HORIZON
INSIGHT & STRATEGY

Recover, (Re)build: Exploring Country Capacity Post-COVID

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Executive Summary

COVID19 revealed countries' pre-existing structural weaknesses - economic and socio-political. It is also exacerbating them. Widespread measures to contain the virus and prevent healthcare systems from being over-whelmed dealt a lightening blow to industries and jobs, triggering the worst recession since the 1930's. Having reacted to protect lives, governments are acting now to safeguard livelihoods and to steer a sustainable recovery, all amidst on-going uncertainty.

Based on a proprietary analysis of publicly available data and designed to support policy-makers and executives, **Horizon's COVID Economic Recovery Index assesses** how **122 countries are positioned for recovery, based their overall health resilience, and the pre-existing structural strengths and weaknesses at the core of their recovery capacity**.

The full ranking is on page 3 of this report. **Finland leads the ranking, followed by Norway, Germany and Switzerland**. The best performing

countries have built their recovery capacity on workforce adaptability, highly digitalized economies, governance and social capital, and well-functioning financial systems.

Among the **large emerging markets**, China (32nd) is the best performing economy, followed by the Russian Federation (36th), Brazil (51st), India (63rd), and South Africa (77th) the poorest performer among the G20 countries.

The objective of the report and index is to provide an objective, data-driven tool to help governments, businesses and civil society navigate the recovery landscape, reduce uncertainty and prioritize action in the near future.

CERI country profiles can be downloaded from: www.covidrecoveryindex.org

Key takeaways
1. Despite the current suffering of the population in both health and economic terms, the United States has strong capacity to rebound.
2. Smaller advanced economies were hit hard by the initial shock but their resilience will help them recover.
3. Emerging markets differ greatly in their capacity to absorb the initial shock and are less resilient.
4. Workforce adaptability, highly digitalized economies, governance, social capital and well-functioning financial systems are all key to recovery.
5. When designing recovery programmes governments need to think long term and base their decisions on data and a clear strategy for future transitions.
6. The longer the economic crisis, the greater the likelihood of it triggering other risks, notably a financial crisis, which could longer and more difficult to recover from. It is crucial to limit the COVID's economic fallout and prevent additional risks.

COVID Economic Recovery Index Ranking

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
1	Finland	79.03	42	Uruguay	58.97	82	Ethiopia	48.79
2	Norway	77.30	43	Chile	58.94	83	Dominican Republic	48.45
3	Germany	76.28	44	Turkey	58.28	84	El Salvador	48.41
4	Switzerland	74.73	45	Serbia	57.61	85	Bangladesh	48.38
5	Australia	74.66	46	Costa Rica	57.50	86	Morocco	48.36
6	Netherlands	74.31	47	Moldova	57.38	87	Rwanda	47.75
7	United States	73.71	48	Saudi Arabia	56.30	88	Tajikistan	47.54
8	Denmark	73.53	49	Indonesia	55.95	89	Bolivia	46.85
9	Iceland	72.92	50	Mauritius	55.89	90	Lao PDR	45.90
10	Sweden	72.84	51	Brazil	55.78	91	Namibia	45.31
11	Canada	72.73	52	Kyrgyz Republic	55.04	92	Paraguay	45.24
12	United Kingdom	71.79	53	Greece	55.04	93	Algeria	45.22
13	Austria	71.78	54	Kuwait	54.90	94	Montenegro	45.05
14	New Zealand	71.75	55	Bulgaria	54.70	95	Guatemala	44.96
15	Slovenia	70.59	56	Malta	54.55	96	Pakistan	44.88
16	Estonia	70.37	57	Ukraine	54.52	97	Lebanon	44.76
17	Korea, Rep. of	69.00	58	Mexico	54.36	98	Cambodia	44.74
18	France	68.70	59	Philippines	54.34	99	Uganda	44.27
19	Japan	68.11	60	Argentina	54.30	100	Botswana	44.18
20	Latvia	67.01	61	Ecuador	54.28	101	Nicaragua	43.74
21	Ireland	66.85	62	Armenia	54.05	102	Tunisia	43.69
22	Singapore	66.78	63	India	53.93	103	Côte d'Ivoire	43.58
23	Czech Republic	66.75	64	Peru	53.44	104	Zimbabwe	43.40
24	Belgium	66.26	65	Sri Lanka	53.24	105	Ghana	43.27
25	Spain	66.07	66	Viet Nam	52.87	106	Honduras	42.16
26	Lithuania	65.52	67	Azerbaijan	52.41	107	Mali	42.14
27	Luxembourg	64.42	68	Cyprus	51.99	108	Senegal	41.43
28	Thailand	63.22	69	Albania	51.77	109	Burkina Faso	40.54
29	Israel	63.17	70	Egypt	51.23	110	Madagascar	40.27
30	Poland	62.30	71	Iran, Islamic Rep.	50.59	111	Cameroon	39.96
31	Portugal	62.13	72	Nepal	50.59	112	Nigeria	39.68
32	China	62.08	73	Mongolia	50.37	113	Malawi	39.37
33	Slovak Republic	61.90	74	Kenya	50.28	114	Burundi	39.15
34	Croatia	61.00	75	Georgia	50.22	115	Guinea	39.02
35	Hungary	60.45	76	Bosnia and Herzegovina	49.87	116	Gambia, The	38.19
36	Russian Federation	60.44	77	South Africa	49.80	117	Congo, Democratic Rep.	36.65
37	United Arab Emirates	60.27	78	Colombia	49.32	118	Benin	36.05
38	Malaysia	59.98	79	Jordan	49.32	119	Venezuela	35.25
39	Kazakhstan	59.82	80	Panama	49.13	120	Zambia	34.56
40	Italy	59.40	81	Tanzania	49.01	121	Mozambique	33.64
41	Romania	59.19				122	Chad	31.16

From Reaction to Recovery

No two countries are alike in the face of a pandemic. COVID19 revealed countries' pre-existing structural weaknesses - economic and socio-political. It is also exacerbating them. Widespread measures to contain the virus and prevent healthcare systems from being over-whelmed dealt a lightening blow to industries and jobs, triggering the worst recession since the 1930's. Having reacted to protect lives, governments are acting now to safeguard livelihoods and to steer a sustainable recovery, all amidst on-going uncertainty.

Much has been written about the extraordinary fiscal and monetary measures governments and supranational institutions have taken (IMF, 2020). Governments – mainly in developed countries - have deployed **extraordinary levels of monetary and fiscal stimulus in response to the crisis to date.** The US alone extended US$2.3 trillion of credit facilities to ensure markets did not seize up. Globally, the IMF estimates that governments have offered emergency lifelines of nearly US$11 trillion to people and firms (IMF, 2020). As the pandemic persists, governments will have to make choices about where and how to inject further support and stimulus. There will be trade-offs between safeguarding the financial system, supporting vulnerable industries, providing income relief to unemployed or furloughed people, and investing in the skills and infrastructure necessary for future growth. But while short term stimulus is essential it not the only factor determining how

countries will weather the crisis. It is also not what will influence the recovery process. At the individual level, the COVID19 pandemic made many of us realize that our strengths lie in what we have built and what we value over the long term: a job, savings, a home of our own, and mental and physical well-being. In the same way, the pandemic reveals how countries can fall back on what they have built over the long term. Economies with a strong financial system in place were able to distribute financial support to companies rapidly. Companies in countries that with strong digital capacity were able to continue operating, retain their workforce and thus reduce economic fallout. Countries with higher levels of social capital were able to implement measures faster and more effectively. And countries that were better prepared for a pandemic in terms of health access and capacity, were able to manage caseloads and re-open before others.

The capacity to weather the crisis and recover will therefore depend on a set of factors, policies, and institutions that countries have in place. These factors are part of the economic, social and health make up of each economy and thus differ from one country to another. This report aims to identify these factors and offer a data-driven tool for governments, businesses, investors, and civil society to compare and benchmark countries' capacity to weather this crisis and subsequently recover.

Beyond shining a light on each country's strengths and weaknesses, this tool is intended to inform thinking and decision-making of different stakeholder groups, and to serve as a base for discussion with respect to:

- How countries can prioritize and direct the limited funds available for stimulus spending and other measures to support the economy and people over the near- and longer-term;
- Reducing uncertainty for investors based on an objective assessment;
- Learning from the experiences of other countries with similar challenges;

- Assessing countries' exposure to further downside risks, for example the risk of social discontent due to high income inequality or food shortages; low capacity in the face of a second wave of the virus; or macroeconomic or financial vulnerabilities that could lead to a financial crisis; and
- Reforms needed to strengthen resilience of the economy to a variety of risks over the longer-term.

We hope that this work will help countries, businesses, and other stakeholders to navigate this uncertain time and to emerge as strong as possible from this crisis.

COVID Economic Recovery Index

COVID19 affected all countries, indiscriminately. There were wide differences both in countries' pre-crisis economic and socio-political situations and in the stringency and duration of containment measures and their impact on industries and jobs. Given those differences, the way countries are affected by the crisis and the pace of their subsequent recovery are unlikely to be symmetric and certainly not simultaneous. (Noy, Doan, Ferrarini, & Park, 2020).

Thus, we are looking at a **set of inter-related recoveries, rather than <u>a</u> recovery**. For individual countries and their trading partners, for business leaders and investors, understanding the shape and rate of those recoveries is key to policy-setting, planning and decision-making. It is also key to understanding what countries can do to increase resilience to future crises.

The COVID Economic Recovery Index (CERI) reveals the countries best equipped to weather the crisis and to recover more robustly. The

related dashboards offer an at-a-glance view of how countries perform in terms of economic resilience, their capacity to absorb shocks, and health resilience relative to their regional and income-group peers. Box 1 describes scope and purpose in more detail.

The COVID Economic Recovery Index measures *the extent of risk exposure to the COVID19 pandemic and the degree to which countries have the right policies, institutions, and factors in place to rapidly recover to pre-COVID levels of socio-economic performance.*

We assume that all countries were exposed to the pandemic in equal measure because all countries covered had at least some cases of COVID. However**, countries differ according to three factors, the pillars of this index, that will significantly shape their recovery path**. They are presented in Figure 1 and below. The detailed methodology and full list of indicators are in the annex to this report.

Health Resilience

The potential effects of the COVID 19 virus on a population (i.e. number of cases and number of deaths) will differ based on a country's health system capacity and health-related risks preparedness but also on several other uncontrollable factors. Age distribution, population density, degree of urbanisation, the prevalence of underlying health conditions, as well as social capital, all play a role in the rate and speed of transmission and severity of impact (Bartscher, Seitz, Siegloch, Slotwinski, & Werhöfer, 2020).[1] The higher a country's health resilience, the less likely the country will have to take strict containment measures (e.g. shelter in place/stay at home orders) and the less dangerous future waves or flare ups of the COVID virus will be. In addition to their effect on international trade, lockdown measures have been shown to drive negative economic impact (Goolsbee & Syverson, 2020).

Absorptive Capacity

One factor that influences the absorptive capacity is the reliance on vulnerable sectors. The more a country's GDP and employment rely on sectors strongly affected by social distancing measures and international trade, the more its economy will suffer.

A second factor is exposure to high debt levels. Globally, economic growth is expected to drop by 4.9 percent in 2020 (IMF, 2020). Countries with debt levels across government, the corporate sector and households will have less leeway to absorb the shock and be more vulnerable as the recession persists and financial conditions tighten. The past years have seen a build-up of debt across countries due to persistently low interest rates. if firms and households become distressed, defaults could trigger a financial crisis. Countries with higher debt levels are at greater risk of a prolonged

recession and even a sovereign debt or financial crisis.

There is also a set of socioeconomic factors that determine how strongly the country will be affected by the economic shock of COVID:

- *Labour market conditions.* The higher initial unemployment and particularly youth unemployment, the more vulnerable the country is to the social fallout of COVID
- *Income inequality and poverty.* COVID tends to exacerbate income inequalities and poverty because it affects people at the lower end of the income ladder more. Countries with higher levels of income inequality will be less able to absorb the economic shock due to the pandemic and will need to provide more income support to their populations.
- Vulnerabilities related to *food security* presents an additional follow on risk during the pandemic, notably in poorer countries, where food supply chains may not be as resilient.

Economic Resilience

Economic resilience is a country's capacity to recover and rebuild to pre-COVID levels (Halegatte, 2014). It is influenced by factors such as labour market agility, understood as the ability of the labour market to adapt to change. Agile labour markets are not only flexible in terms of hiring and firing procedures, but also ensure that workers can work from home and that active labour market policies allow workers to upgrade their skills and support transitions into new occupations.

The COVID19 crisis is likely to accelerate economic transformation trends, above all digital transformation and automation. Countries that have populations with strong digital skills and widespread and accessible

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[1] We proxy the first by household size and population density (Röcklov and Sjödin, 2020) and the second by the presence of health-related risk factors within the population (age and non-communicable diseases).

infrastructure are likely to fare better over the coming years. Equally, countries with higher levels of education and skills will be more able to transform.

Other factors that influence a country's ability to recover are its governance and social capital. Countries with strong regulatory capacity and rule of law as well as social capital, in the form of high levels of cohesion, a strong identity and absence of corruption, will see more effective disbursements of stimulus measures. Market size, access to foreign markets and prosperity are also factors that will play a role. Countries with larger market sizes have a larger internal market to fall back on that can drive growth and are less dependent on trade partners for recovery.

Finally, countries with more accessible and more stable financial systems will be less at risk of a financial crisis. This may significantly alter the recovery path – financial or sovereign debt crises lead to a more protracted recovery than pandemics.

While we feature the factors separately for the sake of analysis, these concepts interact in a variety of ways. The full structure of the index and the list of indicators are presented in the annex.

Box 1: The COVID Economic Recovery Index: scope and purpose

Based on a proprietary analysis of publicly available data and designed to support policy-makers and executives, the CERI assesses how 122 countries are positioned for recovery, based on their overall health risk exposure and the pre-existing structural strengths and weaknesses at the core of their capacity to recover.

The CERI allows for comparison of countries with their peers and trading partners *and can serve as a tool to* inform the actions and policy choices countries can deploy to weather the crisis and to support future growth trajectories. By focussing on underlying and structural factors, the dashboard also offers a base for foresight discussions, setting out potential international, regional, and domestic contexts to stress test policy choices. CERI is not normative in nature but rather provides a snapshot of the current situation.

The CERI is not a tool to assess how *well* countries managed the pandemic from a health or economic point of view, the economic *cost* of COVID19, nor any economic measure of loss of life or illness. We believe that would be premature given the uncertainties around the evolution of the pandemic; the extent and effects of government monetary and fiscal interventions; the timeline for supply and demand to "normalise"; and the timeline and likelihood of finding an effective, scalable vaccine or treatment.

The CERI presents the characteristics of countries at the outset of this crisis: factors we know are important to development, growth and recoveries based on theoretical and empirical research. How countries emerge from this crisis and their future trajectories will depend on policy choices, including novel ones, which may have unexpected effects. It is also possible that countries will rethink elements of their economic frameworks, such as social protection laws, which may also affect recovery paths. The crisis might also durably change consumer and business behaviour. It could, for example, lead to accelerated digitalization of businesses that could result in increased productivity, thus fuelling growth at faster rates than past data can predict. This index and related dashboards are intended to facilitate a discussion on policy options and further exploration of those effects could be.

Key Findings

The data from the COVID Economic Recovery Index can contribute to many discussions about recovery strategies at the country and regional level. Some overall lessons can be drawn as well.

More than money: What matters for recovery capacity

Unsurprisingly, while countries are affected by the pandemic to similar degrees, those with higher GDP are better equipped to recover rapidly. Many of the characteristics that made them successful in the first place will also be the enablers for the post-COVID recovery. These include **good governance, well developed skills, and stable financial markets**, among others. Moreover, wealthier countries have more resources to weather the crisis, for example to build health system capacity or to roll out digital infrastructure.

However, **absorptive capacity is not correlated with income** and is based on factors these differ strongly within income groups. These include the degree of dependence on vulnerable industries; measures to ensure food security, or social security nets.

Figure 2 shows that **some countries perform above what would be expected based on their level of income, while others come in below**. We can see that significant differences persist within each of the groups, but also within regions. For example, Northern and Eastern Europe outperform Southern European countries. We discuss why the Eastern European countries perform well and are likely to recover more rapidly than others in Box 2.

Fundamentals will shape the recovery process

Many possible shapes have been put forward for the recovery process (Sheimer & Yilla, 2020). **Two factors will play a major role in recoveries: the immediate impact of the measures to**

Box 2: Eastern European Countries: A post COVID success story?

Most Eastern European EU member states perform better in the CERI that would be expected given their GDP levels, suggesting that these countries have structural features in place to support a strong recovery path. What characterizes these countries' recovery capacity?

First of all, Eastern European countries are less internationally connected than their Western peers and they also are on average less dependent on vulnerable industries. This group has also fairly low levels of inequality and strong macroeconomic fundamentals and financial sectors.

Eastern European countries show high levels of resilience due to flexible labour markets, high level of digital skills and access, and solid financial systems. Their health systems are stronger than in peer economies while at the same time demographic-related health risk factors are lower

contain the pandemic shock on GDP, and the trajectory the country will take once the initial shock has been absorbed. Figure 3 shows how countries differ in their ability to absorb the short-term shock and their economic resilience. In the **upper right quadrant are the countries capable of absorbing the shock, with greater economic agility, which are likely to recover faster.** The Nordic economies are in this group, as are many European countries including Germany, Switzerland as well as most of Eastern Europe (see Box 2). **Among emerging economies, Kazakhstan, Russia, and Thailand stand out for their relatively good performance**. While the individual strengths of each of these countries contribute to this outcome, a common feature is low unemployment at the outset and flexible labour markets with good social security systems.

High income	Upper middle income	Lower middle income	Low income
Australia	China	India	Ethiopia
Canada	Costa Rica	Indonesia	Nepal
Denmark	Kazakhstan	Kyrgyz Republic	Tanzania
Finland	Malaysia	Moldova	Burkina Faso
Germany	Romania	Philippines	Burundi
Iceland	Russian Federation	Ukraine	Gambia, The
Netherlands	Serbia	Viet Nam	Guinea
Norway	Thailand	Bangladesh	Madagascar
Sweden	Turkey	Bolivia	Malawi
Switzerland	Albania	Cambodia	Mali
United States	Argentina	Egypt	Rwanda
Austria	Armenia	El Salvador	Tajikistan
Belgium	Azerbaijan	Ghana	Uganda
Croatia	Bosnia and Herzegovina	Kenya	Benin
Czech Republic	Brazil	Lao PDR	Chad
Estonia	Bulgaria	Mongolia	Congo, Democratic Rep.
France	Colombia	Morocco	Mozambique
Ireland	Ecuador	Nicaragua	
Israel	Georgia	Pakistan	
Japan	Iran, Islamic Rep.	Tunisia	
Korea, Rep. of	Jordan	Cameroon	
Latvia	Mauritius	Côte d'Ivoire	
Lithuania	Mexico	Honduras	
Luxembourg	Peru	Nigeria	
New Zealand	South Africa	Senegal	
Poland	Sri Lanka	Zambia	
Portugal	Algeria	Zimbabwe	
Singapore	Botswana		
Slovak Republic	Dominican Republic		
Slovenia	Guatemala		
Spain	Lebanon		
United Kingdom	Montenegro		
Chile	Namibia		
Cyprus	Paraguay		
Greece	Venezuela		
Hungary			
Italy			
Kuwait			
Malta			
Panama			
Saudi Arabia			
Uruguay			
United Arab Emirates			

Figure 2: CERI Results by level of development
*Source: Authors' calculation. Note: Countries are colour coded as follows: **blue countries perform better than expected for their level of GDP per capita**; grey denotes countries performing in line with GDP; countries in red perform less well than expected for their income group.*

All these factors will help them weather the crisis and provide a good base for transforming their economies in future.

While they may have been deeply affected initially**,** countries in the lower right quadrant, including the United Arab Emirates, Luxemburg, Singapore, Israel, Malta, or Ireland, display stronger economic resilience, which will support recovery**.** These countries are mostly relatively small, open economies, highly dependent on international trade and/or flows of capital, and on sectors that are vulnerable to COVID containment measures. Most of these countries have strong institutions and well-educated populations and are digitalized. What is important for countries in this group is to focus on short term stimulus to avoid layoffs and bankruptcies to the degree possible. Once the initial shock has been weathered, these countries have a strong capacity to recover.

In the upper left quadrant are countries that were less exposed and/or more able to absorb the initial shock, but that have lower resilience than most other economies. For the most part, these countries may be less affected by the initial shock because they are less dependent on vulnerable industries and/or are less connected internationally than their peers. Examples include India, Ethiopia, Ukraine, Egypt, Pakistan, or Bolivia. However, the economic resilience of these countries is low due to often rigid labour markets and low levels of education and digitization: These countries may be left further behind in terms of their economic growth as a result. Many of these countries are low income economies. They are affected to the same degree by the pandemic (absorptive capacity) but have significantly lower capacity to rebound. Over the medium term, the fallout from COVID risks exacerbating economic differences between developing and developed countries, thus undoing much of the convergence in terms of prosperity and standards of living achieved in recent years.

Finally, **in the lower left quadrant are countries with low absorption capacity and low resilience while are likely to suffer the most and recover slowly.** Most of these countries are low income economies, but this group also includes several middle-income countries including Brazil, Mexico, Colombia, Ecuador, and the Dominican Republic. These countries should be a priority for development assistance to strengthen economic resilience and the recovery going forward, as well as for humanitarian assistance to mitigate the most important effects of the economic crisis on people.

Capacity to absorb COVID-19 short-term economic shock vs long-term economic agility

The bubble size reflects the country's GDP.

● High income ● Upper middle income ● Lower middle income ● Low income
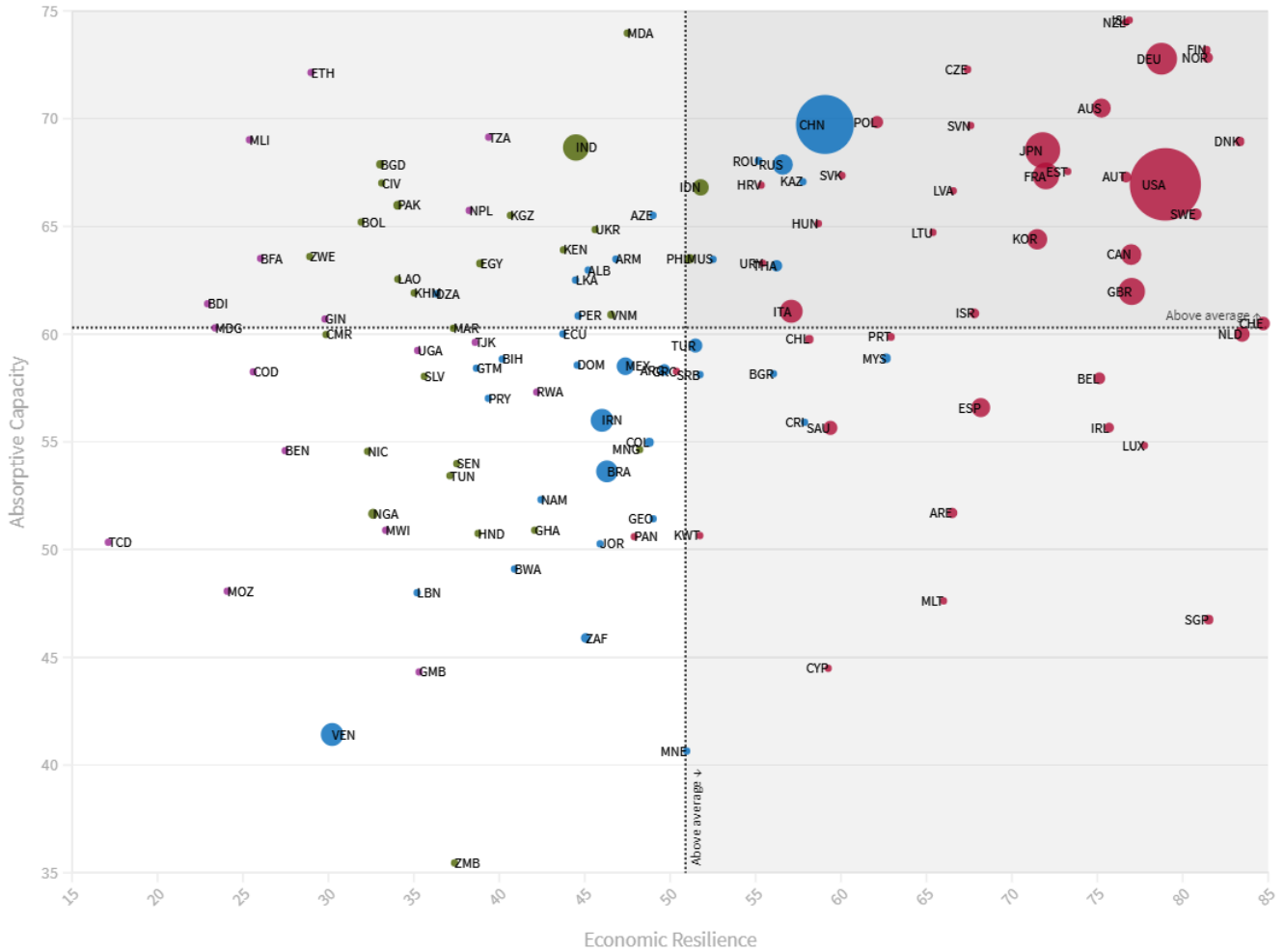
Figure 3: Absorptive capacity vs economic resilience across income groups
Source: Authors' calculation

Trade: A two-act scenario

World trade in goods is set to plummet in 2020, with the range of the drop estimated by the WTO at between 13 and 32% compared to 2019. **Countries less reliant on global trade were less exposed to the immediate effects of the global contraction. Inversely, as trade levels are restored, countries more open to trade are likely to recover faster** (WTO, 2020).

As we can see from Figure 4, regions are not homogenous in terms of recovery capacity: countries within the same regions and income groups are likely to recover at different speeds. However, regions where differences in recovery capacity of individual countries are smaller will weather the crisis better and recover faster, in particular when large, regionally important markets achieve high CERI scores. Countries that

export a significant share of their goods and services to markets that recover at a slower pace will also recover more slowly.

Given that the virus spread to countries over a period of months, and that the economic impact differs for each country, **each economy's recovery will largely depend on the pace of recovery in their main export markets.** This is particularly important in trade blocks, which have more intense trade linkages.

Countries with pre-existing export linkages to markets where the index shows strong recovery capacity are likely to experience more positive feedback loops through trade. **For countries relying on export markets with a lower recovery capacity, the recovery process may be an opportunity to diversify their export markets.** Focusing at the country level, Figure 5 below shows that countries that rely heavily on export markets, such as the UAE, with medium recovery capacity, can expect a slower recovery than countries, such as Brazil, which export to markets with high recovery capacity.

CERI results by region
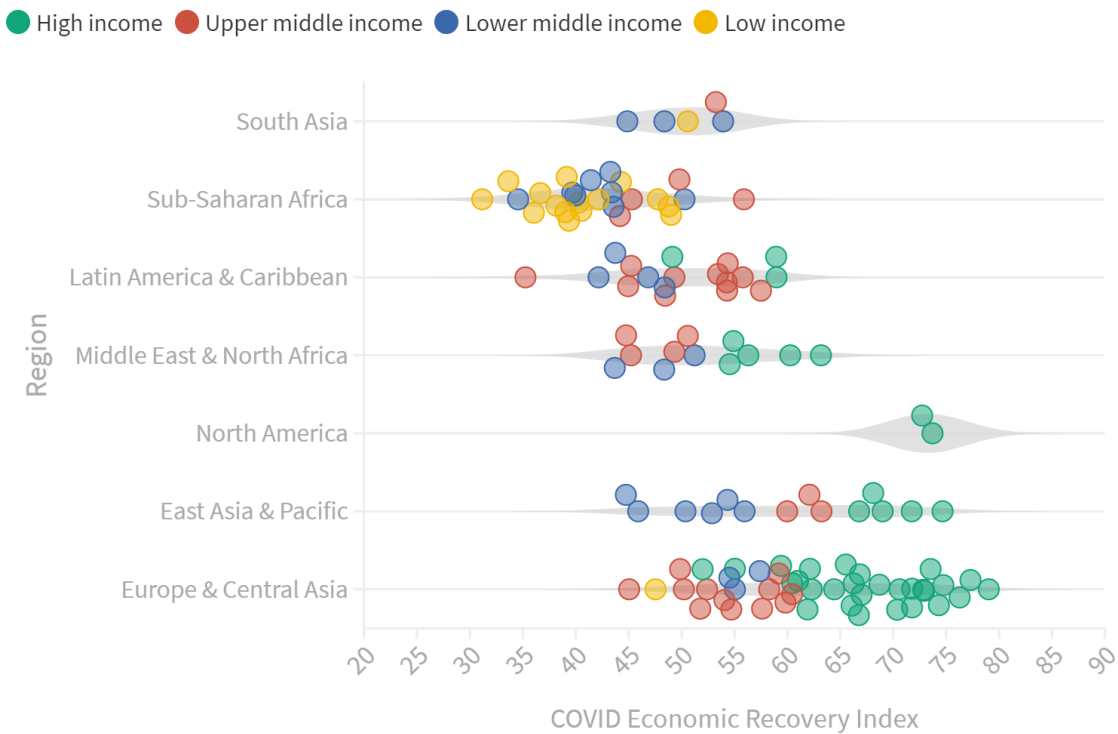### COVID ECONOMIC Recovery Index score by region and income group

Figure 4: CERI results by region
Source: Authors' calculation

How strong are countries' export markets?
Based on export countries CERI performance

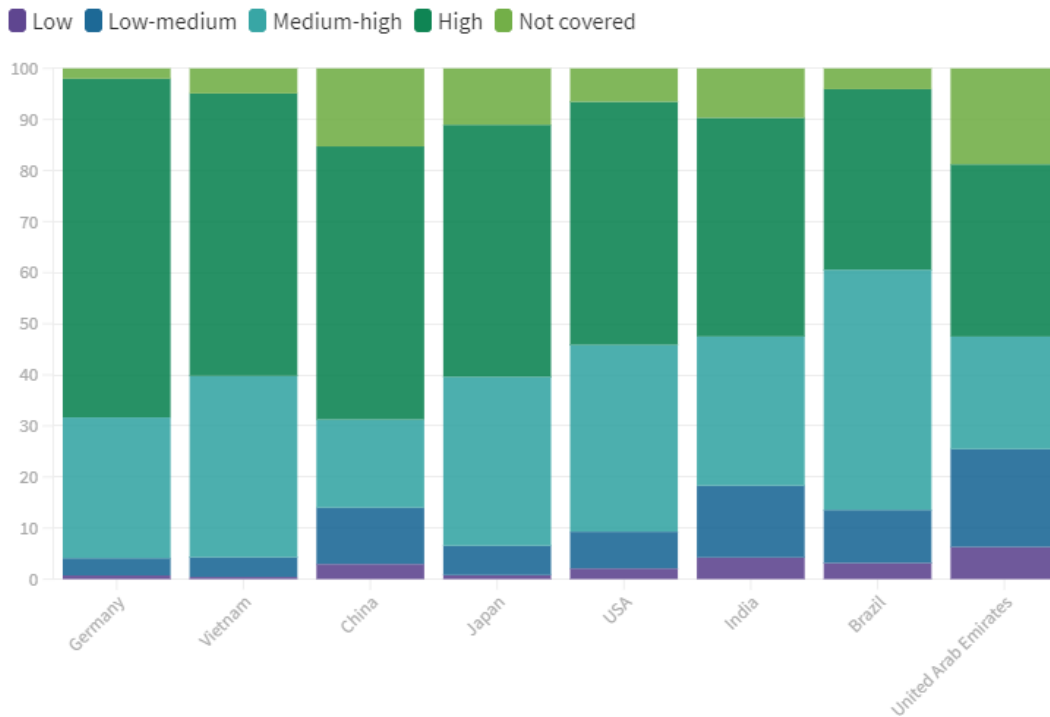Legend: ■ Low ■ Low-medium ■ Medium-high ■ High ■ Not covered

Figure 5: Export markets' recovery capacity for selected countries
Source: Authors' calculation

Vulnerable industries: vulnerable societies

As countries look to a recovery, **two fundamental factors** will play an important role: their **exposure to industries likely to continue to operate at reduced output** and hence employment levels and the **strength of their labour markets and policies**.

Among the countries heading the CERI ranking, many score relatively poorly for their dependence on vulnerable industries, including the Netherlands, the US, the UK, and Singapore, who is 119th. Like countries, industries have been affected in different ways by the crisis; by a collapse in demand; closure or operating restrictions due to containment measures; the impact of global travel bans; and supply chain difficulties. Equally industries may not be able to return to pre-crisis levels of activity soon if no

treatment or vaccine are found. **Different industries are likely to return to pre-crisis activity levels at differing speeds but for some sectors the shape of that activity may change radically.** As Figure 6 below illustrates**, in some countries 50 percent or more of jobs are in sectors at risk. Over 40 million jobs are at risk in Retail, Accommodation and Food, Manufacturing, and Construction in Europe alone** (McKinsey, 2020). These industries are also those with a large percentage of lower-skilled, lower-income employees. Without wide-spread, rapid re-skilling, and training, many of those people may find it difficult to change jobs or enter new industries. To date governments in many economies – notably in Europe - are still maintaining or only just beginning to scale back

Employment in sectors at risk in selected countries
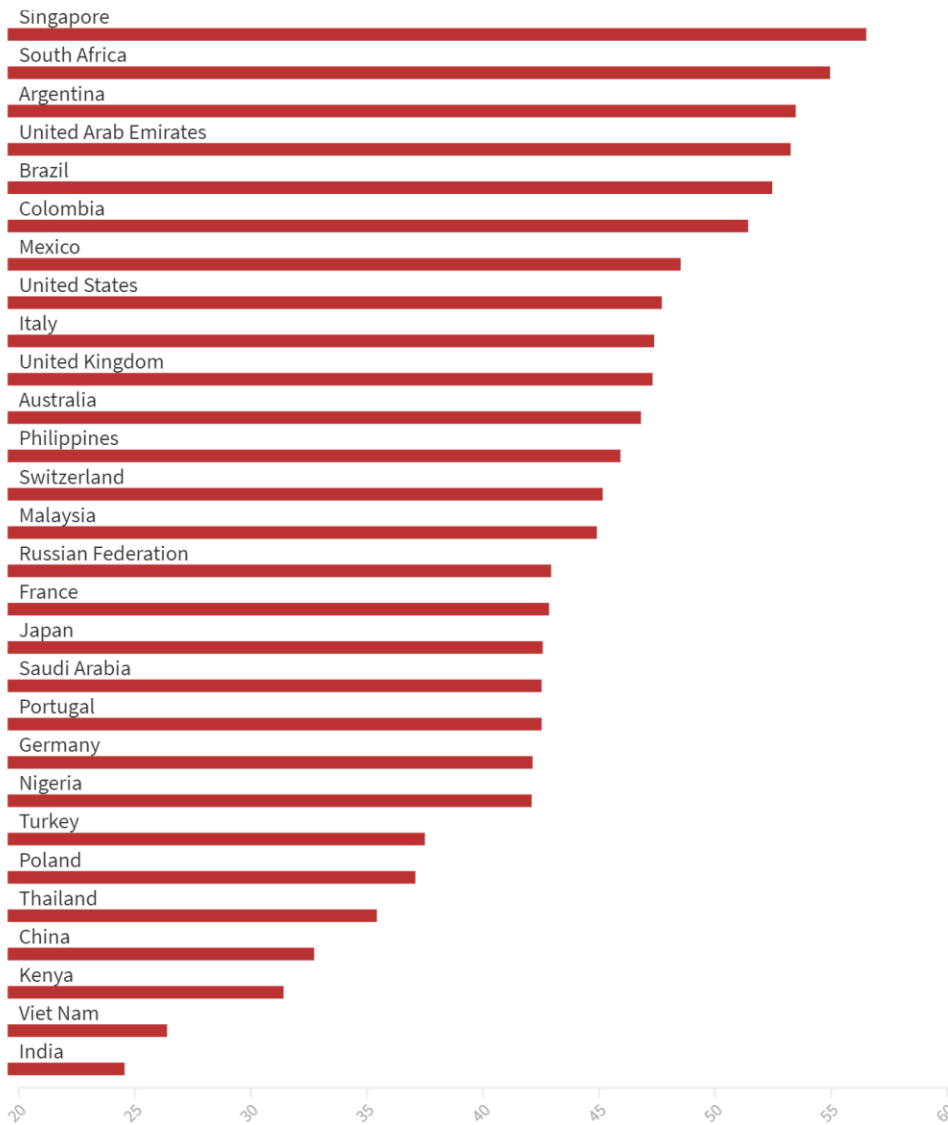Share of total employment in %, 2018

Country	
Singapore	
South Africa	
Argentina	
United Arab Emirates	
Brazil	
Colombia	
Mexico	
United States	
Italy	
United Kingdom	
Australia	
Philippines	
Switzerland	
Malaysia	
Russian Federation	
France	
Japan	
Saudi Arabia	
Portugal	
Germany	
Nigeria	
Turkey	
Poland	
Thailand	
China	
Kenya	
Viet Nam	
India	

Figure 5: Export markets' recovery capacity for selected countries
Source: Authors' calculations

furlough or job retention measures, meaning the full impact of the crisis on job numbers has yet to be realised. But as businesses re-open, evidence suggests that so-called zombie jobs (Allianz Research, 2020), those in the sectors likely to be slowest to recover, will disappear. Countries scoring higher on factors such labour market agility, the digital economy and skills and education will be better positioned to manage the labour market challenges ahead.

Inequality: The health-wealth fault line

COVID19 shone a spotlight on income inequality and how it undermines resilience. While businesses showed a high degree of agility by transferring many low touch, higher skilled roles from office building to employees' homes, this is not an option for many high touch, low skilled jobs in services, manufacturing, tourism and

hospitality and other vulnerable industries. Such jobs are more likely to be less well-paid, less secure, part-time, and held by women, people from minority groups and migrants. **Among the G20 countries, several score poorly for their dependence on vulnerable industries and levels of inequalit**y. Among **the worst performing G20 nations on all three measures are Argentina, Brazil, and the US**.

Less skilled, lower income groups are more exposed to industry and employment impact created by containment measures and the global demand shock. With fewer or no transferable skills, they will be more likely to become unemployed or underemployed as the industries they work in recover more slowly or weakly. They were already less likely to have access to health services and more likely to suffer from the types of chronic disease that makes people more vulnerable to COVID19. A disproportionate percentage of COVID19 deaths of those under 65 were among lower-income and minority groups (Center for Disease Control, 2020). Among the top-ranking countries in the CERI, those with the lowest levels of inequality also score highly for skills and education. While inequality is a function of many factors, given how changes to jobs and the nature of work are likely to accelerate because of this crisis, and the link between education, income and health, it would appear that **investment in education and skills for all will be a key policy area for an inclusive recovery.** The stimulus packages disbursed in the course of 2020 offer opportunities for supporting upskilling and reskilling of people into jobs that are expected to be more in demand in future as the economy transforms.

The next crisis?

Risks rarely have an isolated impact. COVID19 has exposed other vulnerabilities, not least disrupted food supply, social stability, or financial resilience. Any one of these could significantly aggravate the situation for economies and people already wrestling with impact of COVID. The longer the pandemic and the economic crisis persist, the more these vulnerabilities increase and the more the arsenal of measures available to governments will be reduced. Governments will have to chose who and which part of the economy to support.

CERI data shown in Figure 7 can give some pointers to which countries could be at risk of follow on crises, including:

Box 3: A strategic use of stimulus for a more resilient recovery

After the immediate emergency response, fiscal stimulus policies, which, according to the IMF, already totalled US$11 trillion as of mid-2020 **need to target recovery and longer-term resilience, notably sustainability**. Green infrastructure investment needed to meet the COP's emissions reduction targets for 2030 is estimated at nearly US$100 trillion. Investment is needed into low carbon energy, energy efficient buildings and mass transit systems, which account, according to the IPCC, for 70% of global emissions, as well as into more sustainable food system. Agriculture could account for over half of all GHG emissions by 2050 under current production models. There is clearly a trade-off between pressing social and political needs to safeguard industries and jobs from the impact of the pandemic, but governments have a responsibility to future generations. For some industries, government support has come with conditions, as in the case of Franco-Dutch support for Air France-KLM. The French and Dutch governments want to link a EUR 10 bn package to measures such as halving CO_2 emissions per passenger kilometre by 2030; cutting domestic flights where rail alternative of under 2.5 hours exist; and sourcing 2 per cent of its fuel from sustainable sources by 2025. A wider up-use of such conditionalities could be used to speed up low carbon transition strategies in other hard-hit sectors. As COVID19 continues to disrupt lives and economic life, governments should consider how to use further fiscal responses to boost investment into sustainability-related business opportunities, innovation and jobs for a resilient recovery and future.

- **Food crises** can occur due to supply chain disruptions. Lockdowns, border closures and fear of contagion can affect harvesting, transformation and food distributed, triggering food shortages. Developing countries are particularly vulnerable due to lower storage capacity and more fragile supply chains. But interruptions to cross border supply chains and distribution can have significant impact on countries highly reliant on food imports for their domestic consumption. Proactive food security policies - for investment in storage and distribution capacity or greater supply chain diversity – will bring greater resilience to future crises.

- The economic crisis triggered by COVID shines a light on the risk of **financial crises**. The low interest rates of the past years have led to a build up of debt in households, companies, and governments. High debt levels leave countries more vulnerable to financial system risks. These are particularly critical when coupled with deflation and pre-existing high levels of non-performing loans in the system.

- Finally, the pandemic has exposed income inequalities and is exacerbating them, with economically vulnerable people being more exposed to health risks and job losses. In some countries this could fan **societal tensions**, or even social unrest. Figure 7 shows countries that score lowest on CERI's social resilience measures.

Debt levels		Social resilience		Food security		Financial system resilience	
country	score	country	score	country	score	country	score
Lebanon	22.2	South Africa	0.0	Burundi	0.0	Ethiopia	17.7
Venezuela	33.2	Namibia	7.4	Malta	27.4	Madagascar	22.5
Zambia	35.7	Zambia	10.6	United Arab Emirates	33.1	Chad	22.9
Malawi	37.0	Brazil	15.9	Kuwait	35.2	Mali	26.4
Cyprus	41.1	Honduras	17.6	Venezuela	37.4	Mozambique	27.0
Zimbabwe	42.6	Botswana	21.4	Saudi Arabia	38.0	Benin	28.0
Iran, Islamic Rep.	44.7	Mozambique	22.3	Montenegro	38.5	Lebanon	43.1
Ethiopia	45.7	Benin	24.3	Jordan	42.2	Guinea	44.3
Kyrgyz Republic	46.9	Panama	24.9	Gambia, The	45.7	Burundi	45.0
Gambia, The	47.2	Venezuela	25.5	Botswana	46.7	Tunisia	47.0
Ireland	49.6	Colombia	25.8	Congo, Dem. Rep.	47.7	Cameroon	47.5
Burundi	50.8	Costa Rica	30.6	Cyprus	48.7	Burkina Faso	48.1
Mozambique	51.5	Guatemala	31.4	Singapore	48.8	Morocco	48.9
Argentina	53.4	Cameroon	33.6	Tajikistan	48.9	Bangladesh	49.9
Nigeria	53.4	Paraguay	35.3	Algeria	49.6	Algeria	51.5
Portugal	53.8	Ecuador	35.8	Lebanon	50.8	Venezuela	52.4
Ghana	53.9	Nicaragua	37.7	Chad	52.6	Pakistan	53.7
Guinea	54.0	Ghana	38.8	Senegal	54.0	Greece	55.3
Greece	54.8	Bolivia	39.9	Kenya	55.0	Bolivia	55.8
Luxembourg	56.2	Chad	40.3	Madagascar	58.3	Philippines	55.9

Figure 7: Countries at risk of follow on crises
Source: authors' calculations, see Annex for data

Country Results: Which Countries are Emerging the Strongest?

The CERI Rankings at the beginning of the report show which countries are positioned the strongest to emerge from the recession. Figure 8 shows the rankings of the top 20 economies.

Top 20: Readier for recovery but facing challenges

Nordic countries **Finland and Norway** emerge as leaders in the CERI, followed by Germany (3rd) and Switzerland (4th). These countries combine world class governance with high levels of social capital and high social resilience. They also have strong financial systems, manageable debt levels and good health system resilience.

Many high-income economies tend to be vulnerable to the COVID pandemic due to their rather low levels of absorptive capacity, primarily due to high debt levels (public, corporate and household), and their high exposure to vulnerable industries and

international markets. These economies are also home to populations that are more vulnerable to COVID19 due to risk factors including age, prevalence of chronic disease, and with a larger share of densely populated urban areas. But within that pillar, many compensated for those higher "natural" risk levels with better scores for health capacity and pandemic preparedness. Overall, top-ranking economies score highly across the economic agility factors, such as workforce adaptability, education and skills, a robust digital economy, governance and social capital, and well-functioning financial systems. As economies face potential sea changes in sectors and employment, those factors are crucial to such a transformation.

rank	country	Absorptive Capacity	Industrial strength & diversity	Debt levels	Labour market strength	Reliance on international markets	Social resilience	Food security	Economic Resilience	Labour market adaptability	Governance & social capital	Market size & prosperity	Digital economy	Education & skills	Financial system resilience	Health Resilience	Health system capacity & access	Pandemic preparedness	Population health profile
1	Finland	73.2	47.3	72.7	79.6	63.6	87.5	88.4	81.4	71.9	88.1	70.6	77.8	91.6	88.3	82.5	80.0	100.0	67.5
2	Norway	72.8	45.9	68.1	89.2	60.7	85.1	88.0	81.5	70.1	93.3	74.8	83.3	80.1	87.2	77.6	85.5	76.2	71.0
3	Germany	72.8	50.0	77.4	88.5	57.2	71.0	92.6	78.7	71.7	81.3	79.4	70.8	80.9	88.3	77.3	84.4	81.3	66.3
4	Switzerland	60.5	41.7	61.3	85.5	16.4	70.6	87.4	84.7	82.2	87.6	77.8	82.3	91.3	87.1	79.0	83.8	80.4	72.8
5	Australia	70.5	47.3	71.0	76.9	68.0	66.6	93.1	75.2	68.5	75.2	64.9	76.6	76.9	89.3	78.3	75.7	87.5	71.5
6	Netherlands	60.0	36.9	57.0	89.7	2.8	82.6	91.1	83.5	79.8	86.9	76.4	85.6	88.3	83.9	79.5	77.7	93.8	66.9
7	United States	67.0	38.6	67.9	78.4	78.6	43.9	94.2	79.0	75.5	72.1	69.2	88.9	81.5	86.6	75.2	65.0	91.7	68.9
8	Denmark	68.9	42.1	69.3	83.2	44.2	84.1	90.9	83.3	77.9	88.2	73.2	84.6	85.1	91.0	68.3	72.8	71.9	60.2
9	Iceland	74.6	39.3	69.0	90.5	59.7	88.9	100.0	76.9	72.4	80.2	64.5	83.8	78.7	81.6	67.3	78.5	56.7	66.8
10	Sweden	65.6	41.1	70.0	80.6	36.5	79.2	86.0	80.8	66.1	83.7	74.8	87.5	83.7	88.7	72.2	73.7	81.3	61.6
11	Canada	63.7	46.0	63.0	70.9	43.1	63.2	95.9	77.0	71.8	78.7	64.4	80.8	79.3	87.0	77.5	68.5	93.8	70.2
12	United Kingdom	62.0	39.2	63.0	82.1	46.1	64.3	77.2	77.0	75.9	76.7	70.9	70.8	76.0	91.7	76.4	67.3	93.8	68.0
13	Austria	67.3	40.4	72.9	84.8	39.7	76.2	89.7	76.7	75.4	80.6	73.9	64.2	82.8	83.3	71.4	81.6	58.8	73.7
14	New Zealand	74.5	47.1	75.8	77.6	76.1	78.6	91.6	76.7	68.5	85.1	64.1	84.2	74.5	83.5	64.1	69.0	52.5	70.9
15	Slovenia	69.7	48.3	77.4	86.7	38.1	95.2	72.4	67.6	79.8	57.0	61.4	56.9	70.7	79.8	74.5	67.8	83.8	71.9
16	Estonia	67.5	37.6	85.1	83.6	23.0	75.9	100.0	73.3	75.1	61.7	58.7	70.6	77.0	91.1	70.3	60.5	82.5	67.9
17	Korea, Rep. of	64.4	47.4	72.7	73.3	59.7	69.6	63.6	71.5	59.5	55.4	73.8	81.9	78.2	80.0	71.1	67.8	73.7	71.8
18	France	67.3	45.8	61.0	72.0	59.9	74.4	90.9	72.0	68.7	67.5	73.2	69.0	71.7	81.9	66.8	78.5	52.3	69.5
19	Japan	68.5	40.9	61.7	89.8	85.8	70.3	62.7	71.8	63.2	62.3	68.1	75.7	80.0	81.5	64.0	76.4	56.7	59.0
20	Latvia	66.6	32.7	79.6	78.6	48.1	60.9	100.0	66.6	68.1	51.2	51.7	68.3	68.5	91.6	67.8	52.5	87.5	63.5

Figure 8: CERI results for top 20 countries

Source: Authors' calculation

Note: Country scores are on a scale of 0 to 100 (best). Blue signifies strong performance, red poor performance.

Finland leads the CERI ranking reflecting the country's high economic resilience mainly due to the its excellent governance, and a highly educated workforce. Finland also boasts a resilient financial system and high level of health resilience due to strong health system capacity

and pandemic preparedness. Areas that represent vulnerabilities for Finland are its relatively high dependence on vulnerable industries and international markets and the prevalence of health risk factors, such as an aging population.

Norway's (2nd) excellent recovery capacity is supported by low income inequality and a well performing labour market. The country's economy is very resilient, based on strong governance, education and skills and a resilient financial system. The country is better prepared from the health system perspective than many other countries due to strong health system capacity and good pandemic preparedness. As for many of its peers, the country is highly dependent on vulnerable industries and international markets.

Germany's (3rd) strong positioning is due to its well performing labour market with low initial unemployment and, by international standards, fairly low debt levels, resulting from the very conservative fiscal policy the country has run in the past. This may change given that the country has announced additional budgets amounting to 8.9 percent of GDP in March and June, which will lead to an increase in debt. The country also boasts good health system capacity and pandemic preparedness to be able to deal with future waves of the COVID pandemic.

Switzerland (4th) benefits from a solid labour market performance (11th) and the highest level of economic resilience in the world (1st). The latter results from a winning combination of excellent performance in the digital economy (10th), education and skills (3rd), and labour market agility (1st). Its strong health system capacity (3rd) and pandemic preparedness (11th) help balance its population health risk factors (33rd). The country presents vulnerabilities in terms of absorption capacity because it is highly exposed to vulnerable sectors and very dependent on international markets. However, for a small economy such as Switzerland, the strong international linkages will be an asset for the recovery process, as the country's main trade partners are expected to recover well from the crisis.

The **United States' (7th)** population and economy suffered more than other countries

from the fallout of the pandemic. As of 21 August 2020, the United States was among the countries with the most registered cases of and deaths due to COVID 19 – 17,370 cases per million and 536 deaths per million, above less developed countries such as Brazil and South Africa and significantly more than in most other advanced economies such as Europe. Factors that aggravated the impact of the initial shock are high dependence on vulnerable industries and high-income inequalities. While the US economy is expected to suffer a strong initial shock due to sheer scale of the pandemic and low absorption capacity, it has many characteristics in place that make it resilient and suggest a rapid recovery. These include agile labour markets, a digitalized economy, and a fairly resilient financial system. The country also had strong institutions to ensure pandemic preparedness. However, health care access and the high prevalence of risk factors to COVID 19 among the population reduce its health resilience.

United Kingdom (12th) comes in lower than some of its peers. While the UK displays a low absorptive capacity due to its industrial structure and connectedness to international markets, as well as high income inequality and macroeconomic challenges, its economic resilience is above levels found in many peer economies (11th). The UK builds on strengths related to the financial system (1st) and labour market agility (6th). The country's population has suffered greatly from COVID, though the health system should have the capacity in place (23rd) to absorb future waves of the virus. However, the UK may be challenged due to the prevalence of underlying health risk factors in the population (65th)

Japan (19th) comes in at a comparatively low position. The country was not much affected by COVID, however, our assessment shows, that significant vulnerabilities persist in the country. It performs below its peers in terms of absorptive capacity (17th) and economic

resilience (21st). While the country is less dependent on international markets and has good labour market outcomes with low unemployment, our data shows that it presents vulnerabilities in food security. The country benefits form a highly skilled workforce (11th) and a digitized economy (15th). And although the country has extensive health system capacity and access (11th), its out weighted by health risks factors present in the population (112th), notably the share of the elderly (122nd).

G20 countries: Diversity of performance

rank	country	Absorptive Capacity	Industrial strength & diversity	Debt levels	Labour market strength	Reliance on international markets	Social resilience	Food security	Economic Resilience	Labour market adaptability	Governance & social capital	Market size & prosperity	Digital economy	Education & skills	Financial system resilience	Health Resilience	Health system capacity & access	Pandemic preparedness	Population health profile
3	Germany	72.8	50.0	77.4	88.5	57.2	71.0	92.6	78.7	71.7	81.3	79.4	70.8	80.9	88.3	77.3	84.4	81.3	66.3
5	Australia	70.5	47.3	71.0	76.9	68.0	66.6	93.1	75.2	68.5	75.2	64.9	76.6	76.9	89.3	78.3	75.7	87.5	71.5
7	United States	67.0	38.6	67.9	78.4	78.6	43.9	94.2	79.0	75.5	72.1	69.2	88.9	81.5	86.6	75.2	65.0	91.7	68.9
11	Canada	63.7	46.0	63.0	70.9	43.1	63.2	95.9	77.0	71.8	78.7	64.4	80.8	79.3	87.0	77.5	68.5	93.8	70.2
12	United Kingdom	62.0	39.2	63.0	82.1	46.1	64.3	77.2	77.0	75.9	76.7	70.9	70.8	76.0	91.7	76.4	67.3	93.8	68.0
17	Korea, Rep. of	64.4	47.4	72.7	73.3	59.7	69.6	63.6	71.5	59.5	55.4	73.8	81.9	78.2	80.0	71.1	67.8	73.7	71.8
18	France	67.3	45.8	61.0	72.0	59.9	74.4	90.9	72.0	68.7	67.5	73.2	69.0	71.7	81.9	66.8	78.5	52.3	69.5
19	Japan	68.5	40.9	61.7	89.8	85.8	70.3	62.7	71.8	63.2	62.3	68.1	75.7	80.0	81.5	64.0	76.4	56.7	59.0
32	China	69.7	65.4	70.2	58.3	89.2	56.0	79.3	59.1	46.9	43.7	62.9	66.1	62.2	72.6	57.4	47.2	52.5	72.6
36	Russian Federation	67.9	35.3	85.9	70.7	77.7	60.8	76.8	56.6	63.7	35.6	52.8	49.8	68.6	69.0	56.9	61.9	43.7	65.0
40	Italy	61.1	38.6	62.4	58.9	73.9	56.4	76.1	57.1	37.4	47.7	69.8	53.4	61.7	72.6	60.1	59.9	52.3	68.0
44	Turkey	59.5	42.8	63.4	39.9	82.0	47.4	81.3	51.5	47.2	38.7	58.2	46.6	38.9	79.2	63.9	47.9	70.0	73.8
48	Saudi Arabia	55.7	24.9	88.7	65.1	73.2	44.1	38.0	59.4	51.3	56.1	55.7	54.6	59.4	79.2	53.9	48.8	34.6	78.2
49	Indonesia	66.8	45.1	86.2	48.5	86.6	56.5	77.9	51.8	50.3	53.4	55.4	21.0	53.8	76.8	49.2	28.7	47.5	71.5
51	Brazil	53.6	34.4	70.6	40.7	84.6	15.9	75.5	46.3	53.2	31.9	47.0	41.8	32.7	71.2	67.4	48.6	83.3	70.3
58	Mexico	58.5	27.5	82.6	62.1	64.8	40.5	73.6	47.4	40.0	32.0	55.1	39.0	46.4	71.8	57.2	41.0	57.5	73.1
60	Argentina	58.3	32.8	53.4	50.4	93.4	43.3	76.9	49.7	54.5	41.3	45.0	40.1	52.3	64.9	54.9	58.8	38.7	67.1
63	India	68.7	69.4	78.6	35.3	89.4	64.0	75.1	44.5	24.9	48.2	49.2	29.8	39.1	75.8	48.6	27.7	45.0	73.2
77	South Africa	45.9	31.9	76.1	30.4	56.0	0.0	81.0	45.1	42.0	47.5	47.9	34.6	26.0	72.4	58.5	44.3	62.5	68.6

Figure 9: CERI results for G20 countries
Source: Authors' calculation
Note: Country scores are on a scale of 0 to 100 (best). Blue signifies strong performance, red poor performance.

The picture is far more diverse when we analyse the performance of G20 countries, reflecting their different levels of development (see Figure 9). Germany (3rd), Australia (5th) and United States (7th) emerge as the strongest economies. Among the large emerging markets, China (32nd) is the best performing economy, followed by the Russian Federation (36th), Brazil (51st), India (63rd), and South Africa (77th) the poorest performer among the G20 countries.

Many countries display **vulnerabilities in terms of industry structure and pre-existing debt levels**, which will limit those countries' fiscal policy space and the capacity of households and corporates to absorb the economic shock. They also display **fragilities due to high levels of income inequality**. While many countries show good levels of pandemic preparedness, others, such Saudi Arabia and the Russian Federation, lag well behind many of their peers. With a few exceptions, the majority of G20 countries, whatever their degree of development, are

quite exposed to health risk factors. Some are more exposed to chronic/non-communicable disease risk: others to infectious/communicable diseases. For some, both are prevalent among the population, but ageing economies carry the highest health risk in this pandemic.

China (32nd) is the **strongest performer among the large emerging markets**. It has fairly strong absorptive capacity (11th) because it is less dependent on vulnerable sectors (12th) and international markets (13th) than many other countries. While China may be able to absorb the first shock better than other economies, its recovery may be less straightforward due to lower levels of resilience (37th), which remain weak due to vulnerabilities within the financial system (66th) and Health resilience suffers from risk factors such as aging (69th) and prevalence of medical conditions (98th). On a positive note, the economy is digitized (25th) and has a relatively well skilled workforce (35th).

Russian Federation (36th) comes in at a fairly good position due to low debt levels (6th), low dependence on international markets (64th) and good labour market agility (29th) as well as solid skills within the workforce (29th). The country also benefits from widespread access to healthcare (30th), although concerns with respect to capacity and quality of the health system remain (112th). At the same time, Russia struggles with high dependence on vulnerable industries (94th) and a low degree of digitization of the economy (46th).

Brazil (51st) is currently struggling with the first wave of the pandemic with significant effects on the economy. Indeed, its absorptive capacity is rather low (99th) due to high dependence on vulnerable industries (97th), high income inequality (118th) and less than optimal labour market performance (91st) leaving a significant share of the population without employment. On a positive note, Brazil is not overly dependent on international markets, which limits contagion effects, and has a good outlook in terms of food security. Recovery will further be held back by a low degree of digitalization of the economy, low skills among the labour force and governance challenges.

India (63rd) has strong absorptive capacity (16th) and low economic resilience (75th). The former is driven by low dependence on vulnerable industries (8th) and on international markets (11th). At the same time, India presents significant vulnerabilities in terms of labour market performance with a large share of people not integrated into the formal labour market (101st). Economic resilience is held back by low labour market agility (107th), low penetration of the digital economy (76th) as well as insufficient skills within the workforce (72nd) that will make it harder to transition to a pos-COVID economy. Limited health system capacity and access (92nd) will make managing the pandemic from a health perspective a challenge. On a positive note, India scores rather well on selected heath risk factors such as urbanization and aging.

South Africa (77th) is the poorest performer in the group of the large emerging markets with challenges int terms of both the capacity to absorb the shock (117th) and economic resilience (72nd). The country is highly dependent on vulnerable industries such as tourism and its high-income inequality and poverty create social vulnerability. However, South Africa may be better positioned to recover that it may seem at first sight. Social capital, one of the key elements of resilience is high and the country has relatively good health system capacity and social security coverage.

What Should Governments Do?

The COVID crisis is truly a moment of "re-emergence" for government and the importance of its role in safeguarding people and economies in times of crisis. It is also a moment for government leadership to plan for the longer term and to foster the factors that business and societies need to develop and grow sustainably. Much detailed research is being done to inform policy measures and in this report we can only offer some high level pointers for governments based on CERI data:

- The **recovery of a country's main trading partners** will significantly drive its near-term growth. It is therefore crucial that countries maintain open borders for both imports and exports, but also for investment and movement of people. Trade blocks can benefit their members if they can ensure that people, investment, goods and services can move as freely as the sanitary situation allows.

- The degree of **digitalisation** throughout society and the economy has been critical in mitigating impact for some sectors and will be critical to recovery and rebuilding. The COVID 19 crisis is set to accelerate the digital transformation of businesses. Countries that have the necessary infrastructure (including for cyber security) and skills in place, will be able to accelerate recovery. Directing stimulus programmes towards investment in digital skills and infrastructure as well as protection from cyber risks and adaptation by businesses is therefore crucial.

- **Social security systems** have played a huge role in shielding livelihoods during the crisis and will continue to do so for some time. They are particularly important for countries with high socio-economic inequalities, because the COVID19 crisis affects people at the lower end of the income spectrum more.

- Automation and digitization accelerate due to COVID and **education, training and re-skilling capacity** will play an outsize role in recovery and for future transformations. Many vulnerable sectors are unlikely to recover soon. The degree to which people can reskill and upskill rapidly – notably as part of active labour market policies –and into future-proof roles will be crucial to facilitating these transformations.

- A **greater focus on inclusion and equality** will improve the capacity to deal with health and hence economic risks in future. Access to healthcare remains limited in many countries and this has proven to be the weak point in health resilience in many countries.

- An over-arching factor is **that society-wide trust and social capital that were generally important for the success of containment**, will be important for the long-haul recovery that lies ahead. Social capital and trust enable collaboration across stakeholders, which is necessary for public private collaboration to be successful. Public-private collaboration, in turn, will be important in the near-term recovery process.

Conclusions

The COVID pandemic holds the world in its grip, and governments are reacting to protect lives and livelihoods. Globally, stimulus packages already amount to US$11 trillion. It is increasingly clear that the economic fallout of the pandemic and its impact on future growth paths will differ significantly across countries.

This study aims to identify and assess those factors that will impact countries' recovery paths. It presents the findings of the COVID Economic Recovery Index, which compares the recovery capacity of over 120 countries based on over 100 indicators from renowned sources.

The report shows that **workforce adaptability, highly digitalized economies, governance, and social capital, as well as well functioning financial systems are key to recovery** based on the results of top performing countries. **All countries have room for improvement in terms of resilience**. When designing recovery programmes and stimulus packages, governments therefore need to also think long term and need to use these programmes to improve resilience to future shocks and pave the way ahead for future transformations.

The findings also show that an enduring economic crisis can reveal pre-existing vulnerabilities, which can in turn trigger other risks. Examples of such risk types are financial crises, food crises or social tensions. Countries where such risks materialize, will experience a slower and more protracted recovery.

We hope that this report and index will provide an objective, data-driven tool to help governments, businesses and civil society navigate the recovery landscape, reduce uncertainty, and prioritize action for our near and long-term future.

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Annex: Methodology

What does the COVID Economic Recovery Index measure?

The COVID Economic Recovery Index assesses the characteristics countries have in place that will help them weather the crisis and recover. These factors were identified based on theoretical and empirical research about economic growth, crisis resilience and pandemic response.

Other factors will play a role in how countries weather the crisis and recover, including policy choices, changes in consumer behaviour which may be durable, and last but not least how the COVID virus continues to spread and how rapidly a cure or vaccine can be found.

The index covers 122 countries, which were selected based on data availability. It is the first global assessment of its kind.

How was the index built?

The Index uses a custom-built data set combined in a sophisticated analytical framework to measure three overarching elements: 1) health system resilience; 2) countries' capacity to absorb the economic shock; and, 3) economic resilience. These elements are measured through 15 sub-categories that allow users to analyse the performance of each country in detail. The index structure is shown below.

	Pillar	*Sub-pillar*	*Description*
COVID Economic Recovery Index	Absorptive Capacity	Industrial strength & diversity	Assesses the relative independence of countries from sectors most at risk of disruption from COVID19 in terms of employment and GDP.
		Debt levels	Assesses the sustainability of country's finances which in turn will impact stakeholders' capacity to issue new debt.
		Labour market strength	Assesses the strength of the labour market prior to the COVID19 crisis.
		Reliance on international markets	Assesses countries' reliance on international markets (trade and investment) as in times of crisis external demand is the first one to diminish.
		Social resilience	Assesses the social stability of a country as reflected by a more equal society as financial crises exacerbate inequalities and may lead to political instability.
		Food security	Assesses countries' capacity to sustain their food consumption in times of crisis.

Economic Resilience		Labour market adaptability	Assesses the capacity of the labour market to rapidly adapt to the new normal.
		Governance & social capital	Assesses the strength of society and trust in government. These elements are essential for countries to go "back to normal" in the absence of treatment as policymakers have no choice but appeal to the social responsibility of their citizens to comply with social distancing rules.
		Market size & prosperity	Assesses the capacity to generate local demand for goods and services; this will be a key element for a quick economic recovery.
		Digital economy	Assesses the strength of the digital economy in different areas (government, finance, internet accessibility and speed…) as the COVID crisis has made individuals worldwide even more reliant on digital services for all purposes.
		Education & skills	Assesses the skills and education attainment of the current workforce which will impact the speed of recovery.
		Financial system resilience	Assesses the sustainability of a country's financial market to the COVID crisis.
Health Resilience		Health system capacity & access	Assesses countries healthcare capacity, access, and public confidence.
		Pandemic preparedness	Assesses countries readiness for pandemics.
		Health risk factors	Assesses the healthiness of the population prior to the COVID crisis.

Over 100 indicators from renowned publicly available sources including the United Nations Statistics Division, the International Monetary Fund, the International Labour Organization, the World Health Organization, the World Bank, and the World Economic Forum were compiled and used for elaborating the index. They were checked for accuracy, reliability and comprehensiveness of their country coverage. The most recent available indicators were used, mostly for the years 2018-2019. All statistical data was collected between March and July 2020.

For the full list of indicators, please go to: www.covidrecoveryindex.org

Data cleaning and calculation

Data cleaning: Each indicator was checked for normal distribution. For indicators where normal distribution did not apply, we applied a log transformation. A log transformation retains the unique differences between countries in performance while creating a more sensible distribution, that is less extreme. Afterwards the symmetry of data was checked, and outliers were assessed (data points that lay outside 1.5 times the interquartile range above the upper quartile and below the lower quartile). For certain indicators thresholds were set so as to prevent outliers from skewing the distribution of scores. In addition, for each indicator missing data was searched for: firstly, by using past data from the same source, then by searching on government websites and/or internationally recognized sources. If no data was found using this procedure, missing data were not estimated.

Indicator number	Indicator name	Transformation applied	Impact
12100	Gross debt position	Upper-bound threshold: 120%	If a country has a gross debt of 120% of GDP or higher, then the score is set to 0.
12300	Nonfinancial corporate debt, loans and debt securities	Upper-bound threshold: 191%	If nonfinancial corporate debt, loans and debt securities account for 191% or more of a country's GDP then it scores 0 on this indicator.
12400	External debt stocks	Upper-bound threshold: **1000%**	If a country has external debt stocks of 1000% of GNI or greater then it scores 0 on this indicator.
12600	Inflation rate	Upper-bound threshold: between 0.5% and 3%. Lower bound thresholds: less than -4.5% or more than 13%.	Countries with inflation rates between 0.5% and 3% receive the highest possible score of 100. Outside this range, scores decrease as the distance between the optimal value and the actual value increases. For inflation rates higher than 13% or lower than -4.5%, countries receive a score of 0.
13300	Unemployment rate	Upper-bound threshold: 15%	If a country has an unemployment rate of 15% or greater then it scores 0 on this indicator.
14100	Trade openness	Upper-bound threshold: 165%	If the sum of a country's imports and exports accounts for 165% or more of its GDP, then it scores 0 on this indicator.
14200	Investment openness	Upper-bound threshold: 1.5%	If a country's sum of inward and outward FDI stock is higher than 1.5% of GDP, then it scores 0 on this indicator.
16200	Self-sufficiency ratio	Upper-bound threshold: 100%	If a country has a self-sufficiency ratio which is greater or equal to 100%, then it scores 100 on this indicator.

22232	Trust in government	Upper-bound threshold: 50%	If 50% or more of respondents say they trust their government a lot, then the country scores 100 on this indicator.
23110	GDP per capita	Logarithmic transformation	A log transformation is applied to all data points.
23120	Median Income	Logarithmic transformation	A log transformation is applied to all data points.
23210	Market size	Logarithmic transformation	A log transformation is applied to all data points.
26300	Regulatory capital	Upper-bound threshold: 20%	If a country has 20% or more regulatory capital to risk-weighted assets, then it scores 100 on this indicator.
31300	Current health expenditure	Logarithmic transformation	A log transformation is applied to all data points.
31200	Hospital beds	Upper-bound threshold: 8.8	If a country has more than 8.8 hospital beds per 1,000 people, it scores 100 on this indicator.

Scoring: A min-max transformation was then applied to all indicators. This transformation preserves the order of, and the relative distance between, country scores. More specifically, for each indicator there is at least one country that scores 100 and another that scores 0 while all the other countries covered by the CERI have a score between 0 and 100. The formula used to compute the Score is the following:

$$Score = 100 * \left(\frac{\text{country data point for the indicator} - \text{minimum data point for the indicator}}{\text{maximum data point for the indicator} - \text{minimum data point for the indicator}} \right)$$

Whenever a higher value represents a worse outcome (e.g. gross debt, unemployment rate), the complement to 100 is used, i.e. the result of the calculation (Score) is deducted from 100.

Aggregation: Indicators were aggregated according to the CERI structure, i.e., sub-indicators were aggregated into indicators, indicators into sub-pillars, sub-pillars into pillars and pillars into final score. All aggregations were based on simple arithmetic averages. Thus, the three pillars Absorptive Capacity, Economic Resilience and Health Resilience were equally weighted and arithmetic aggregation was applied. For countries with missing values at sub-indicators or indicators levels, only the scores on the other sub-indicators or indicators were used in the aggregation.

Explore and visualize the data on: www.covidrecoveryindex.org

The internet version of this paper may contain updates in comparison to the PDF version.

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