

Reopening the economy: Learning from success

INTRODUCTION

South Africa has adopted a phased approach to reopening the economy. The relaxation of restrictions on economic activity will depend on the extent to which the contagion is controlled and the health sector prepared to deal with a surge. In that context, the specific regulations for the economy are still being considered. This brief seeks to assist the process by analysing the experiences of countries that succeeded in ending the threat of COVID-19.

LESSONS FROM SUCCESS STORIES

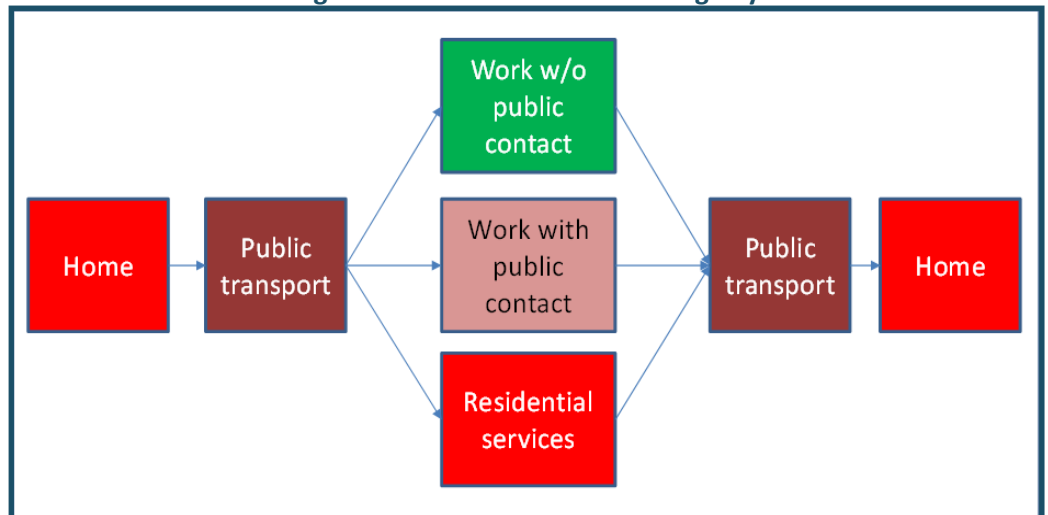
Case studies of seven countries that have successfully controlled the COVID-19 pandemic – South Korea, Singapore, Taiwan, New Zealand, Australia, Germany and China – are provided in Appendix 1. This brief summarises key learnings from their experiences. In particular, as the successful countries reopened their economies, they shared some common approaches.

1. The successful countries have seen measures to restrict economic activity to deal with the COVID-19 pandemic not as a cost, but as an investment in long-term prosperity. That said, like any investment, if the measures are unnecessarily inefficient and costly they can lead to bankruptcy.
2. All the successful countries distinguished between producers primarily based on the extent to which they interacted with the public. None of these countries distinguished between industries based on traditional economic subsectors as reflected in the Standard Industrial Classification (SIC).

3. Restrictions largely remain in place for public-facing businesses even when cases have fallen to zero. As a result, most successful countries do not allow collective recreational activities, whether sports, concerts or church services or personal services such as barbershops and gyms. They have also banned any large family or other gatherings (although the limit ranged anywhere from 10 to 200). They opened public transport late in the process and subject to public-health restrictions and regular deep cleaning. Most permitted non-essential retail initially only through deliveries and curb-side pick-up. They allowed restaurants to open relatively early on, but only with physical distancing or plexiglass barriers between unrelated customers, combined with limits on the numbers allowed at each table.

4. In contrast, productive enterprises with little public contact were allowed to reopen relatively early in the process, as long as they held to health and safety regulations. This category includes virtually all factories, farms, mines, logistics and construction sites. It also

Figure 1. Risk areas in the working day



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Thanks to Annie Neo Parsons for public-health advice; errors, as always, are our own.

includes professional services, which are, however, mostly able to work from home, as well as security and cleaning services.

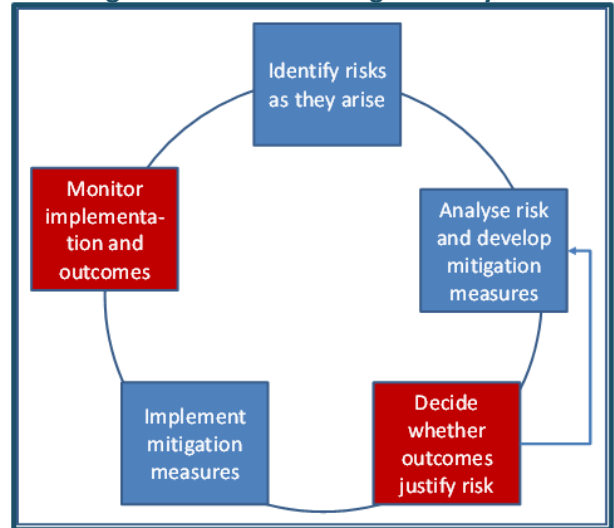
5. Enforcement of health and safety in enterprises with limited public contact built on existing occupational health and safety systems rather than public-health structures alone. In most cases, the occupational health and safety systems already included a degree of worker engagement and oversight as well as requirements that employers provide training and information on safety needs. All the successful countries mandated work from home where possible, with physical distancing (or barriers) and sanitation for on-site workers. Many also required that employers get the details of all workers and visitors to enable contact tracing if necessary; screen workers at least once a day; and send employees home or to medical care if they showed symptoms. Several enforced staggered shifts and opening times to limit crowding in public transport and minimise groups of workers entering and leaving the workplace together.

6. Public-health measures to identify cases, trace contacts and effectively isolate infected people and their contacts were central in all successful countries. These countries provided easy access to testing and established large-scale tracing and quarantine systems. Most used cellphones and other personal data (such as credit card transactions) to support tracing. Because homes are the main site for transmission, the successful countries provided accommodation in hotels and other centres for people who could not isolate themselves at home, with regular checks on symptoms and/or medical support. In some cases, they gave quarantined people daily cash allowances. All of them extended paid leave to cover time spent in quarantine, even if people turned out not to be infected.

Figure 1 on page 1 illustrates this approach by indicating the activities that shape workers' days with the associated risk level. The riskiest areas have proven to be people's homes, unless they minimise all outside contact, followed by public transport and large-scale residential institutions such as nursing homes, jails and cruise ships. Businesses that have substantial contact with the public also pose significant risks. In contrast, production on sites that do not engage with the public, such as factories, mines and construction, are relatively structured and contained. They can minimise the risk of contagion through work reorganisation to maintain physical distance, combined with protective clothing, barriers, flexible working hours, scaled-up sanitation measures and screening.

Viewed in this frame, successful countries have approached reopening the economy through the standard steps of the risk-management cycle, which

Figure 2. The risk-management cycle



is illustrated in Figure 2. The critical public-health requirements are first, to identify the key areas of risk for spreading COVID-19, as shown in Figure 1, and address them strongly; second, after all available measures to reduce the risks have been undertaken, to decide which activities are acceptable; and third, to respond urgently and decisively when unanticipated dangers emerge.

IMPLICATIONS FOR LEVEL 3

For South Africa, the analysis of success cases points to the following requirements for Level 3. The risk analysis in Figure 1 appears to apply in South Africa, but commuter transport is more important here because of the legacy of apartheid residential restrictions. Specifically, the experience of successful countries points to the following strategy for South Africa for Level 3.

1. Productive activities that do not require engagement with the public should be opened without restrictions on products or levels of employment, but only if they comply with public-health and occupational health and safety requirements. These regulations should be extended to include contact tracing, rescheduling shifts to avoid rush hour, and ensuring that contact and residential details are kept for all employees and visitors.
2. Enforcement in large companies should use existing occupational health and safety systems, including health and safety committees. In smaller enterprises and where workers are not organised, enforcement should be supplemented through a hotline with an effective response system, as well as inspections by municipalities and stakeholders (for instance, non-governmental organisations, community groups, business associations and unions). Government should provide financial support to smaller enterprises to enable them to supply protective equipment, sanitation, and, when required, private transport.

3. Residential services (including most domestic work) and activities that require engagement with the public should remain heavily constrained. Specific regulations will vary by industry, and will depend in part on how specific services are valued. When these activities are permitted to restart, they should adopt forms that avoid or minimise direct contact between providers and the public. When that is not possible, physical distancing and sanitation should be strongly enforced for both staff and customers. Employers should be required to provide spaces where staff can maintain physical distancing during breaks and when waiting for transport. Domestic work for people who are permitted to work as well as child and elder care are allowed at Level 4, and the same rules should apply at Level 3.

4. Public transport remains the weakest link, because in South Africa it is critical for commuters. Large employers can often afford to hire private transport, but it is often not worthwhile for small business. In any case, the government has the main responsibility for ensuring safe commuter transport, above all by enforcing physical distancing at taxi ranks and by making sure every other seat is empty. International experience suggests that it would also help to stagger opening times. For instance, regulations could require all private industries except retail to open before 08h00 and close no later than 16h30, and retail to open only at 10h00 and close no earlier than 18h00. To make physical distancing possible, it may also be necessary to expand the area of taxi ranks and to limit trading there. These decisions, and enforcement of physical distancing and sanitation, should be the responsibility of provinces and municipalities. Government should, however, also consider a subsidy for taxis, since most cannot make a profit if they run a third empty unless they raise their prices.

5. Public health measures are critical in managing the risk of economic reopening. From the standpoint of economic activity alone, the central requirement is a system that can promptly identify hotspots in the economy and when necessary close them down. In practice, the main risks for economic activity internationally have been residential services and, in a small number of cases, large companies that did not undertake protective measures. Stakeholders, including employers, workers and regulators, have to understand that responding to new cases is critical if they want to stay open and for the economic recovery to succeed. Their policies must ensure adequate and repeated screening; fast testing; proactive tracing even before test results have returned; and isolation on the basis of screening without waiting for test results.

That said, as of early May, the most threatening hotspots were in dense neighbourhoods in Cape Town. Unless these major population centres are

supported more effectively, it seems impossible to reopen much in the way of economic activity there. In practice, experience in other countries shows that when COVID-19 spreads widely, consumers and workers prefer to stay at home even when there are no legal restrictions.

If South Africa implemented economic reopening on the model of countries that have successfully controlled COVID-19 infections, the number of additional workers who could in theory return to on-site work in Level 3 would be four million. Including workers allowed to work under Levels 5 and 4, that means two thirds of all employed people as of December 2019 would be allowed to go back to their workplaces, while over 10% would continue to work from home. Workers who would still be barred from their jobs would be mostly in retail and personal and recreational services, where restrictions would remain relatively strong under this model. Appendix 2 indicates the implications for employment by sector.

In practice, the number of people returning to work would likely be lower than the number legally permitted for two reasons. First, both domestic and international demand remain slow. International tourism seems unlikely to recover for at least two years because it is affected by both consumer concerns and travel bans. Generally, recreational activities of all sorts will be slowest to recover, because both government and households see them as less essential than other businesses. Second, many companies may not have resources to return to work, having exhausted their reserves meeting fixed costs, including salaries, during the lockdown. These limitations on the return to employment under the proposed Level 3 strategy point to three additional requirements for successful economic reopening.

- Measures to support people who have lost their livelihoods remain critical, especially in light of South Africa's high levels of inequality and poverty before the pandemic. In addition, plans should be developed to ensure a just transition for workers, small businesses and municipalities that depend on tourism, recreational activities, personal services and other sectors that will revive slowly if at all.
- Government needs to expand its assistance to businesses that face liquidity challenges because they used up their resources to meet fixed costs and salaries during the lockdown period. It should also provide financial assistance for small and medium businesses to meet the costs of new health and safety measures, in particular work reorganisation and barriers, sanitising, screening and, where relevant, worker transport.
- Over the medium term, government needs to maintain a stimulus package centred on boosting domestic and regional demand and productivity, since it has virtually no capacity to restore export markets.

APPENDIX 1: CASE STUDIES

The case studies in this Appendix provide some background for the brief on learnings for Level 3. For each case study, the following information is provided as far as possible, based on the available data and desk-top research.

1. Trends in new cases (rolling seven-day average).
2. Description of the lockdown measures and impacts on the economy and business.
3. Interesting measures relating to the workplace (that is, not including the normal requirements of physical distancing or barriers, sanitation and screening).
4. Interesting measures relating to healthcare (that is, not including the usual prescripts of testing, tracing and isolation).
5. Public support and communication.

Similar data on South Africa is provided at the end, for comparison.

1. NEW ZEALAND

The rolling seven-day average of new cases in New Zealand, which has a population of five million, peaked at 75 on 4 April (see Graph 1). A month later, it fell to just two. As of 8 May, New Zealand had a cumulative total of 31 cases per 100 000 people – a low rate by international standards. It had conducted 3 646 tests per 100 000, which is unusually high.

New Zealand banned travel from China on 3 February 2020. Its full lockdown lasted 36 days, beginning at level 3 on 23 March and moving to stricter rules at midnight on 25 March. Restrictions were eased on 27 April. During the lockdown, non-essential businesses were closed while discretionary domestic air travel was banned, and all public gatherings cancelled. Only hospitals, pharmacies, grocery stores and petrol stations were operational. On 27 April, the country returned to alert level 3, which is expected to last for two weeks, when Cabinet will review progress and decide on further relaxation.

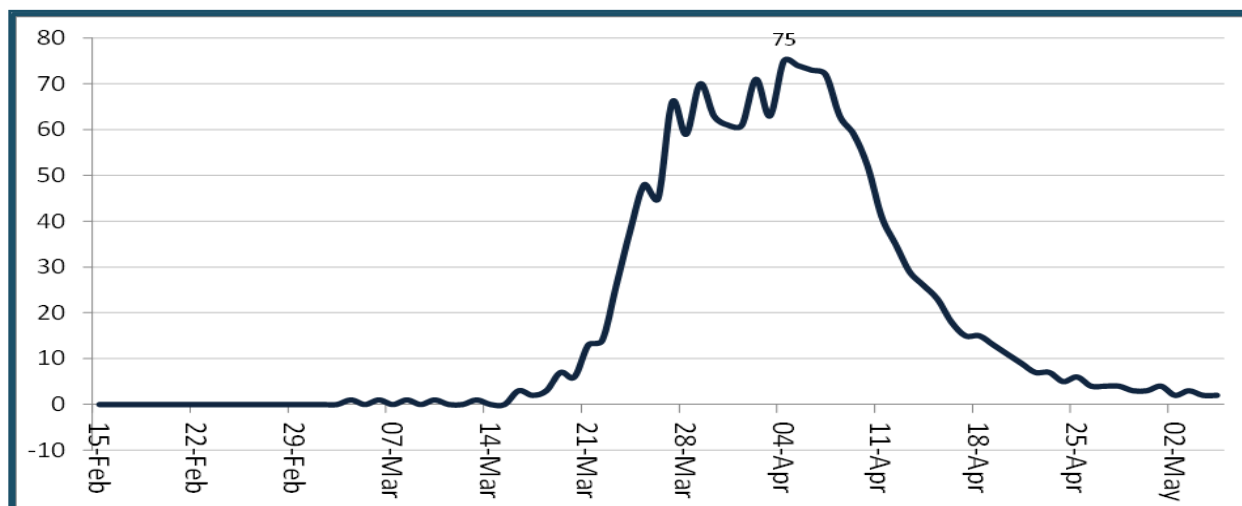
As Graph 2 on page 5 shows, at the height of the lockdown travel to work was almost 80% reduced compared to January 2020. Public transport and non-essential retail and recreation dropped even further. Under alert level 3, some businesses will be allowed to open, but they are expected to assess their

ability to operate safely in collaboration with employees, based on existing occupational health and safety systems. They must have a health and safety plan signed by a worker representative.

The reopening guidelines are split into four subsets: for workplace premises accessed only by staff; premises accessed by the public or customers; workers going to customers or third-party premises; and workplaces with no premises. Most personal and recreational services remain closed, including hairdressing, non-medical massages, movie theatres, domestic work and gyms. For businesses accessed by customers and the public, only contactless delivery and pick-up are allowed, with all storefronts closed and only takeaway permitted from restaurants. Only supermarkets, pharmacies, dairies and petrol stations are allowed to operate with customers in-store, but are required to conduct a “one-in, one-out” system.

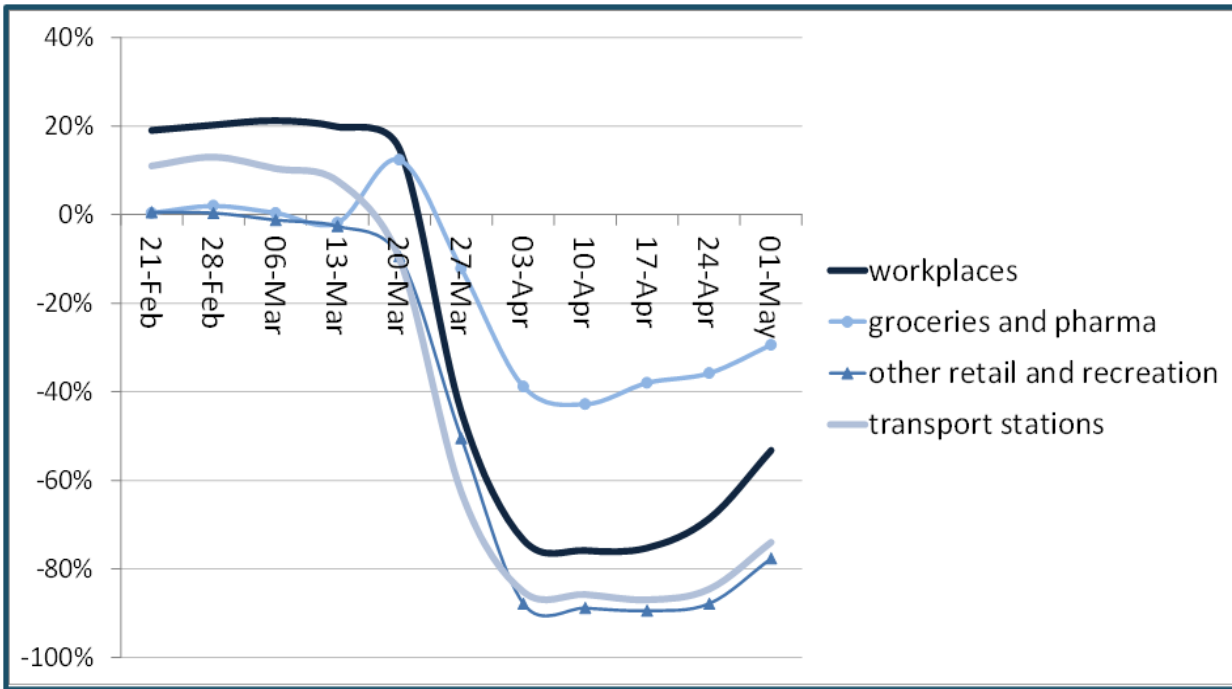
Guidelines for workers going to customers or third-party premises vary slightly based on the business. For instance, while real estate firms can open for staff who cannot work from home, no in-person appointments with clients are allowed. In contrast, couriers can operate through contactless delivery, while tradespeople (such as electricians, plumbers) can go to customer homes.

Graph 1. Seven-day rolling average of new cases in New Zealand, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

Graph 2. Change in travel in New Zealand, work-week average for 17 February to 1 May, compared to January



Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel spreadsheet. Downloaded from <https://>

2. AUSTRALIA

In Australia, which has a population of 25 million, the rolling seven-day average of new cases peaked at 368 on 29 March, then fell to two a month later (see Graph 3). As of 8 May, it had experienced a total of 27 cases per 100 000 people – again, a low rate by international standards. Australia had conducted some 2889 tests per 100 000 people.

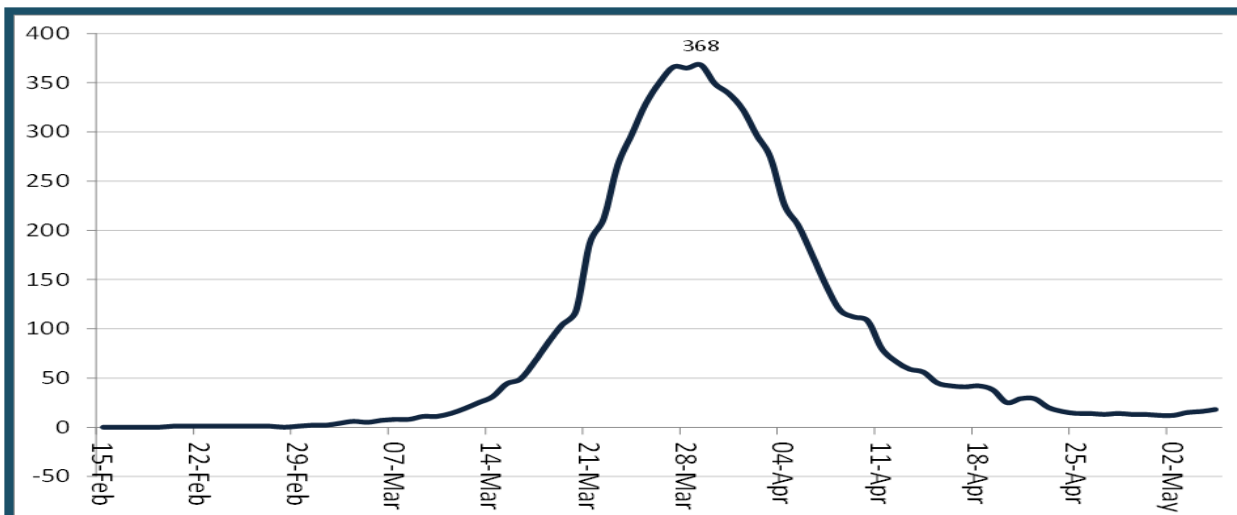
Australia phased in its lockdown. As in South Korea, however, the restrictions applied to individuals rather than to businesses.

Australia began with quarantine requirements for travellers from outside the continent, and later banned all international travel except for Australians

returning home. From late March, gatherings were limited to two people, and individuals could only go out for essential shopping, medical care, work and exercise. Cinemas, gyms, galleries, and registered/licensed clubs as well as real-estate showhouses and auctions were closed.

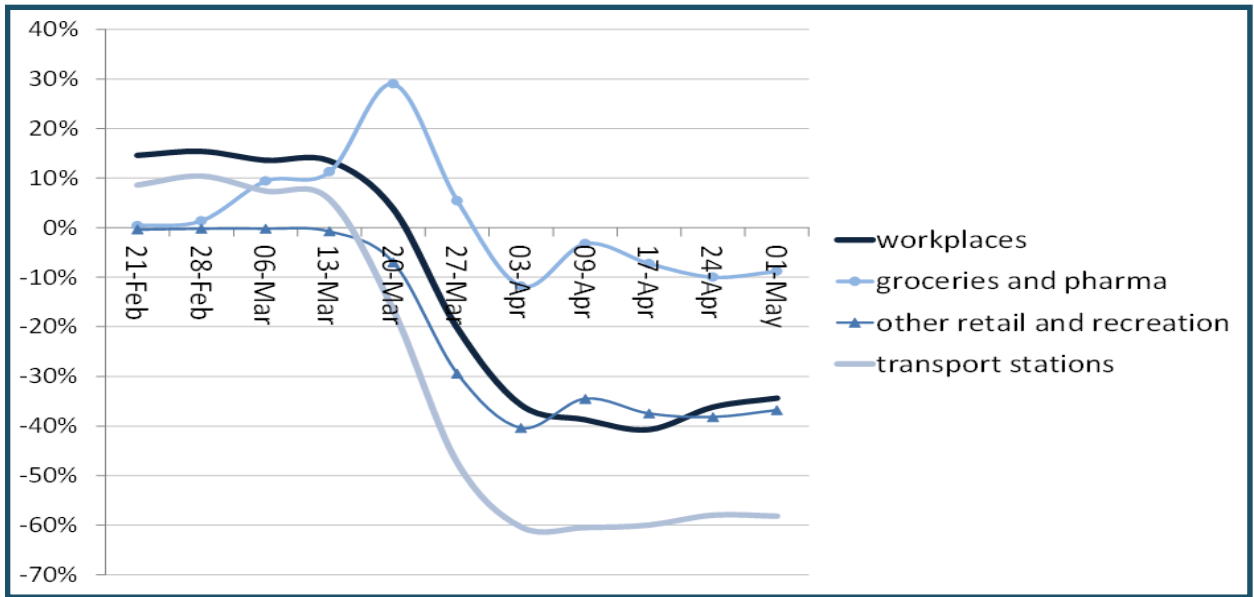
Despite these measures, most businesses could operate if they maintained physical distancing, good ventilation and sanitation; limited access for non-employees; and required that sick employees remained at home. Restaurants were allowed to provide takeaway and home delivery. Businesses that need close contact, such as dental practices, skin clinics, beauty salons, tattoo studios and body piercing studios, could open if they got an infection control licence.

Graph 3. Seven-day rolling average of new cases in Australia, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

Graph 4. Change in travel in Australia, work-week average for 17 February to 1 May (a), compared to January



Note: (a) Excluding holidays. Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel spreadsheet. Downloaded from <https://www.google.com/covid19/mobility> on 8 May 2020.

As Graph 4 shows, the lockdown in Australia was not as severe as in New Zealand, with travel to work down only 40% at its height. In contrast, public transport fell 60%.

Businesses that did not comply with safety measures could face a fine of AUS\$5 000. Public health officers could undertake control inspections routinely or based on complaints. Infection control licence fees have, however, been waived for the first 12 months as part of a COVID-19 economic survival package.

3. SOUTH KOREA

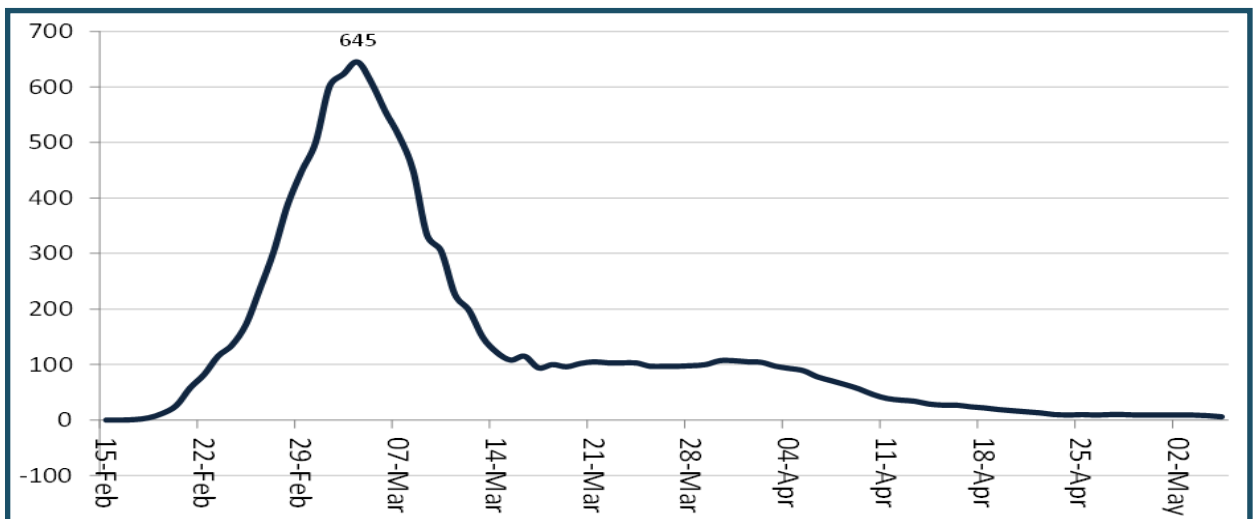
As Graph 5 shows, the rolling seven-day average of new cases in South Korea (population 52 million) peaked at 645 on 4 March, then fell to near zero six weeks later. A few days later, it experienced an outbreak in Seoul as an individual went barhopping. In response, it closed restaurants and bars there. As of

8 May, South Korea had total of 21 cases per 100 000 people – a low rate by international standards. It had conducted 1277 tests per 100 000 people.

South Korea did not have a national lockdown, but it effectively closed down two cities from February 21 until recently. The lockdown areas covered the city of Daegu, with 2.4 million residents, plus two nearby towns with around 300 000. Under the measures, government asked people to remain home, which led to empty streets and shuttered shops and restaurants. High-risk businesses had to close, including gyms, churches, museums and libraries. Production sites that did not serve the public were not required to close.

Nationally, mass gatherings were banned. Moreover, schools did not return from leave in March but instead went on-line. They were expected to return to on-site learning only on 13 May.

Graph 5. Seven-day rolling average of new cases in South Korea, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

Public support for control of the pandemic was high in part because South Korea had already experienced an outbreak of a far deadlier contagious disease, MERS, in 2015. The government stressed the importance of comprehensive and continual communication to maintain public compliance and support.

As Graph 6 shows, even at the height of the lockdown workplace travel declined only 10% compared to January. In contrast, non-essential retail and recreational travel dropped by 30%, and use of public transport by 25%.

In the first quarter of 2020, the South Korean gross domestic product (GDP) declined at an annual rate of 1.4%, but the fall was due mostly to shrinking domestic and export demand rather than the closure of businesses.

Consumer businesses experienced plummeting demand in early March since people mainly stayed home. Many of these businesses closed voluntarily. One call centre in Seoul experienced a large cluster infection; the workers were reportedly in crowded conditions without proper ventilation. In addition, Hyundai and other companies closed down temporarily because they could not obtain inputs from China during the Chinese lockdown. Businesses also found that regional travel bans made it harder to maintain supply chains and projects.

Unusual workplace measures included the following:

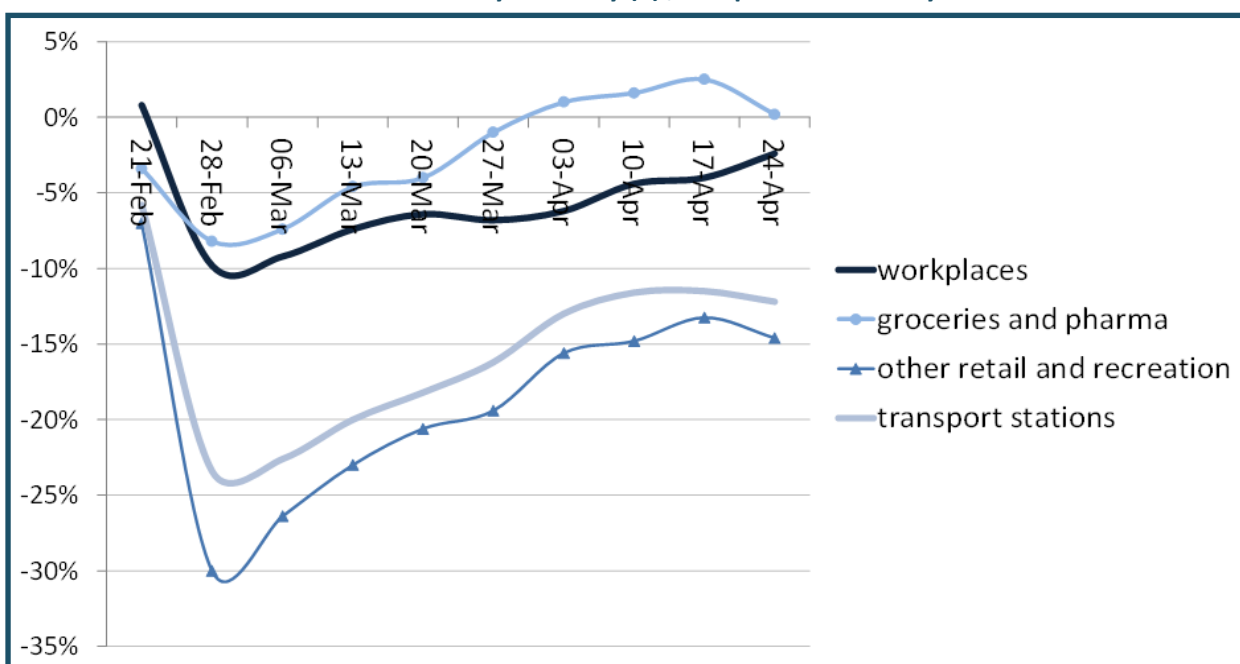
- Employers are required to report on infectious diseases, with a fine in case of failure.

- The government fast-tracked and expanded an existing incentive for small business to introduce flexible shifts, as well as home-based work and flexitime for individuals, in order to reduce crowding in public transport and workplaces.
- The government did not introduce additional mandatory health and safety requirements, but provided extensive advice on best practice.

Non-standard public health measures included a government mandate for mass production of test kits starting on 20 January; the use of credit cards, security cameras and cellphones to trace contacts; universal use of masks; free testing for undocumented people; and twice daily visits to people told to self-isolate. The most famous (or notorious) measure is the publication of details about individual cases, with an alert to all cellphones in the neighbourhood to enable people to identify whether they have been in contact with the infected person.

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Graph 6. Change in travel in South Korea, work-week average for 17 February to 1 May (a) , compared to January



Note: (a) Excludes public holidays. Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel spreadsheet. Downloaded from <https://www.google.com/covid19/mobility> on 8 May 2020.

Graph 7. Seven-day rolling average of new cases in Taiwan, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

4. TAIWAN

The rolling seven-day average of new cases in Taiwan (which has a population of 24 million) peaked at 21 on 4 May, then fell to near zero six weeks later (see Graph 7). As of 8 May, it had experienced fewer than two cases per 100 000 people – a very low rate by international standards. It had conducted 279 tests per 100 000 people.

Taiwan managed the pandemic mostly by closing down travel from high-risk countries, starting in January with China. As an island, that was an effective barrier to contagion. Taiwan did not introduce a national lockdown, but urged people to avoid going out and closed all entertainment and recreational events. In public places as well as restaurants and other consumer outlets, it introduced stringent physical distancing or barriers as well as sanitation measures, with temperature checks on public transport. It also encouraged to work from home.

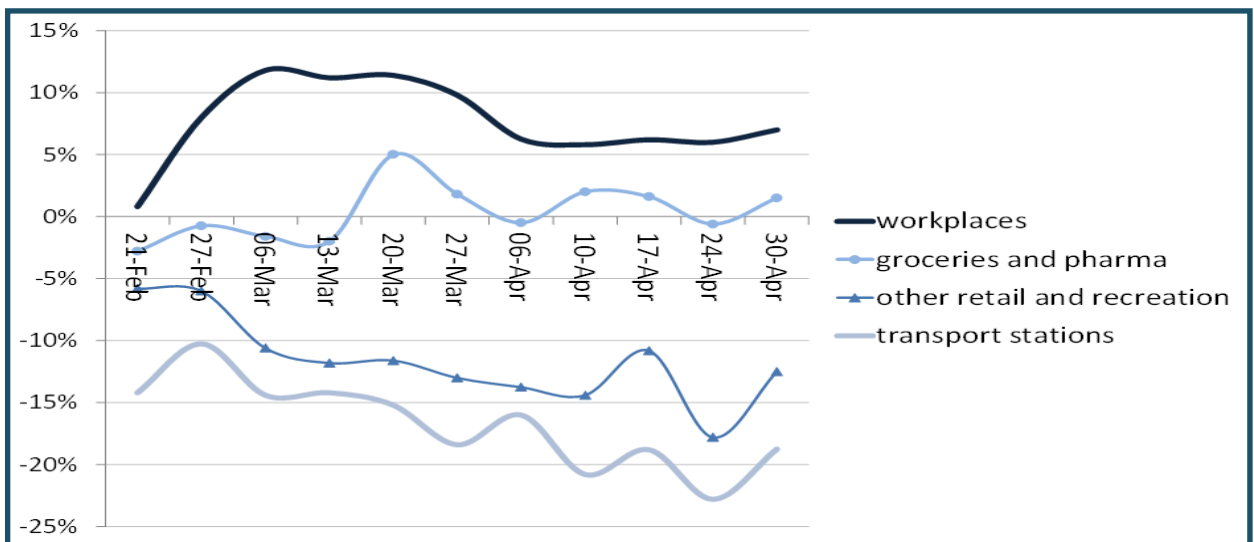
As Graph 8 shows, workplace travel in Taiwan actually increased during the lockdown compared to January. In contrast, non-essential retail and recreational travel dropped steadily, although only to 15% below January. Use of public transport fell by 20% in the same period.

Taiwan's economy grew, at an annualised rate, by 1.5% in the first quarter of 2020. That was around half as fast as in the previous quarter and its slowest quarterly growth in four years. A poll in early March found 85% of businesses were on their regular schedule. But growth was challenged by a decline in household demand, a virtual end to foreign tourism, and the disruption of supply chains with China.

For workplace measures, in addition to standard requirements, Taiwan introduced:

- A reporting requirement on employers for workers with COVID-19, with a fine in case of failure.

Graph 8. Change in travel in Taiwan, work-week average for 17 February to 1 May (a), compared to January



Note: (a) Excludes public holidays. Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel spreadsheet. Downloaded from <https://www.google.com/covid19/mobility> on 8 May 2020.

- Supplementary Occupational Health and Safety standards on 30 January that included requirements around ventilation, specific training for physical distancing and related measures, and sanitation. They also required masks for public-facing workers, essentially those in public transport and retail.
- The government set up a hotline for employees to call if they had concerns about their workplace.
- Employers were explicitly authorised to ask about workers' travel history and take their temperature.

In terms of public health measures, Taiwan introduced contagion controls in January. At the around the same time, it expanded production of personal protective equipment (PPE), and banned exports both of PPE and thermometers. It also stopped travel from and to high-risk countries, starting with Wuhan, and closed its borders entirely in March.

In addition, to encourage people to adhere to quarantine requirements, Taiwan provides rooms and food where necessary as well as health checks and an allowance of US\$30 a day. But it also imposes fines of up US\$10 000 if individuals violate self-isolation requirements. It uses mobile phone tracking to oversee people in quarantine and to trace contacts.

Taiwanese authorities stress the importance of regular communication and information on how to avoid the contagion. The deputy president, who is an epidemiologist, provides regular briefings in public. The government emphasises the importance of "epidemic prevention for dummies".

5. SINGAPORE

The rolling seven-day average of new cases in Singapore, with a population of six million, increased only slowly until early April, but then rose rapidly to peak at 1 006 on 25 April before falling 10 days later to 651 (see Graph 9). As of 8 May, Singapore had reported a total of 371 cases per 100 000 people, which was as high as the worst-hit cases in Europe.

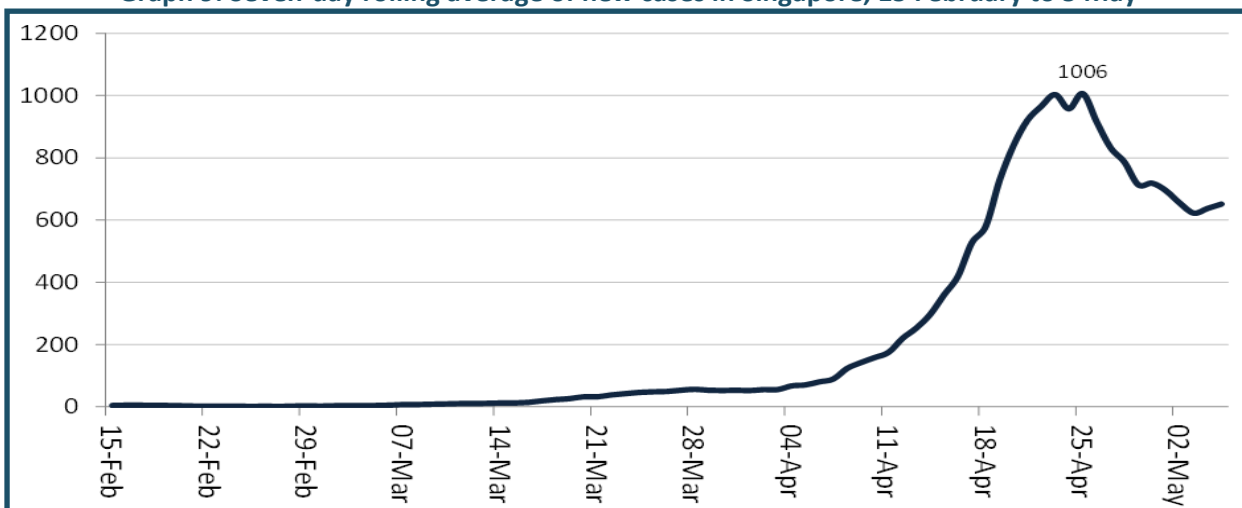
But the total largely reflected very high levels of testing; its mortality rate as of 5 May was 0.3 per 100 000. That compared to 30 per 100 000 in Sweden, which reported a lower rate of infection than Singapore at 243 COVID-19 cases per 100 000 people. Singapore had conducted 3 001 tests per 100 000 people; Sweden was at just 1 470.

From January, Singapore established strong and very detailed physical distancing requirements in restaurants, queues, and other public spaces. On 24 March, it closed restaurants and entertainment venues. Nonetheless, in early April it discovered that it had failed to monitor cases among its large migrant labour force, many of whom live in dormitories. The result was the surge through the second half of April.

In response to the April spike, Singapore locked down "non-essential services", including restaurants, recreational activities and construction as well as some manufacturing, for a month to 5 May. Together, the closed businesses accounted for 30% of the economy, although they provided a substantially higher share of employment. Companies could apply for short-term exemptions to the closure orders only to secure their property, address emergencies arising elsewhere in the world, or access stored or confidential information.

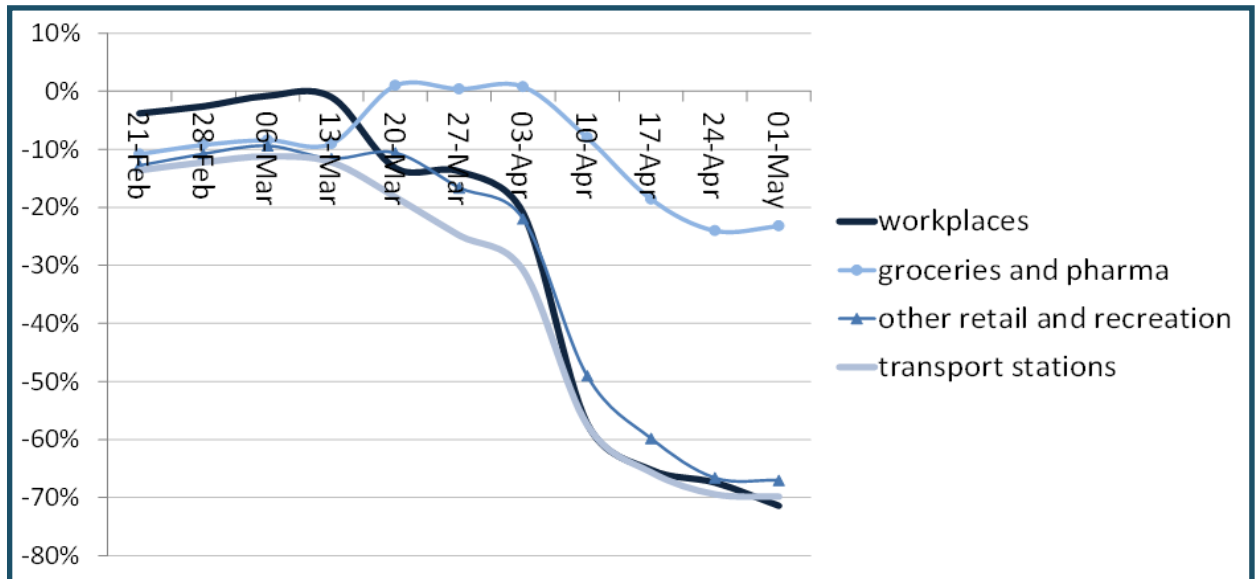
The lockdown was planned for a month, with reopening from 5 May starting with companies that form part of global value chains. Companies were required to have safety plans in place to reopen. Restaurants could only provide takeaway food. As Graph 10 shows, the lockdown had a draconian impact on households. In the last week of April, travel to work fell by 71% compared to January, with a similar decline in the use of public transport, non-essential retail and recreational services. Travel fell far more sharply in Singapore than in most other countries, where lockdowns typically saw a decline of 50% or less in travel to work. Figures for the economic impact on Singapore are not yet available.

Graph 9. Seven-day rolling average of new cases in Singapore, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

Graph 10. Change in travel in Singapore, work-week average for 17 February to 1 May, compared to January



Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel spreadsheet. Downloaded from <https://www.google.com/covid19/mobility> on 8 May 2020.

In addition to the standard health and safety measures for dealing with the pandemic, Singapore introduced the following for the lockdown period.

- Staggered shifts to minimise grouping at work and in rush hour,
- A requirement that employers explain the measures to workers,
- A requirement that during the lockdown, employers check workers' temperatures twice daily, and if workers had symptoms require them to leave the workplace,
- Employers must get the details of everyone entering the workplace in order to facilitate tracing, and
- Employers face fines if they do not undertake screening or get the details of visitors.

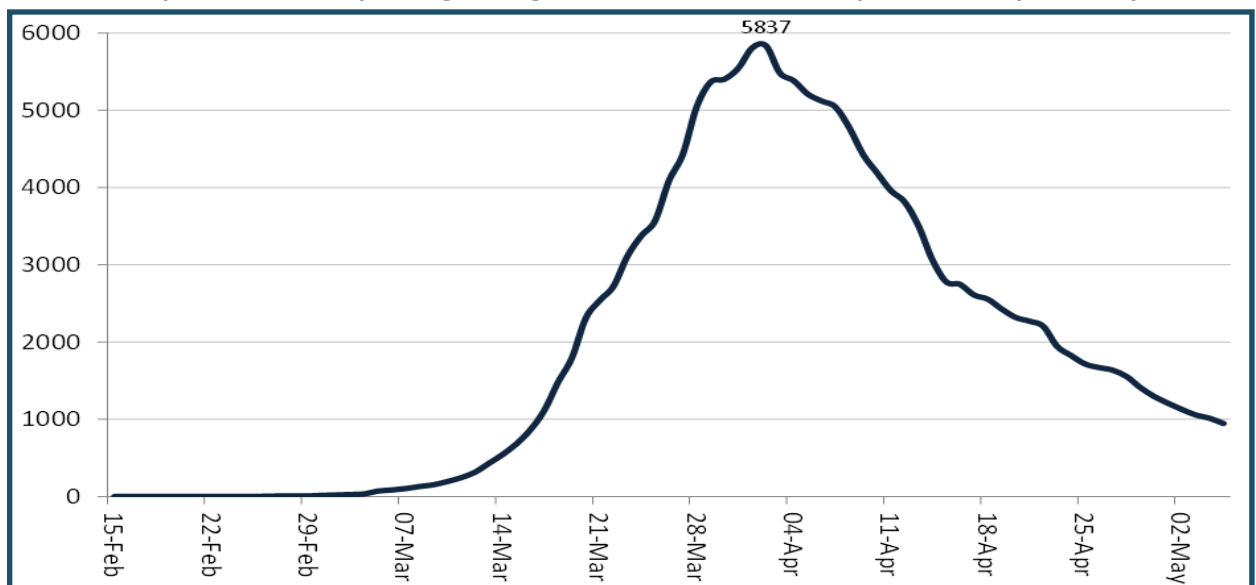
In terms of public health measures, Singapore stands out for the very high level of testing. In addition, it ended most overseas travel. Like Taiwan, it provides a daily payment to people in quarantine.

6. GERMANY

The rolling seven-day average of new cases in Germany, which has a population of 83 million, peaked at 5 837 on 2 April, falling to 1 000 on 5 May (see Graph 11). By 10 May, it had a cumulative total of 204 cases per 100 000 people, which was around the norm for Europe. It had conducted 3289 tests per 100 000 people by 10 May.

Germany closed most shops and personal services, but not factories, grocery stores or chemists, from the third week of March. This followed earlier measures

Graph 11. Seven-day rolling average of new cases in Germany, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

According to the German Chamber of Trade and Industry, most of the enterprises that had closed expected to reopen no later than mid-May. Most, however, anticipated a significant decline in revenues for 2020, and around one in 20 business owners did not think they would recover.

adopted in Bavaria, which faced the highest levels of infection in the country. The national measures required people to stay at home except for shopping, healthcare, work or exercise (which was encouraged). It banned public gatherings of more than two people outside of family members; closed restaurants except for deliveries and takeaways; and required people to maintain two metres distance when outside. It also closed schools. The government argued, however, that it had imposed physical distancing rather than a lockdown. Some provinces introduced stricter measures than the national requirements.

During the shutdown, around half of German enterprises closed. The auto industry stopped production about a week before the national government acted. The companies reacted to plummeting demand and the shortage of inputs from China. In addition, line workers had complained that they had to take the risk of on-site production while management was able to work from home.

Germany began relaxing rules on shops and personal services from late April. It started by allowing some small shops to reopen. According to the German Chamber of Trade and Industry,¹ most of the

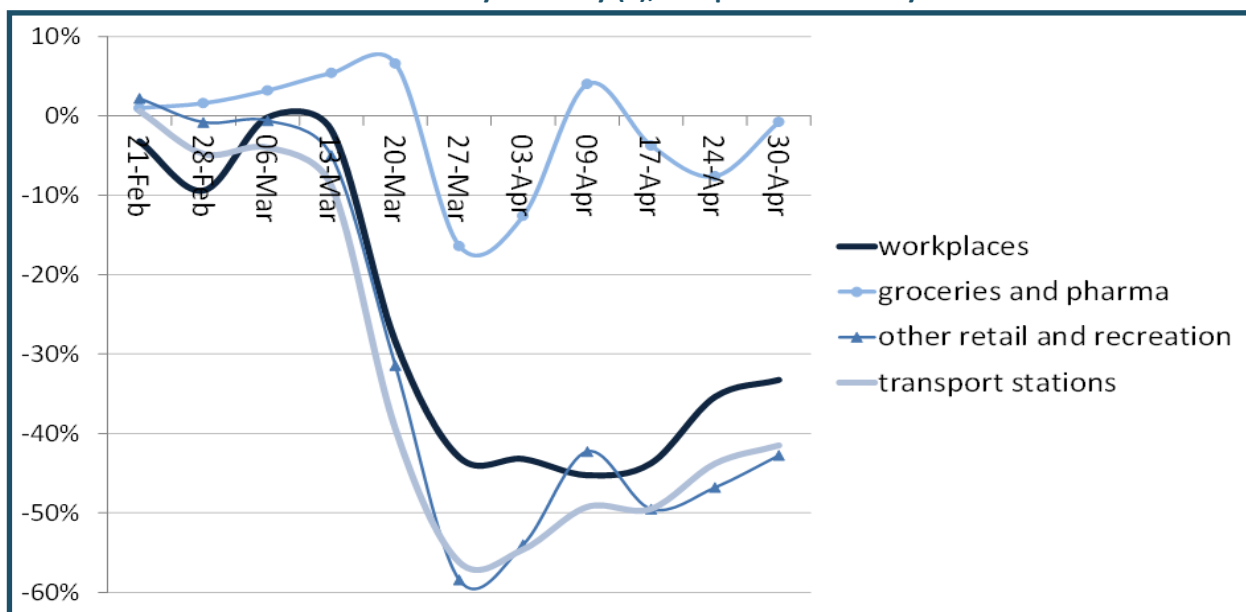
enterprises that had closed expected to reopen no later than mid-May. Most, however, anticipated a significant decline in revenues for 2020, and around one in 20 business owners did not think they would recover.

As Graph 12 shows, the lockdown in Germany saw travel to work fall 45% below January in mid-April before recovering somewhat by the end of the month. In contrast, travel to public-transport hubs and non-essential retail dropped to 60% below January in late March, when the lockdown started, but recovered to 45% less than January by the end of April.

Germany expected employers to adhere to existing health and safety standards, bolstered by additional requirements to combat COVID-19 infections. The COVID-19 regulations made employers responsible for implementing measures such as physical distancing and screening based on a risk analysis. Where a worker/employer health and safety committee existed, it was expected to help implement infection prevention measures and monitor their effectiveness. Where a committee did not exist, the employer was supposed to set up a special coordination/crisis team comprising the works council, the company doctor and the occupational safety representative.

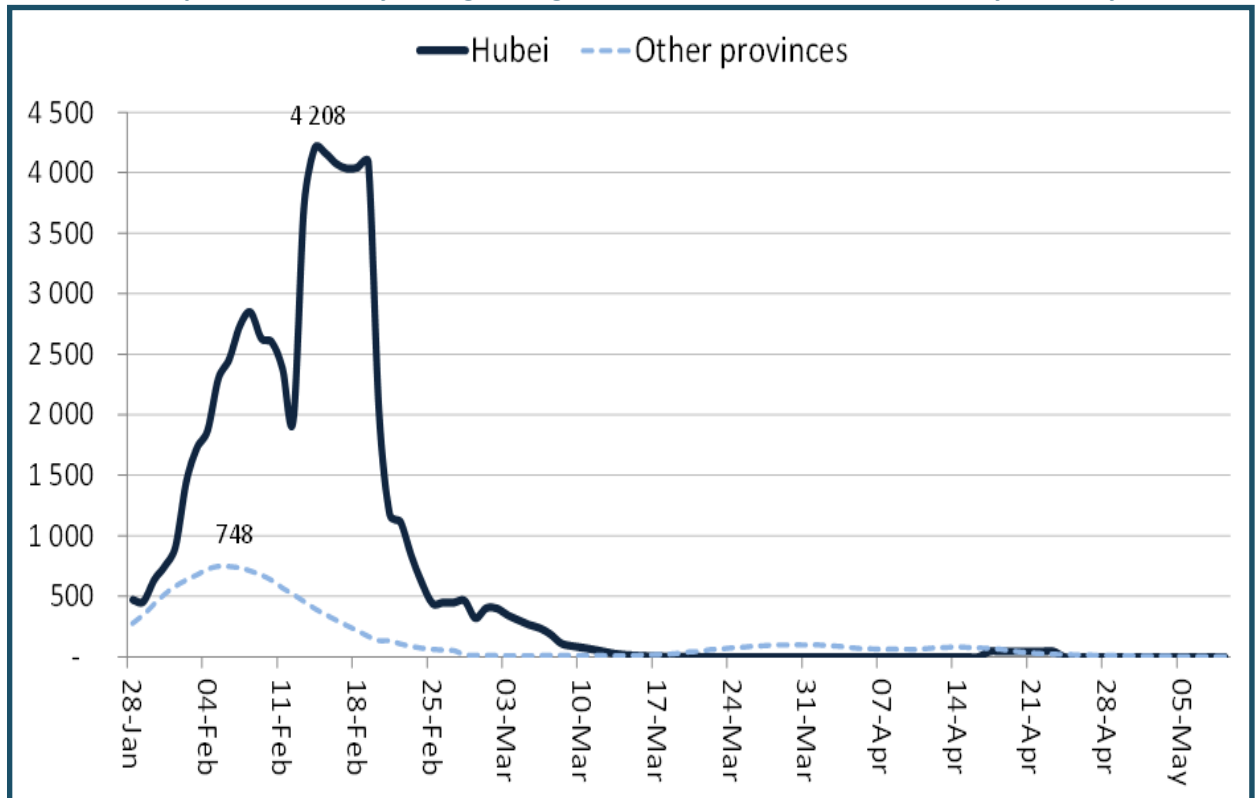
¹ Reported in Frankfurter Allgemeine. *Wirtschaft erwartet lange Durststrecke*. 8 May 2020

Graph 12. Change in travel in Germany, work-week average for 17 February to 1 May (a), compared to January



Note: (a) Excludes public holidays. Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel

Graph 13. Seven-day rolling average of new cases in China, 15 February to 5 May



Source: Calculated from Dadax. Worldometer. Series on coronavirus. Accessed <https://www.worldometers.info/coronavirus/> on 8 May 2020.

The COVID-19 occupational health and safety regulations covered the usual ground around physical distancing or barriers, screening and hygiene. They also required that employers enable people work from home where possible, minimise visitors to the workplace and take their details, address the needs of high-risk employees and generally work with local authorities to help manage the pandemic if required, including around tracing and quarantine. They stressed the importance of active communication around the principle, “health comes first!”

The national labour ministry set up a special oversight committee to monitor and improve the regulations for as long as the pandemic lasted. The committee included experts, representative of labour and employer associations, as well as provinces and the occupational health and safety insurance organisations (which are essentially industry-level non-profit associations).

In terms of public health measures, the German strategy relied heavily on contact tracing carried out by local health authorities. As of early May, it had employed a total of around 15 000 contact tracers, almost at its target of five for every 20 000 people. It planned to introduce a cellphone app that would let people see if they had been close to a positive case, but which would not automatically share their data with health officials. In addition, Germany developed its own test for the virus in mid-January, and was able to roll it out rapidly and on scale.

As Germany reduced restrictions on social and economic activity, it built in a hard trigger requiring that it re-impose regulations in areas where infections climbed to 50 per 100 000 residents. In early May, it locked down a town in North Rhine-Westphalia when a cluster emerged in a meat-packing plant.

7. CHINA

The rolling seven-day average of new cases in Hubei, the province that houses Wuhan with a population of just under 60 million, peaked at 5208 on 15 February, but fell to under 10 from 16 March (see Graph 13). In the rest of China, with a population of 1.3 billion, the rolling average of new cases reached 748 on 6 February, falling to 18 by 28 February. The country has since then seen a few localised outbreaks, mainly along the border with Russia. By 10 May, it had a cumulative total of 204 cases per 100 000 people, which was around the norm for Europe. It had conducted 3 289 tests per 100 000 people by 10 May.

The lockdown in China was largely concentrated in the Hubei province, with limitations imposed elsewhere especially if cases emerged. Estimates suggest that half the Chinese population was under lockdown for at least some period. Wuhan, the capital of Hubei province, was effectively placed under quarantine, with a ban on travel to and from the city. Residents were required to stay at home, in some cases unable even to go out shopping. Shops and other businesses, including most factories, mainly closed

China encouraged the resumption of economic activity only if the spread of the virus remained low for a substantial period ... as a rule, manufacturing returned to production faster than services and shops.

down as did schools and public transport. Restrictions varied somewhat by district even within Wuhan, and substantially more between provinces in China.

The government encouraged the resumption of economic activity only if the spread of the virus remained low for a substantial period. From mid-April, workers were encouraged to return to work, although in-door entertainment venues remained closed and restaurants had to enforce physical distancing. As a rule, manufacturing returned to production faster than services and shops. Lower domestic and international demand and continued concerns about the contagion slowed the return to full production.

The lockdown led to decline of around 1.6% in China's GDP for the first quarter of 2020. That compared to 6% reported growth for 2019, and was the first recorded contraction in almost 45 years. Still, the International Monetary Fund (IMF) expected the economy to rebound to 1.2% growth for the years as a whole. Data on travel during the lockdown are not available for China.

In terms of workplace requirements, all industries are required to formulate prevention and control plans based on industry characteristics. The specific rules vary depending on whether a business is a low or high risk area. In zones considered low risk, the emphasis is on hygiene and social distancing; in higher risk zones, companies are expected to limit on-site work.

China established an extensive system to monitor contacts and quarantines, although the details vary by location. It includes cellphone monitoring, monitors on the doors of people asked to self-isolate, and temperature screening for public transport and sometimes at road blocks. A key step in Wuhan was establishing quarantine centres. Studies showed that in Wuhan contagion occurred most frequently within the home, followed by public transport. The lockdown reduced the number of people infected, on average, by each case to around 1.3; the institution of quarantine centres reduced it to below 0.5.

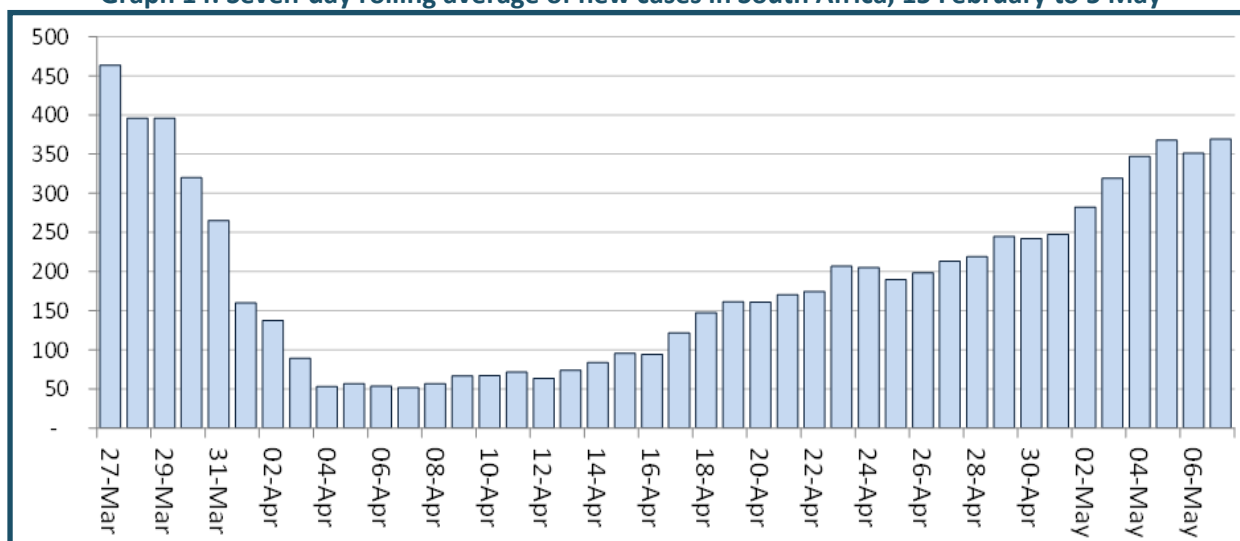
8. SOUTH AFRICA

The rolling seven-day average of new cases in South Africa had not peaked as of 8 May, reaching 368 on 5 May (see Graph 14). By 8 May, South Africa had a cumulative total of 14 cases per 100 000 people – still very low compared to most of the case studies here. It had conducted 504 tests per 100 000 people by 8 May.

As Graph 15 shows, the bulk of new infections from mid-April occurred in the Western Cape. The contagion appeared to be spreading fastest in dense informal settlements in Cape Town.

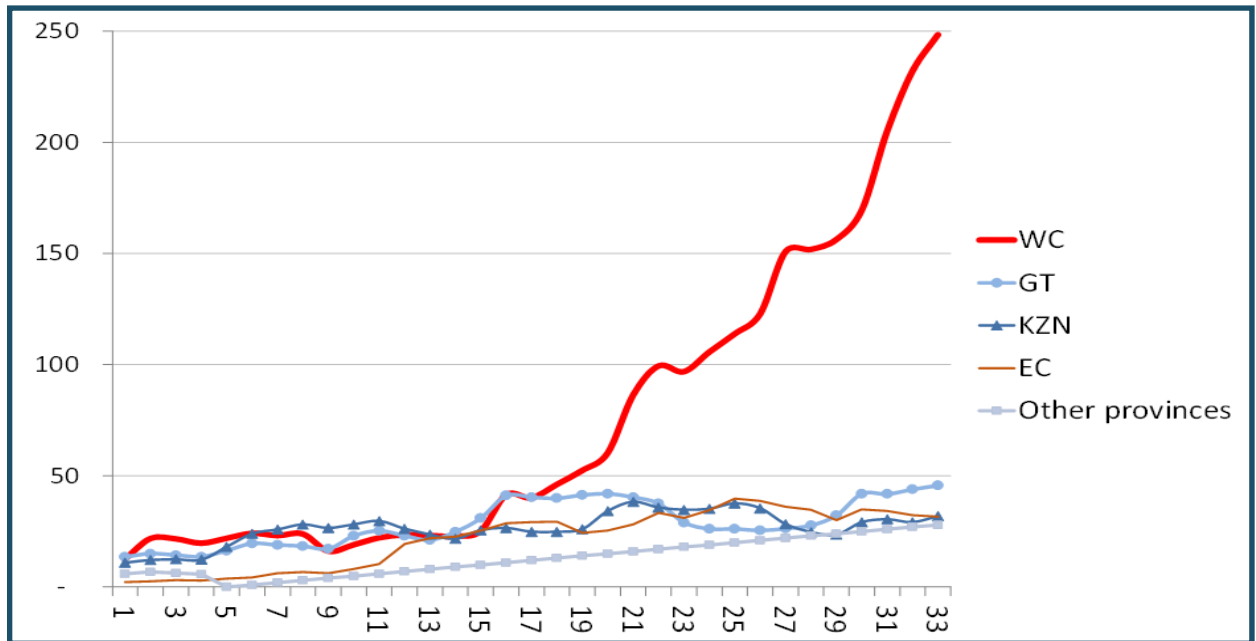
South Africa's initial lockdown began in late March, with all non-essential businesses closed and people required to stay home except for food, medicines and healthcare. Schools were closed and cigarettes and liquor could not be sold.

Graph 14. Seven-day rolling average of new cases in South Africa, 15 February to 5 May



Source: Calculated from National Institute for Communicable Diseases (NICD) data.

Graph 15. New cases by province, seven-day rolling average, 30 April to 5 May



Source: Calculated from NICD data.

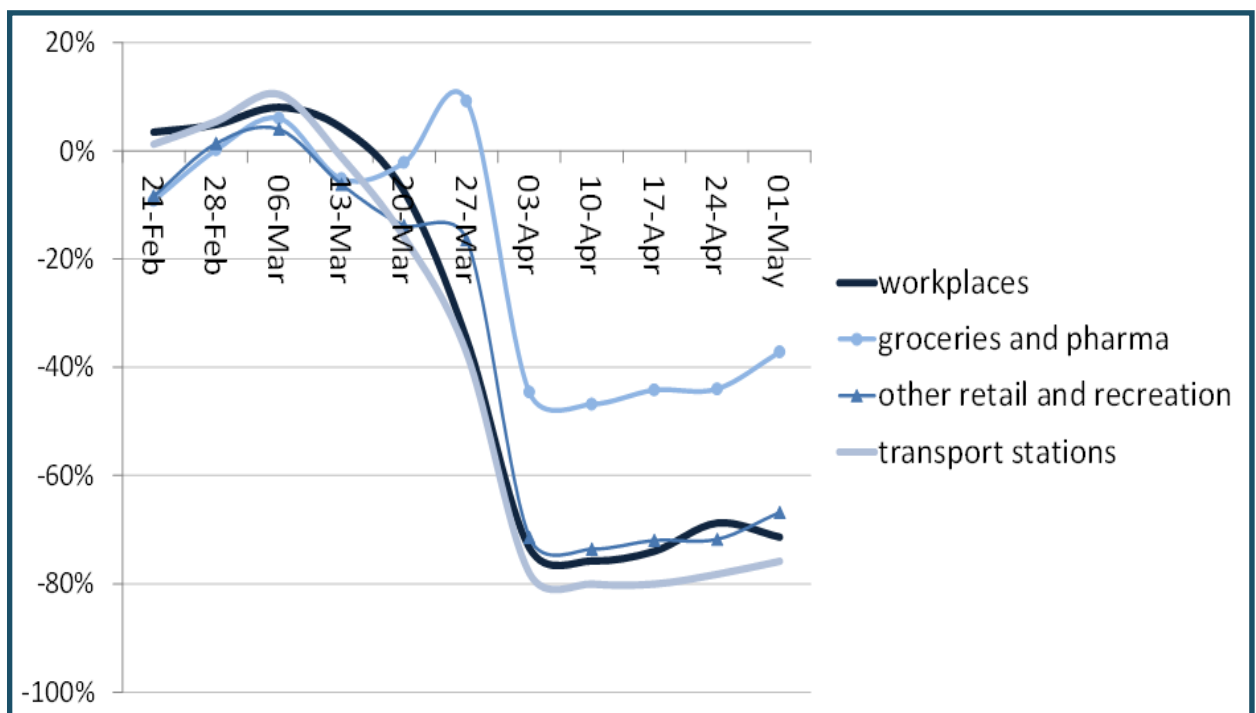
On 1 May, the lockdown level was moved to Level 4. Under this level, the mining value chain could reopen, mostly with only half of employees; other manufacturing could open with 30% of employees. Restaurants could provide takeaway and delivery food, and shops could sell hardware, winter clothing, heaters and cosmetics as well as food.

As Graph 16 shows, travel to work in South Africa fell 75% compared to January during the lockdown period, with an even steeper fall in the use of public transport. Around a quarter of the formal labour force

filed for unemployment insurance, and the GDP was expected to shrink by 6% for the year. In addition to the constraints on reopening businesses by type of industry, South Africa required workplace plans to ensure safety. The requirements were more stringent for large than for small businesses. They did not, however, specify that union representatives participate, or require training for employees.

In terms of public health, South Africa had an extensive screening and tracing system using Community Health Workers.

Graph 15. Change in travel in South Africa, work-week average for 17 February to May (a) compared to January



Note: (a) Excluding holidays. Source: Google LLC. Google COVID-19 Community Mobility Reports. Excel spreadsheet. Downloaded from <https://www.google.com/covid19/mobility> on 8 May 2020.

APPENDIX 2: EMPLOYMENT ADMITTED UNDER LEVEL 3 STRATEGY

The following table indicates the changes in permitted employment under a Level 3 strategy modelled on countries that have succeeded in controlling the COVID-19 pandemic.

SECTOR	PERMITTED AT LEVEL 3	CHANGE FROM LEVEL 4
Finance at 75%	300	100% on-site permitted (discounted by working from home)
Other business services/finance @ 50%	400	100% on-site permitted (discounted by working from home)
Mining	400	100% permitted
Manufacturing	1 630	100% permitted
Construction	1 270	100% permitted
Working from home	1 670	100% permitted
Postal and courier services	200	100% permitted
Transport (both personal and freight)	700	100% permitted
Education at 50%	500	50% assumed
Retail (including catering) at 50%	1 680	Permitted with physical distancing, reduced staff, working from home where possible
Agriculture, forestry, fisheries	860	No change
Utilities	120	No change
Private security	580	No change
Commercial cleaning	300	No change
Healthcare	610	No change
Social work activities	350	No change
Public security	300	No change
Domestic work for permitted employment	150	Proportional to numbers returning to work
<i>Total</i>	<i>12 020</i>	
Total employed in 2019	16 350	
% of 2019	74%	
Total permitted in Level 4	7 820	
Increase in permitted	4 200	
<i>Still not allowed</i>	4 330	
Domestic work ex child/elder care	1 000	
50% of on-site retail	1 510	
50% of education	500	
On-site business/financial services	500	
Other personal, recreational and community services	700	

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