundation: https://www.urban.org/sites/default/files/publication/104785/what-will-happen-to-unprecedented-high-medicaid-enrollment-after-the-public-health-emergency_0.pdf.
- Cabinet Office and Department for Digital, Culture, Media & Sport of the United Kingdom, 2020. Procurement Policy Note 06/20 – Taking Account of Social Value in the Award of Central Government Contracts: <https://www.gov.uk/government/publications/procurement-policy-note-0620-taking-account-of-social-value-in-the-award-of-central-government-contracts>.
- Center on Budget and Policy Priority, 2022. Robust COVID Relief Achieved Historic Gains Against Poverty and Hardship, Bolstered Economy: <https://www.cbpp.org/research/poverty-and-inequality/robust-covid-relief-achieved-historic-gains-against-poverty-and>.
- CMX Law, Tax, Future, 2021. Corporate Restructuring under the German StaRUG-Scheme: <https://cms.law/en/deu/insight/corporate-restructuring-under-the-german-starug-scheme>.
- Cœuré, B., 2021. What 3.5 Million French Firms Can Tell Us about the Efficiency of Covid-19 Support Measures, VOX EU.CEPR: <https://cepr.org/voxeu/columns/what-35-million-french-firms-can-tell-us-about-efficiency-covid-19-support-measures#:~:text=What%203.5%20million%20French%20firms%20can%20tell%20us, support%20available%20to%20companies%20during%20the%20Covid-19%20crisis>.
- Corredera-Catalán, F., Di Pietro, F. and Trujillo-Ponce, A., 2021. Post-COVID-19 SME Financing Constraints and the Credit Guarantee Scheme Solution in Spain, Journal of Banking Regulation, Vol. 22, pp. 250–260: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3732460.
- Cros, M., Epaulard, A. and Martin, P., 2021. Will Schumpeter Catch COVID-19? Evidence from France, CEPR Discussion Paper 15834: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3795217.
- Crosman, P., 2022. “We’ve Become a Culture Where We Live in the Moment”: Suze Orman on Savings Crisis, American Banker: <https://www.americanbanker.com/podcast/weve-become-a-culture-where-we-live-in-the-moment-suze-orman-on-savings-crisis>.
- D’Attoma, J., Piolatto, A., Rees-Jones, A., and Salvadori, L., 2020. How COVID-19 Is Making Us Rethink Safety Net Programmes, VOX EU CEPR: <https://voxeu.org/article/how-covid-19-making-us-rethink-safety-net-programmes>.

- De Soyres, F., Santacreu, A. and Young, H., 2022. Fiscal Policy and Excess Inflation during COVID-19: A Cross-Country View, FEDS Notes: <https://www.federalreserve.gov/econres/notes/feds-notes/fiscal-policy-and-excess-inflation-during-covid-19-a-cross-country-view-20220715.htm>.
- Díez, F., Romain, D., Fan, J., Garrido, J., Kalemli-Özcan, S., Maggi, C. Soledad, M.-P. and Pierri, N., 2021. Insolvency Prospects Among Small-and-Medium Enterprises in Advanced Economies: Assessment and Policy Options, IMF Staff Discussion Note, April 2021 SDN/2021/002: <https://www.imf.org/-/media/Files/Publications/SDN/2021/English/SDNEA2021002.ashx>.
- Drahokoupil, J. and Müller, T., 2021. Job Retention Schemes in Europe: A Lifeline during the COVID-19 Pandemic, ETUI Working Paper 2021, 07: <https://www.etui.org/publications/job-retention-schemes-europe>.
- Ebbinghaus, B. and Lehner, L., 2022. Cui Bono – Business or Labour? Job Retention Policies during the COVID-19 Pandemic in Europe, Transfer: European Review of Labour and Research, Vol. 28, Issue 1, pp. 47–64: <https://doi.org/10.1177/10242589221079151>.
- Emmons, W. and Dahl, D., 2022. Was the Paycheck Protection Program Effective?, Federal Reserve St. Louis: <https://www.stlouisfed.org/publications/regional-economist/2022/jul/was-paycheck-protection-program-effective>.
- European Parliament, 2020. Social Impact Investment Best Practices and Recommendations for the Next Generation: [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/658185/IPOL_STU\(2020\)658185_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/658185/IPOL_STU(2020)658185_EN.pdf).
- European Parliament, Economic Governance Support Unit (EGOV) Directorate-General for Internal Policies, 2022. Overview of How Major Economies Have Responded to the COVID-19 Pandemic: Growth Trajectories, Debt Sustainability, Best Practices: [https://www.europarl.europa.eu/RegData/etudes/STUD/2022/689450/IPOL_STU\(2022\)689450_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2022/689450/IPOL_STU(2022)689450_EN.pdf).
- Facebook, OECD and World Bank, 2020. Global State of Small Business Report: Reflections on Six Waves of Data Collection: <https://about.fb.com/wp-content/uploads/2020/12/Final-Global-State-of-Small-Business-Report.pdf>.
- Fair, R., 2021. US Infrastructure: 1929–2019, Yale: <https://fairmodel.econ.yale.edu/rayfair/pdf/2019d.PDF>.
- Filmer, D., Halsey, R., Angrist, N. and Sabarwal, S., 2018. Learning-Adjusted Years of Schooling : Defining A New Macro Measure of Education, World Bank Policy Research Working Paper No. 8591: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3256550.
- Financial Stability Board, 2022. FinTech and Market Structure in the COVID-19 Pandemic: Implications for Financial Stability: <https://www.fsb.org/wp-content/uploads/P210322.pdf>.
- Fink, C., 2022. Calculating Private and Social Returns to COVID-19 Vaccine Innovation, WIPO Economic Research Working Paper No. 68: <https://www.wipo.int/publications/en/details.jsp?id=4595&plang=EN>.
- Fogden, R., 2022. More Flexibility Is Key to Boosting Labour Market Supply across the UK, Centre for Progressive Policy: <https://www.progressive-policy.net/publications/more-flexibility-key-to-boosting-labour-market-supply>.
- Foremny, D., Sorribas-Navarro, P. and Vall-Castelló, J., 2020. Living at the Peak: Health and Public Finance During the COVID-19 Pandemic, SSRN Working Paper 3578483: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3578483.
- Fuhrer, L., Ramelet, M. and Tenhofen, J., 2020. Firms' Participation in the COVID-19 Loan Programme, SNB Working Papers 25/2020: https://www.snb.ch/n/mmr/reference/working_paper_2020_25/source/working_paper_2020_25.n.pdf.
- Gallup, 2022. The Future of Hybrid Work: 5 Key Questions Answered with Data: <https://www.gallup.com/workplace/390632/future-hybrid-work-key-questions-answered-data.aspx>.
- Garrote Sanchez, D., Gomez Parra, N., Ozden, C., Rijkers, B., Viollaz, M. and Winkler, H. J., 2020. Who on Earth Can Work from Home?, World Bank Policy Research Working Paper 9347: <https://openknowledge.worldbank.org/bitstream/handle/10986/34277/Who-on-Earth-Can-Work-from-Home.pdf>.
- Gaspar, V. Mauro, P., Pattillo, C. and Espinoza, R., 2020. Public Investment for the Recovery, IMF Blogs: <https://www.imf.org/en/Blogs/Articles/2020/10/05/blog-public-investment-for-the-recovery>.

- Gentlini, U., 2022. Cash Transfers in Pandemic Times: Evidence, Practices, and Implications from the Largest Scale Up in History, World Bank, Social Protection and Jobs Global Practice: <https://documents1.worldbank.org/curated/en/099800007112236655/pdf/P17658505ca3820930a254018e229a30bf8.pdf>.
- Gilligan, D., 2020. Social Safety Nets Are Crucial to the COVID-19 Response: Some Lessons to Boost their Effectiveness, International Food Policy Research Institute (IFPRI): <https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/133820/filename/134049.pdf>.
- Gottlieb, C., Grobovsek, J., Poschke, M. and Saltiel, F., 2021. Working from Home in Developing Countries, VOX EU CEPR: <https://cepr.org/voxeu/columns/working-home-developing-countries>.
- Gourinchas, P-O., Kalemli-Özcan, S., Penciakova, V. and Sander, N., 2021. COVID-19 and Small- and Medium-Sized Enterprises: A 2021 “Time Bomb”?, National Bureau of Economic Research Working Paper 28418: https://www.nber.org/system/files/working_papers/w28418/w28418.pdf.
- Hadjibeyli, B., Roulleau, G. and Bauer, A., 2021. Live and (Don't) Let Die: The Impact of COVID-19 and Public Support on French Firms, French Treasury Working Paper No. 2021/2, April 2021: <https://www.tresor.economie.gouv.fr/Articles/9c6b957d-4b44-413e-a805-2c3cc5cead61/files/3173776a-1ced-4d2e-bba2-6a37bad652d5>.
- Haque, S. and Varghese, R., 2021. The COVID-19 Impact on Corporate Leverage and Financial Fragility, IMF Working Paper WP/21/265: <https://www.imf.org/-/media/Files/Publications/WP/2021/English/wp/iea2021265-print-pdf.ashx>.
- Hersh, A., 2021. “Build Back Better” Agenda Will Ensure Strong, Stable Recovery in Coming Years, Economic Policy Institute: <https://www.epi.org/publication/ijja-budget-reconciliation-jobs/>.
- ILO, 2018. Women and Men in the Informal Economy: A Statistical Picture: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_626831.pdf.
- ILO, 2020. Delivering Income and Employment Support in Times of COVID-19: Integrating Cash Transfers with Active Labour Market Policies, Policy Brief: https://www.ilo.org/global/research/policy-briefs/WCMS_748331/lang--en/index.htm.
- ILO, 2021a. Extending Social Security to Workers in the Informal Economy: Lessons from International Experience: <https://www.social-protection.org/gimi/RessourcePDF.action?id=55728>.
- ILO, 2021b. Home-Based Workers in the World: A Statistical Profile, Statistical Brief No. 27: https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_771793.pdf.
- ILO, 2021c. Working from Home: From Invisibility to Decent Work: https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_765806.pdf.
- ILO, 2022a. Job Retention Schemes during COVID-19: A Review of Policy Responses: https://www.ilo.org/employment/Whatwedo/Publications/WCMS_849465/lang--en/index.htm.
- ILO, 2022b. New ILO Report Finds African Workplaces Have Been Dramatically Changed by the COVID-19 Pandemic: https://www.ilo.org/actemp/news/WCMS_844839/lang--en/index.htm.
- ILO, 2022c. Policy Sequences during and after COVID-19: A Review of Labour Market Policy Patterns, Policy Brief: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_849468.pdf.
- ILO, 2022d. The Next Normal: The Changing Workplace in Africa: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---act_emp/documents/publication/wcms_844770.pdf.
- ILO, 2022e. World Social Protection Report 2020–22: Social Protection at the Crossroads – in Pursuit of a Better Future: https://www.ilo.org/global/publications/books/WCMS_817572/lang--en/index.htm.
- IMF, 2020, World Economic Outlook Update, June 2020: <https://www.imf.org/-/media/Files/Publications/WEO/2020/Update/June/English/WEOENG202006.ashx>.
- IMF, 2021. Fiscal Monitor October 2021: Strengthening the Credibility of Public Finance: <https://www.imf.org/-/media/Files/Publications/fiscal-monitor/2021/October/English/text.ashx>.

IMF Fiscal Affairs Department, 2021, Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic: <https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19>.

Industrial Relations and Labour Law Newsletter, 2022. Norway: Amendments to Regulations on Working from Home, IOE and World Employment Federation: <https://ioewec.newsletter.ioe-emp.org/industrial-relations-and-labour-law-september-2022/news/article/norway-amendments-to-regulations-on-working-from-home>.

Inoue, A., Rossi, B. and Wang, Y., 2022. Local Projections in Unstable Environments: How Effective Is Fiscal Policy?, CEPR Discussion Paper No. 17134: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4069943.

Institute for Government of the United Kingdom, 2021. The Coronavirus Job Retention Scheme: How Successful Has the Furlough Scheme Been and What Should Happen Next?: <https://www.instituteforgovernment.org.uk/publications/furlough-scheme>.

InterAmerican Development Bank, 2020. Social Policy Responses to the Effects of COVID-19: <https://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=EZSHARE-1132863027-3>.

International Growth Center, 2021. Cash Transfers as COVID-19 Relief: Evidence from Ghana: <https://www.theigc.org/blog/cash-transfers-as-covid-19-relief-evidence-from-ghana/>.

Kane J. and Vajjhala S., 2020. Prioritize People, Not Projects: Addressing the Harms of Legacy Infrastructure in the COVID-19 Recovery, Brookings: <https://www.brookings.edu/research/prioritize-people-not-projects-addressing-the-harms-of-legacy-infrastructure-in-the-covid-19-recovery/>.

Kohler, T. and Hill, R., 2021. The Distribution and Dynamics of South Africa's TERS Policy: Results from NIDS-CRAM Waves 1 to 5: <https://cramsurvey.org/wp-content/uploads/2021/07/7.-Kohler-T.-Hill-R.-2021.-The-distribution-and-dynamics-of-South-Africa%E2%80%99s-TERS-policy-Results-from-NIDS-CRAM-Waves-1-to-5.pdf>.

Langston, C. and Crowley, C., 2022. Fiscal Success: Creating Quality Infrastructure in a Post-COVID World, Sustainability, Vol. 14, Issue 3, 1642: <https://www.mdpi.com/2071-1050/14/3/1642/htm>.

Leduc, S. and Wilson, D., 2012. Roads to Prosperity or Bridges to Nowhere? Theory and Evidence on the Impact of Public Infrastructure Investment, NBER Macroeconomics Annual, Vol. 27: <https://www.journals.uchicago.edu/doi/full/10.1086/669173>.

Lehrer, E., 2022. On Working from Home, National Affairs, No. 53, Fall 2022: <https://www.nationalaffairs.com/publications/detail/on-working-from-home>.

Leone, T., 2020. How Feasible Is Working from Home in Developing Countries?, Economics Observatory: <https://www.economicsobservatory.com/how-feasible-working-home-developing-countries>.

Mazzucato M. and Ghosh, J., 2021. Health Innovation for All, Project Syndicate: <https://www.project-syndicate.org/commentary/health-innovation-for-all-by-mariana-mazzucato-and-jayati-ghosh-2021-12>.

McBride, J. and Siripurapu, A., 2021. The State of US Infrastructure, Council on Foreign Relations: <https://www.cfr.org/background/state-us-infrastructure>.

McKinsey, 2022a. COVID-19: Implications for Business, Briefing Note #100: <https://www.mckinsey.com/business-functions/risk-and-resilience/our-insights/covid-19-implications-for-business>.

McKinsey, 2022b. Gone for Now, or Gone for Good? How to Play the New Talent Game and Win Back Workers: <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/gone-for-now-or-gone-for-good-how-to-play-the-new-talent-game-and-win-back-workers>.

McKinsey, 2022c. Ten Lessons from the First Two Years of COVID-19: <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/ten-lessons-from-the-first-two-years-of-covid-19>

Miyamoto, H., 2020, Chapter 2: Growth Impact of Public Investment and the Role of Infrastructure Governance, in Well Spent: How Strong Infrastructure Governance Can End Waste in Public Investment, IMF eLibrary: <https://www.elibrary.imf.org/view/book/9781513511818/ch002.xml>.

- Mnyanga, M., Chirwa, G. C. and Munthali, S., 2022. Impact of Safety Nets on Household Coping Mechanisms for COVID-19 Pandemic in Malawi: <https://www.frontiersin.org/articles/10.3389/fpubh.2021.806738/full>.
- Moffitt, R., 2022. Can the US Safety Net Handle the COVID-19 Pandemic and Recession?, Department of Economics, Johns Hopkins University: <https://coronavirus.jhu.edu/from-our-experts/can-the-us-safety-net-handle-the-covid-19-pandemic-and-recession>
- OECD, 2020a. Integrating Responsible Business Conduct in Public Procurement: <https://www.oecd-ilibrary.org/sites/02682b01-en/1/3/1/1/index.html?itemId=/content/publication/02682b01-en&csp=e1facecd62f7ae24f03312574370f56e&itemGO=oecd&itemContentType=book>.
- OECD, 2020b. Job Retention Schemes during the COVID-19 Lockdown and Beyond, Tackling Coronavirus (COVID-19): <https://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/>.
- OECD, 2020c. Job Retention Schemes during the COVID-19 Lockdown and Beyond, Tackling Coronavirus (COVID-19), Section 2: <https://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/#section-d1e1373>.
- OECD, 2021a. OECD SME and Entrepreneurship Outlook 2021: <https://www.oecd.org/publications/oecd-sme-and-entrepreneurship-outlook-2021-97a5bbfe-en.htm>.
- OECD, 2021b. Risks that Matter Survey Report: Main Findings from the 2020 Risks that Matter Survey: <https://www.oecd.org/social/risks-that-matter.htm>.
- OECD, 2021c. Tax and Fiscal Policies after the COVID-19 Crisis, Tackling Coronavirus (COVID-19): <https://www.oecd.org/coronavirus/policy-responses/tax-and-fiscal-policies-after-the-covid-19-crisis-5a8f24c3/>.
- OECD, 2022a. Employment Outlook 2022: Building Back More Inclusive Labour Markets: <https://www.oecd-ilibrary.org/sites/1bb305a6-en/index.html?itemId=/content/publication/1bb305a6-en>.
- OECD, 2022b. Riding the Waves: Adjusting Job Retention Schemes through the COVID-19 Crisis, Tackling Coronavirus (COVID-19): <https://www.oecd.org/coronavirus/policy-responses/riding-the-waves-adjusting-job-retention-schemes-through-the-covid-19-crisis-ae8f892f/>.
- OECD Data. Financial Corporations Debt to Equity Ratio: <https://data.oecd.org/corporate/financial-corporations-debt-to-equity-ratio.htm>.
- Oxfam, 2020. Shelter from the Storm: The Global Need for Universal Social Protection in Times of COVID-19: <https://reliefweb.int/report/world/shelter-storm-global-need-universal-social-protection-times-covid-19>.
- Pereira, L., Kharroubi, E., Kohlscheen, E., Lombardi, M. and Mojon, B., 2022. Inequality Hysteresis and the Effectiveness of Macroeconomic Stabilization Policies, Bank of International Settlements: <https://www.bis.org/publ/othp50.pdf>.
- Puliti, R., 2022. The Infrastructure of Recovery, World Bank Blogs: <https://blogs.worldbank.org/voices/infrastructure-recovery>.
- Raga S., 2022. Fiscal Multipliers: A Review of Fiscal Stimulus Options and Impact on Developing Countries: <https://set.odi.org/wp-content/uploads/2022/01/Fiscal-multipliers-review.pdf>.
- Rees-Jones, A., D'Attoma, J., Piolatto, A. and Salvadori, L., 2020. COVID-19 Changed Tastes for Safety-Net Programs, NBER Working Paper w27865: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3700693.
- Rivas, M., Baker, R. B. and Evans, B. J., 2020. Do MOOCs Make You More Marketable? An Experimental Analysis of the Value of MOOCs Relative to Traditional Credentials and Experience, Sage Journals: <https://journals.sagepub.com/doi/full/10.1177/2332858420973577>.
- RSM South Africa, 2020. Relief for Employers through the COVID-19 Temporary Employee Relief Scheme: <https://www.rsm.global/southafrica/news/relief-employers-through-covid-19-temporary-employee-relief-scheme>.

Sandefur, J., 2022. Uganda's Record-Breaking Two-Year School Closure Led to ... No Decline in the Number of Kids Who Can Read?, Center for Global Development: <https://www.cgdev.org/blog/ugandas-record-breaking-two-year-school-closure-led-to-no-decline-number-kids-who-can-read>.

Siemens, 2021. A New Space Race, Siemens Thought Leadership Report: https://assets.new.siemens.com/siemens/assets/api/uuid:abe1f0bf-433a-42d2-806c-f04c141b1076/a-new-space-race-thought-leadership-report-final.pdf?ste_sid=9734482694999164f82b9f1433f889b8.

Siemens, 2022. Trends and Insights on the Future of Infrastructure: <https://new.siemens.com/global/en/company/stories/infrastructure/2022/a-new-space-race-infrastructure-outlook-energy-buildings-trends.html>.

Sy, J., 2022. A Self-Help Guide for PPPs Two Years into the Pandemic, World Bank Blogs: <https://blogs.worldbank.org/ppps/self-help-guide-ppps-two-years-pandemic>.

Tomei, M., 2021. Teleworking: A Curse or a Blessing for Gender Equality and Work-Life Balance?, Intereconomics: Review of European Economic Policy, Vol. 2021, No. 5: <https://www.intereconomics.eu/contents/year/2021/number/5/article/teleworking-a-curse-or-a-blessing-for-gender-equality-and-work-life-balance.html>.

UNESCO, UNICEF, World Bank. 2021. The State of the Global Education Crisis: A Path to Recovery: <https://openknowledge.worldbank.org/handle/10986/36744>.

United Nations, 2021. Secretary General's Policy Brief: Investing in Jobs and Social Protection for Poverty Eradication and Sustainable Recovery: <https://unsdg.un.org/resources/secretary-generals-policy-brief-investing-jobs-and-social-protection-poverty-eradication>.

United Nations, UN News, 2022. Spending on Social Protection Rose Nearly 270% with Pandemic: <https://news.un.org/en/story/2022/02/1111442>

UN Women, 2020, From Insight to Action, Gender Equality in the Wake of COVID-19: <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2020/Gender-equality-in-the-wake-of-COVID-19-en.pdf>.

USASPENDING.gov, 2022. The Federal Response to COVID-19: <https://www.usaspending.gov/disaster/covid-19?publicLaw=all>.

US Department of Labor. Pandemic Oversight, Making Sense of COVID-19 Relief Spending and Programs: The Paycheck Protection Program (PPP): <https://www.pandemicoversight.gov/data-interactive-tools/interactive-dashboards/paycheck-protection-program>.

Vagliasindi, M. and Gorgulum, N., 2021. What Have We Learned about the Effectiveness of Infrastructure Investment as a Fiscal Stimulus? A Literature Review, Policy Research Working Paper 9796: <https://research.cbs.dk/en/publications/what-have-we-learned-about-the-effectiveness-of-infrastructure-in>.

Wang, J., Yang, J., Iverson, B. and Kluender, R., 2021. Bankruptcy and the COVID-19 Crisis, Harvard Business School, Working Paper 21-04: https://www.hbs.edu/ris/Publication%2520Files/21-041_a9e75f26-6e50-4eb7-84d8-89da3614a6f9.pdf.

World Bank, 2018. Learning to Realize Education's Promise: <https://www.worldbank.org/en/publication/wdr2018>.

World Bank, 2021. Remote Learning During COVID-19, Lessons from Today, Principles for Tomorrow: <https://documents1.worldbank.org/curated/en/160271637074230077/pdf/Remote-Learning-During-COVID-19-Lessons-from-Today-Principles-for-Tomorrow.pdf>.

World Bank, 2022a. Responding to COVID-19 by Advancing Social Safety Nets in Liberia, World Bank Results Briefs: <https://www.worldbank.org/en/results/2022/05/10/afw-responding-to-covid-19-by-advancing-social-safety-nets-in-liberia>.

World Bank, 2022b. Revisiting Targeting in Social Assistance: A New Look at Old Dilemmas: <https://openknowledge.worldbank.org/bitstream/handle/10986/37228/9781464818141.pdf?sequence=1&isAllowed=y>.

World Economic Forum, 2020. COVID-19's Staggering Impact on Global Education: <https://www.weforum.org/agenda/2020/03/infographic-covid19-coronavirus-impact-global-education-health-schools/>.

World Economic Forum, 2022a. Catalysing Education 4.0: Investing in the Future of Learning for a Human-Centric Recovery: https://www3.weforum.org/docs/WEF_Catalysing_Education_4.0_2022.pdf.

World Economic Forum, 2022b. G7 Pledges to Invest \$600 Billion into Infrastructure for Developing Countries: <https://www.weforum.org/agenda/2022/06/g7-pledges-invest-600-billion-infrastructure-developing-countries/>.

World Economic Forum, 2022c. The Global Gender Gap 2022: https://www3.weforum.org/docs/WEF_GGGR_2022.pdf

World Economic Forum, 2022d. The Good Work Framework: A New Business Agenda for the Future of Work: https://www3.weforum.org/docs/WEF_The_Good_Work_Framework_2022.pdf.

World Economic Forum, 2022e. These 3 Charts Show the Global Growth in Online Learning: <https://www.weforum.org/agenda/2022/01/online-learning-courses-reskill-skills-gap/>.

World Literacy Foundation, 2022. The Economic and Social Cost of Illiteracy: A Snapshot of Illiteracy from the World Literacy Foundation: <https://worldliteracyfoundation.org/wp-content/uploads/2022/08/The-Economic-Social-Cost-of-Illiteracy-2022.pdf>.

Zelikow, D. and Savas, F., 2022, Mind the Gap: Time to Rethink Infrastructure Finance. World Bank Blogs: <https://blogs.worldbank.org/ppps/mind-gap-time-rethink-infrastructure-finance>.

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Endnotes

1. Worldometer, COVID-19 Coronavirus Pandemic: <https://www.worldometers.info/coronavirus/>.
2. Authors' calculations based on: Blavatnik School of Government, University of Oxford, 2022. Variation in Government Responses to COVID-19, Blavatnik School Working Paper: <https://www.bsg.ox.ac.uk/research/publications/variation-government-responses-covid-19>.
3. ILO, 2019. Women and Men in the Informal Economy: A Statistical Picture, Third Edition: https://www.ilo.org/global/publications/books/WCMS_626831/lang-en/index.htm.
4. Crosman, P., 2022. "We've Become a Culture Where We Live in the Moment": Suze Orman on Savings Crisis, American Banker: <https://www.americanbanker.com/podcast/weve-become-a-culture-where-we-live-in-the-moment-suze-orman-on-savings-crisis>.
5. ILO, 2022. Job Retention Schemes during COVID-19: A Review of Policy Responses: https://www.ilo.org/employment/Whatwedo/Publications/WCMS_849465/lang-en/index.htm.
6. Rees-Jones, A., D'Attoma, J., Piolatto, A. and Salvadori, L., 2020. COVID-19 Changed Tastes for Safety-Net Programs, NBER Working Paper w27865: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3700693.
7. IMF, World Economic Outlook Update, June 2020: <https://www.imf.org/-/media/Files/Publications/WEO/2020/Update/June/English/WEOENG202006.ashx>.
8. For a more detailed description, see: ILO, 2022. Job Retention Schemes during COVID-19: A Review of Policy Responses: https://www.ilo.org/employment/Whatwedo/Publications/WCMS_849465/lang-en/index.htm.
9. Bertheau, A., Acabbi, E., Barceló, C., Gulyas, A., Lombardi, S. and Saggio, R., 2022. The Unequal Cost of Job Loss across Countries, NBER Working Paper 297: <https://docs.iza.org/dp15033.pdf>.
10. International Monetary Fund, 2021. Fiscal Monitor October 2021: Strengthening the Credibility of Public Finance: <https://www.imf.org/-/media/Files/Publications/fiscal-monitor/2021/October/English/text.ashx>.
11. Alliance for Financial Inclusion, 2022. Credit Guarantee Schemes: Facilitating MSME Financing in Africa during the COVID-19 Pandemic, p.6 (see Excel database link): https://www.afi-global.org/wp-content/uploads/2022/03/Credit-Guarantee-Schemes-Facilitating-MSME-Financing-in-Africa-during-the-COVID-19-Pandemic_070322.pdf.
12. Most of these loans (742 of the 796 billion) have been reported as forgiven, thus becoming subsidies in many cases.
13. US Department of Labor. Pandemic Oversight, Making Sense of COVID-19 Relief Spending and Programs: The Paycheck Protection Program (PPP): <https://www.pandemicoversight.gov/data-interactive-tools/interactive-dashboards/paycheck-protection-program>.
14. Canada introduced the CEWS programme, which subsidized up to 75% of businesses' wage bills. The UK introduced the Coronavirus Job Retention Scheme (CJRS – also known as the "furlough scheme") in March 2020, allowing companies to claim a percentage of employees' wages while agreeing to maintain their job contracts for five years. In South Africa, the COVID-19 emergency sped up the introduction of the Temporary Employment Relief Scheme (TERS) through the Unemployment Insurance Fund.
15. OECD, 2020. Job Retention Schemes during the COVID-19 Lockdown and Beyond, Tackling Coronavirus (COVID-19): <https://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/#section-d1e1373>.
16. Wang, J., Yang, J., Iverson, B. and Kluender, R., 2021. Bankruptcy and the COVID-19 Crisis, Harvard Business School, Working Paper 21-04: https://www.hbs.edu/ris/Publication%2520Files/21-041_a9e75f26-6e50-4eb7-84d8-89da3614a6f9.pdf.
17. Andrews, D., Charlton, A. and Moore, A., 2021. COVID-19, Productivity and Reallocation: Timely Evidence from Three OECD Countries, OECD Economics Department Working Paper No. 1676: [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP\(2021\)27&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2021)27&docLanguage=En); Barnes, S., Hillman, R., Wharf, G., McDonald, G. et al., 2021. The Impact of COVID-19 on Corporate Fragility in the United Kingdom: Insights from a New Calibrated Firm-level Corporate Sector Agent-Based (CAB) Model, OECD Economics Department Working Papers, No. 1674, Paris, OECD Publishing; Bénassy-Quéré, A., Hadjibeyli, B. and Roulleau, G., 2021. French Firms through the COVID Storm: Evidence from Firm-Level Data, VOX EU CEPR: <https://cepr.org/voxeu/columns/french-firms-through-covid-storm-evidence-firm-level-data>; Bighelli, T., Lalinsky, T. and di Mauro, F. 2021. Covid-19 Government Support May Have Not Been as Unproductively Distributed as Feared, VOX EU CEPR: <https://cepr.org/voxeu/columns/covid-19-government-support-may-have-not-been-unproductively-distributed-feared>; Coëuré, B., 2021. What 3.5 Million French Firms Can Tell Us about the Efficiency of Covid-19 Support Measures, VOX EU CEPR: <https://cepr.org/voxeu/columns/what-35-million-french-firms-can-tell-us-about-efficiency-covid-19-support-measures#:~:text=What%203.5%20million%20French%20firms%20can%20tell%20us.support%20available%20to%20companies%20during%20the%20Covid-19%20crisis>; Cros, M., Epaulard, A. and Martin, P., 2021. Will Schumpeter Catch COVID-19? Evidence from France, CEPR Discussion Paper 15834: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3795217.
18. OECD Data. Financial Corporations Debt to Equity Ratio: <https://data.oecd.org/corporate/financial-corporations-debt-to-equity-ratio.htm>.

19. Emmons, W. and Dahl, D., 2022. Was the Paycheck Protection Program Effective?, Federal Reserve St. Louis: <https://www.stlouisfed.org/publications/regional-economist/2022/jul/was-paycheck-protection-program-effective>; Autor, D., Cho, D., Crane, L., Goldarm, M., Lutz, B., Montes, J., Peterman, W., Ratner, D., Villar, D. and Yildirmaz, A., 2022. The \$800 Billion Paycheck Protection Program: Where Did the Money Go and Why Did It Go There?, Journal of Economic Perspectives, Vol. 36, No. 2, Spring 2022, pp. 55–80: https://www.nber.org/system/files/working_papers/w29669/w29669.pdf.
20. Adams-Prassi, A., Boneva, T., Golin, M. and Rauh, C., 2020. Inequality in the Impact of the Coronavirus Shock: Evidence from Real-Time Surveys, Journal of Public Economics, Vol. 189, September 2020, 104245: <https://www.sciencedirect.com/science/article/pii/S0047272720301092>.
21. ILO, World Social Protection Report 2020–2022: <https://www.ilo.org/global/research/global-reports/world-social-security-report/2020-22/lang--en/index.htm>.
22. United Nations, UN News, 2022. Spending on Social Protection Rose Nearly 270% with Pandemic: <https://news.un.org/en/story/2022/02/1111442>.
23. ILO, World Social Protection Report 2020–2022: <https://www.ilo.org/global/research/global-reports/world-social-security-report/2020-22/lang--en/index.htm>.
24. OECD , 2020. Job Retention Schemes during the COVID-19 Lockdown and Beyond. Tackling Coronavirus (COVID-19): <https://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/>.
25. International Growth Center, 2021. Cash Transfers as COVID-19 Relief: Evidence from Ghana: <https://www.theigc.org/blog/cash-transfers-as-covid-19-relief-evidence-from-ghana/>.
26. World Bank, 2022. Responding to COVID-19 by Advancing Social Safety Nets in Liberia, World Bank Results Briefs: <https://www.worldbank.org/en/results/2022/05/10/afw-responding-to-covid-19-by-advancing-social-safety-nets-in-liberia>.
27. Gentlini, U., 2022. Cash Transfers in Pandemic Times: Evidence, Practices, and Implications from the Largest Scale Up in History, World Bank, Social Protection and Jobs Global Practice: <https://documents1.worldbank.org/curated/en/0998000007112236655/pdf/P17658505ca3820930a254018e229a30bf8.pdf>.
28. Center on Budget and Policy Priority, 2022. Robust COVID Relief Achieved Historic Gains Against Poverty and Hardship, Bolstered Economy: <https://www.cbpp.org/research/poverty-and-inequality/robust-covid-relief-achieved-historic-gains-against-poverty-and>.
29. For a more comprehensive assessment, see: Gentlini, U., 2022. Cash Transfers in Pandemic Times: Evidence, Practices, and Implications from the Largest Scale Up in History, World Bank, Social Protection and Jobs Global Practice: <https://documents1.worldbank.org/curated/en/0998000007112236655/pdf/P17658505ca3820930a254018e229a30bf8.pdf>.
30. D’Attoma, J., Piolatto, A., Rees-Jones, A., and Salvadori, L., 2020. How COVID-19 Is Making Us Rethink Safety Net Programmes, VOX EU CEPR: <https://voxeu.org/article/how-covid-19-making-us-rethink-safety-net-programmes>.
31. Foremny, D., Sorribas-Navarro, P. and Vall-Castelló, J., 2020. Living at the Peak: Health and Public Finance During the COVID-19 Pandemic, SSRN Working Paper 3578483: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3578483.
32. Sy, J., 2022. A Self-Help Guide for PPPs Two Years into the Pandemic, World Bank Blogs: <https://blogs.worldbank.org/ppps/self-help-guide-ppps-two-years-pandemic>.
33. Miyamoto, H., 2020. Chapter 2: Growth Impact of Public Investment and the Role of Infrastructure Governance, in Well Spent: How Strong Infrastructure Governance Can End Waste in Public Investment, IMF eLibrary: <https://www.elibrary.imf.org/view/book/9781513511818/ch002.xml>.
34. American Society of Civil Engineers (ASCE), 2021. Investment Gap 2020–2029, Report Card for America’s Infrastructure: <https://infrastructurereportcard.org/resources/investment-gap-2020-2029/>.
35. Puliti, R., 2022. The Infrastructure of Recovery, World Bank Blogs: <https://blogs.worldbank.org/voices/infrastructure-recovery>.
36. Leduc, S. and Wilson, D., 2012. Roads to Prosperity or Bridges to Nowhere? Theory and Evidence on the Impact of Public Infrastructure Investment, NBER Macroeconomics Annual, Vol. 27: <https://www.journals.uchicago.edu/doi/full/10.1086/669173>.
37. Breuninger, K. and Newburger, A., 2021. Here’s What’s in the \$550 Billion Bipartisan Infrastructure Deal, CNBC: <https://www.cnbc.com/2021/07/28/heres-whats-in-the-550-billion-bipartisan-infrastructure-deal.html>.
38. World Economic Forum, 2022. G7 Pledges to Invest \$600 Billion into Infrastructure for Developing Countries: <https://www.weforum.org/agenda/2022/06/g7-pledges-invest-600-billion-infrastructure-developing-countries/>.
39. McBride, J. and Siripurapu, A., 2021. The State of US Infrastructure, Council on Foreign Relations: <https://www.cfr.org/background/state-us-infrastructure>; Bhavna, J., Suneela, G., Pradeep, A., Yogesh, B., Mahendra, S. and Raman, K., 2022. Health Budget in Light of Pandemic, Health Reforms from Mirage to Reality, Journal of Family Medicine and Primary Care, Vol. 11, Issue 1, January 2022, pp. 1–4: <https://journals.lww.com/jfmpc/Fulltext/2022/01000/Health-budget-in-light-of-pandemic-Health-reforms.1.aspx>.
40. Gaspar, V., Mauro, P., Pattillo, C. and Espinoza, R., 2020. Public Investment for the Recovery, IMF Blogs: <https://www.imf.org/en/Blogs/Articles/2020/10/05/blog-public-investment-for-the-recovery>.
41. Langston, C. and Crowley, C., 2022. Fiscal Success: Creating Quality Infrastructure in a Post-COVID World,

- Sustainability, Vol. 14, Issue 3, 1642: <https://www.mdpi.com/2071-1050/14/3/1642/htm>.
42. Siemens, 2022. Trends and Insights on the Future of Infrastructure: <https://new.siemens.com/global/en/company/stories/infrastructure/2022/a-new-space-race-infrastructure-outlook-energy-buildings-trends.html>.
 43. Kane J. and Vajjhala S., 2020. Prioritize People, Not Projects: Addressing the Harms of Legacy Infrastructure in the COVID-19 Recovery, Brookings: <https://www.brookings.edu/research/prioritize-people-not-projects-addressing-the-harms-of-legacy-infrastructure-in-the-covid-19-recovery/>.
 44. ILO, 2021. Working from Home: From Invisibility to Decent Work: https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_765806.pdf.
 45. Leone, T., 2020. How Feasible Is Working from Home in Developing Countries?, Economics Observatory: <https://www.economicsobservatory.com/how-feasible-working-home-developing-countries>; Gottlieb, C., Grobovsek, J., Poschke, M. and Saltiel, F., 2021. Working from Home in Developing Countries, VOX EU CEPR: <https://cepr.org/voxeu/columns/working-home-developing-countries>.
 46. ILO, 2022. New ILO Report Finds African Workplaces Have Been Dramatically Changed by the COVID-19 Pandemic: https://www.ilo.org/actemp/news/WCMS_844839/lang--en/index.htm.
 47. ILO, 2021. Home-Based Workers in the World: A Statistical Profile, Statistical Brief No. 27: https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_771793.pdf.
 48. Gallup, 2022. The Future of Hybrid Work: 5 Key Questions Answered with Data: <https://www.gallup.com/workplace/390632/future-hybrid-work-key-questions-answered-data.aspx>.
 49. ILO, 2022. The Next Normal: The Changing Workplace in Africa: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---act_emp/documents/publication/wcms_844770.pdf.
 50. World Literacy Foundation, 2022. The Economic and Social Cost of Illiteracy: A Snapshot of illiteracy from the World Literacy Foundation: <https://worldliteracyfoundation.org/wp-content/uploads/2022/08/The-Economic-Social-Cost-of-Illiteracy-2022.pdf>.
 51. World Economic Forum, 2020. COVID-19's Staggering Impact on Global Education: <https://www.weforum.org/agenda/2020/03/infographic-covid19-coronavirus-impact-global-education-health-schools/>.
 52. World Bank, 2021. Remote Learning During COVID-19, Lessons from Today, Principles for Tomorrow: <https://documents1.worldbank.org/curated/en/160271637074230077/pdf/Remote-Learning-During-COVID-19-Lessons-from-Today-Principles-for-Tomorrow.pdf>.
 53. Al-Samarrai, S. et al., 2022. EFW: Education Finance Watch 2021, World Bank: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/226481614027788096/education-finance-watch-2021>.
 54. Azevedo, J.-P., Hasan, A., Geven, K., Goldemberg, D. and Iqbal, A. S., 2020. Learning Losses Due to COVID-19 Could Add Up to \$10 Trillion, Brookings: <https://www.brookings.edu/blog/future-development/2020/07/30/learning-losses-due-to-covid-19-could-add-up-to-10-trillion/>.
 55. The World Bank's Learning Adjusted Years of Schooling (LAYS) concept combines quantity (access) and quality (learning outcomes) of schooling into a single easy-to-understand metric of progress. For more details, see: Filmer, D., Halsey, R., Angrist, N. and Sabarwal, S., 2018. Learning-Adjusted Years of Schooling : Defining A New Macro Measure of Education, World Bank Policy Research Working Paper No. 8591: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3256550.
 56. Sandefur, J., 2022. Uganda's Record-Breaking Two-Year School Closure Led to ... No Decline in the Number of Kids Who Can Read?, Center for Global Development: <https://www.cgdev.org/blog/ugandas-record-breaking-two-year-school-closure-led-to-no-decline-number-kids-who-can-read>.
 57. World Economic Forum, 2022. These 3 Charts Show the Global Growth in Online Learning: <https://www.weforum.org/agenda/2022/01/online-learning-courses-reskill-skills-gap/>.
 58. Rivas, M., Baker, R. B. and Evans, B. J., 2020. Do MOOCs Make You More Marketable? An Experimental Analysis of the Value of MOOCs Relative to Traditional Credentials and Experience, Sage Journals: <https://journals.sagepub.com/doi/full/10.1177/2332858420973577>.
 59. CMX Law, Tax, Future, 2021. Corporate Restructuring under the German StaRUG-Scheme: <https://cms.law/en/deu/insight/corporate-restructuring-under-the-german-starug-scheme>.
 60. World Bank, 2022. Revisiting Targeting in Social Assistance A New Look at Old Dilemmas: <https://openknowledge.worldbank.org/handle/10986/37228>.
 61. OECD, 2020. Job Retention Schemes during the COVID-19 Lockdown and Beyond. Tackling Coronavirus (COVID-19): <https://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/#section-d1e1373>.
 62. ILO, 2022. Policy Sequences during and after COVID-19: A Review of Labour Market Policy Patterns, Policy Brief: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_849468.pdf.
 63. Definition of a living wage: "Remuneration received for a standard work week by a worker in a particular [time and] place sufficient to afford a decent standard of living [including] food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events", Global Village Coalition: <https://www.globallivingwage.org/>.
 64. World Economic Forum, 2022. The Good Work Framework: A New Business Agenda for the Future of Work: https://www3.weforum.org/docs/WEF_The_Good_Work_Framework_2022.pdf.

65. Lehrer, E., 2022. On Working from Home, National Affairs, No. 53, Fall 2022: <https://www.nationalaffairs.com/publications/detail/on-working-from-home>.
66. Fogden, R., 2022. More Flexibility Is Key to Boosting Labour Market Supply across the UK, Centre for Progressive Policy: <https://www.progressive-policy.net/publications/more-flexibility-key-to-boosting-labour-market-supply>.
67. As of July 2022, the Working Environment Act has to be applied to work performed from home. For more details see: Industrial Relations and Labour Law Newsletter, 2022. Norway: Amendments to Regulations on Working from Home, IOE and World Employment Federation: <https://ioewec.newsletter.ioe-emp.org/industrial-relations-and-labour-law-september-2022/news/article/norway-amendments-to-regulations-on-working-from-home>.
68. World Economic Forum, 2022. Global Gender Gap Report 2022: https://www3.weforum.org/docs/WEF_GGGR_2022.pdf.
69. Tomei, M., 2021. Teleworking: A Curse or a Blessing for Gender Equality and Work-Life Balance?, Intereconomics: Review of European Economic Policy, Vol. 2021, No. 5: <https://www.intereconomics.eu/contents/year/2021/number/5/article/teleworking-a-curse-or-a-blessing-for-gender-equality-and-work-life-balance.html>.
70. UN Women, 2020. From Insight to Action, Gender Equality in the Wake of COVID-19: <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2020/Gender-equality-in-the-wake-of-COVID-19-en.pdf>.
71. World Bank, 2018. Learning to Realize Education's Promise: <https://www.worldbank.org/en/publication/wdr2018>.
72. World Economic Forum, 2022a. Catalysing Education 4.0: Investing in the Future of Learning for a Human-Centric Recovery: https://www3.weforum.org/docs/WEF_Catalysing_Education_4.0_2022.pdf.
73. Empowering the teaching workforce increases student lifetime incomes and can contribute significantly to national productivity. In the US, improving and rewarding teaching has been estimated to increase individual lifetime earnings by \$39,000 and average classroom income by \$250,000.
74. De Soyres, F., Santacreu, A. and Young, H., 2022. Fiscal Policy and Excess Inflation during COVID-19: A Cross-Country View, FEDS Notes: <https://www.federalreserve.gov/econres/notes/feds-notes/fiscal-policy-and-excess-inflation-during-covid-19-a-cross-country-view-20220715.htm>.
75. For example, German companies under Kurzarbeit must still pay 80% of total social security and only during the 2020 pandemic were companies exceptionally exempted from paying social security contributions.
76. European Parliament, 2020. Social Impact Investment Best Practices and Recommendations for the Next Generation: [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/658185/IPOL_STU\(2020\)658185_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/658185/IPOL_STU(2020)658185_EN.pdf).
77. Fink, C., 2022. Calculating Private and Social Returns to COVID-19 Vaccine Innovation, WIPO Economic Research Working Paper No. 68: <https://www.wipo.int/publications/en/details.jsp?id=4595&plang=EN>.
78. Mazzucato M. and Ghosh, J., 2021. Health Innovation for All, Project Syndicate: <https://www.project-syndicate.org/commentary/health-innovation-for-all-by-mariana-mazzucato-and-jayati-ghosh-2021-12>.



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