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Protecting lives and livelihoods during the COVID-19 pandemic by shielding elderly populations



In brief:

- Blanket lockdowns have proven to be unsustainable, particularly in developing countries. This study examines how age-targeted policy measures could keep economies largely open while shielding the elderly and others with underlying health conditions.
- We find that in the presence of large informal sectors, limited fiscal space, and large numbers of households living hand-to-mouth, age-targeted policies are more effective in saving lives and protecting livelihoods.
- As countries begin to lift lockdowns, we recommend measures to shield the elderly and those with underlying medical conditions from the general population and the pandemic.
- Governments should engage with and effectively communicate to the public the importance of such measures and the risks of reintroducing blanket lockdowns, which have dire implications for lives and livelihoods.
- Governments should forge a strong partnership with traditional, religious, and other community leaders to implement such initiatives effectively.

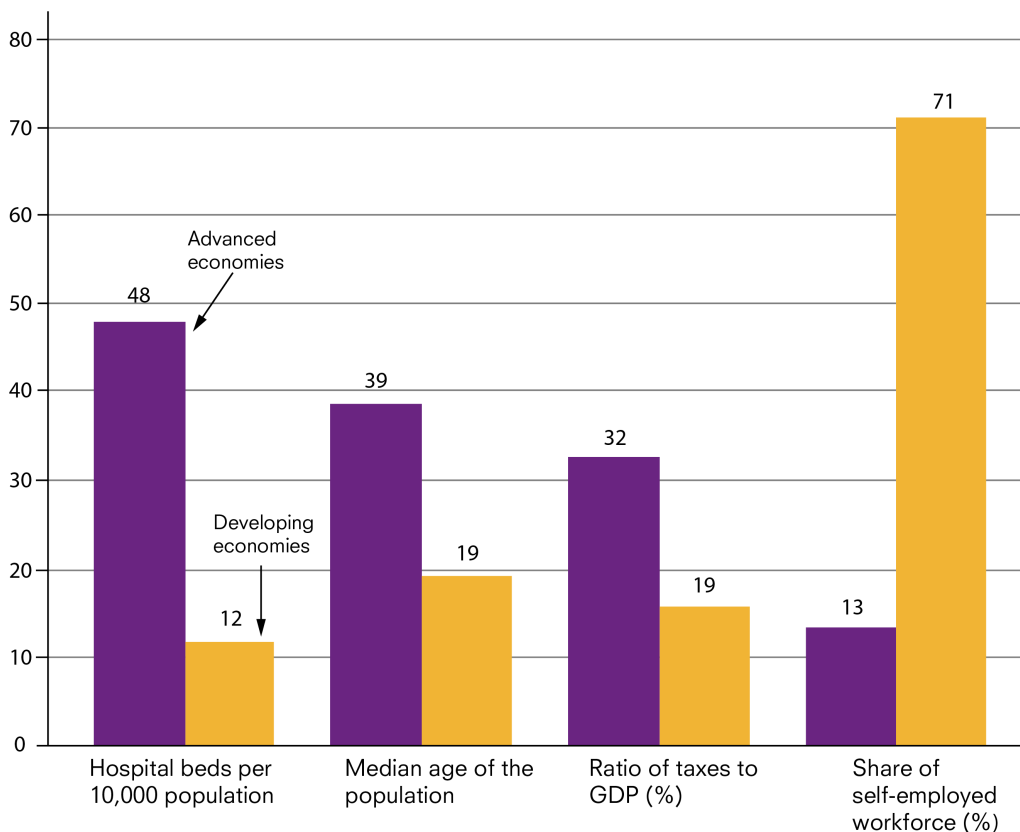
This brief is published as part of the IGC's ongoing response to the economic challenges of COVID-19.

Overview of research

Most developing countries responded to the COVID-19 pandemic by locking down their economies. Many have since lifted at least some of the restrictions, as the great economic and social costs of keeping economically vulnerable individuals from their livelihoods became clear. Yet, just as restrictions are being lifted, infection rates have begun to rise. Going forward, policymakers will have to make difficult decisions about how best to address the looming health and economic crises facing their countries.

This policy brief summarises the result of our research on how policy responses to the pandemic should differ from those of the West (Alon et al, 2020). The research draws on a macroeconomic model with epidemiological dynamics based on those recently used to analyse policy responses to COVID-19 in advanced economies (Glover et al, 2020). However, it incorporates four key features that distinguish most developing countries from advanced economies. These features are summarised in Figure 1 below.

Figure 1: Key differences between developing and advanced economies



- **Younger age structure.** Populations are far younger on average in developing countries than in advanced economies, with a median age of just 19 in developing countries compared to 39 in advanced ones. About a quarter of the population in advanced economies are aged 65 or above. In developing economies, that figure is 3 percent. Moreover, there are strong indications that people aged 65 and above are most at risk from COVID-19 (Ferguson, Laydon, and Gilani 2020). This suggests the younger age structure is clearly relevant for policy responses to the pandemic.

- **Higher informality.** Low-income countries have large informal sectors. The typical developing country has an informality rate of 71 percent, as proxied by the self-employment rate, compared to 13 percent in the typical advanced economy. By definition, the informal sector is largely beyond the ability of the government to tax or regulate effectively. In our model, we account for the difficulty of enforcing a lockdown in the informal sector setting.
- **Limited fiscal capacity.** Related to the above is the inability of developing countries to collect taxes and make transfers (Besley and Persson, 2013). In the typical developing country, just 16 percent of GDP is collected in taxes. This number is 32 percent in the richest quartile. An appropriate policy response therefore needs to take into account how the constrained fiscal space interacts with governments' ability to institute large-scale income-replacement programmes for furloughed workers during lengthy lockdowns (Hevia and Neumeyer, 2020).
- **Limited healthcare capacity.** Healthcare capacity is substantially lower in developing countries. As shown in Figure 1 above, the number of hospital beds per 10,000 population is 12 in the low-income countries. The corresponding number is 48 in a typical advanced economy. Other comparators also suggest wide gaps in healthcare capacity. For example, some countries in Africa lack access to even a single ventilator (Maclean and Marks, 2020).
- **Predominance of hand-to-mouth households:** There are substantially more households with very little savings in developing countries than in advanced economies. Such households live effectively 'hand-to-mouth' and rely heavily on their daily earnings. Ray and Subramanian (2020) emphasise the potential pitfalls of large-scale lockdowns in India, where many households are hand-to-mouth and cannot rely on savings during extended periods without labour income.

We parameterise the model to reflect these key differences. We then simulate the effects of various types of lockdowns for the advanced economy and developing economy. We focus on blanket lockdowns and age-specific policies. The age-specific policies are meant to shield the elderly (those over 65) and those with severe underlying medical conditions (particularly the co-morbidities of diabetes and chronic kidney disease) by limiting their interaction with the general public, while making social transfers to them.

Key research findings

Policymakers face a dismal trade-off between saving lives and livelihoods. Our analysis shows that a blanket lockdown lasting 70 weeks, for example, saves the most lives. However, it is associated with the sharpest decline in GDP. On the other extreme, a no-lockdown policy entails unnecessary loss of lives. Of all the policy options examined, age-specific measures are most effective in saving lives while safeguarding livelihoods at the same time.

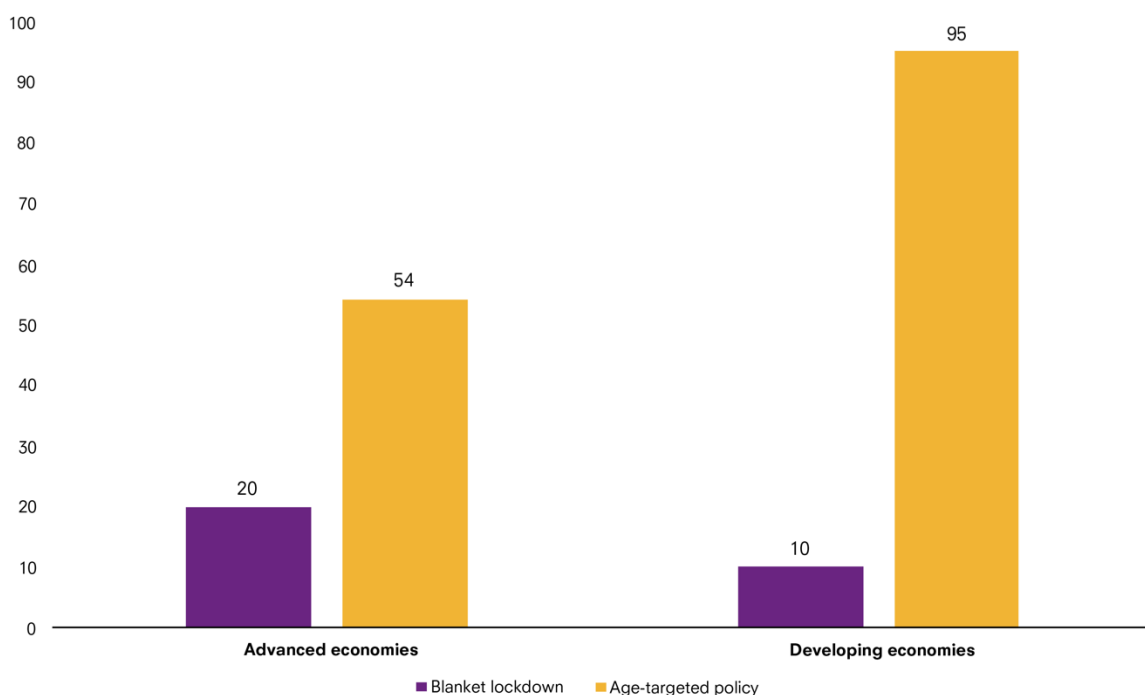
Blanket lockdowns are half as effective in developing countries. We find that for each percentage point of GDP lost, blanket lockdown saves about 20 lives per 100,000 population in advanced economies. In developing economies, however, blanket lockdown with the same time scale saves only 10 lives per 100,000 population for each unit of GDP lost. By this metric, blanket lockdowns are half as effective in developing countries. This suggests a policy that works reasonably well in advanced economies is not necessarily an optimal policy in the developing country context.

In the current context, blanket lockdowns do not work as well in developing countries because the informal sector and fiscal constraints substantially reduce compliance with the lockdown. Compliance would be higher in a situation where the majority of households were getting social transfers to stay at home instead of working. However, fiscal capacity constraints make this infeasible. Policies that flatten the curve and reduce infection rates help decrease fatality rates given the low hospital capacity.

Even a short lockdown is better than no lockdown at all. While not locking down at all may be tempting, our analysis reveals that it will lead to unnecessarily large casualties. We find that even relatively short lockdowns (lasting two weeks) resulted in more lives saved per unit of GDP lost than no lockdown. This suggests a passive policy response to the pandemic is counterproductive.

Age-targeted policies are more potent in developing countries. Compared to blanket lockdown, our model predicts that age-targeted policies save more lives in both developed and developing countries. What is more, such policies are more effective in developing countries than in advanced economies. For example, age-targeted policies save 54 lives per 100,000 population for each unit of forgone GDP in advanced countries (Figure 2). In the developing world, in contrast, shielding the elderly and those with underlying medical conditions save 95 lives per 100,000 population for each unit of unrealised economic activity.

Figure 2: Lives saved per 100,000 people for each unit of forgone GDP



There are at least two reasons why shielding the older individuals and those with severe underlying medical conditions are more effective in developing economies. First and foremost, only a modest fraction of the population is aged 65 and above or has a comorbidity like diabetes. This means that the number of people that will be shielded from the general population is substantially smaller. More importantly, since the younger population is still working under age-targeted lockdowns, the fall in GDP per capita is not as dramatic.

Shielding the elderly and the medically vulnerable in practice

Thus far, we submit that shielding the elderly and those with co-morbidities performs particularly well in developing countries, whether we compare such policies to no lockdowns, which cost unnecessary human lives, or blanket lockdowns, which carry a steep economic price. The implication is that in the presence of acute fiscal constraints and large hand-to-mouth populations, policy efforts should be directed at protecting the segment of society most vulnerable to the pandemic.

However, the feasibility of such policies requires cooperation from many stakeholders, including religious, market, and traditional leaders, as well as the general public. For example, policymakers can work with religious leaders to keep the vulnerable from churches, mosques, and other places of worship. Shielding the elderly from places of worship may well be feasible. In Ghana, for example, some places of worship have begun to welcome back their congregations. Following the guidelines of the central government, the churches are entreating the elderly and those with co-morbidities to stay at home. The way forward is to formalise such shielding protocols and leave direct enforcement to the religious leaders with a threat of locking the entire place of worship in cases where the shielding protocols are violated.

Similarly, in markets, the hearts of the informal sector, policymakers can work with market leaders to shield the most vulnerable. As with religious leaders, market leaders need to appreciate why it is in their best interest to shield the elderly. For instance, effective engagement with market leaders on various protocols coupled with a threat of closure are most likely to elicit compliance.

Apart from places of worship and markets, the elderly also need to be shielded from social gatherings like festivals and funerals. This is where the role of traditional leadership is critical. Besides issues related to emotions and culture, it is cost-effective to leave direct enforcement to traditional leaders. Again, the trick is to work with them and agree on specific shielding protocols. In return, the central government will return the right to close down an entire village or community in case of breach. We can imagine similar measures for places of work.

Another avenue to shield the elderly is to restrict their movement to urban areas, except on medical or any similar grounds. Currently, the virus is largely confined to urban areas in most developing countries. As such, the risk of infection is far greater in the urban areas than in rural areas. To the extent that maintaining livelihoods requires travel from villages to towns or cities, this should be done by younger people and under strict precautions, such as mask use and regular hand sanitation. Upon returning to villages, those who have travelled to urban areas should self-quarantine to the extent possible to prevent the spread of the virus to other village members.

Key issues for policy

If the elderly are shielded, as we recommend, the challenge largely reduces to ensuring that younger members do not inadvertently infect the vulnerable members of their respective households or villages. We see three key issues for policy on this front.

- First, it is important to emphasise that shielding the elderly is not a substitute for the social distancing and sanitary protocols currently in force. In particular, restrictions on large gatherings should continue to be kept in place. Testing and tracing programs should also continue to the extent feasible. Continuing these restrictions on the non-elderly populations will help reduce the risk of younger people bringing the virus home or to their villages.

- Second, it is harder for younger children to obey social distancing rules or other non-pharmaceutical interventions, such as mask-wearing. To the extent that young children are not needed to maintain livelihoods, they should be kept away from others to the extent possible, since they may become vectors for the virus and may bring it home to their elderly family members, putting those members at risk.
- Finally, households with vulnerable members will have to adopt enhanced household-specific protocols. For example, to the extent possible, the working members of a household with a vulnerable person should work at or near home, such as on a family farm or pastoral area, or at a family business. In addition, simple measures such as taking frequent showers, changing, and washing clothes as soon as a member returns home could go a long way to protect the vulnerable. Admittedly, it is difficult for the central government to enforce enhanced household protocols. The good news is, it is reasonable to expect household members to comply to protect their older relatives.

Policy recommendations

- Policy initiatives focused on shielding the elderly and those with serious comorbidities are more effective responses to the COVID-19 pandemic than blanket lockdowns, particularly in the developing world.
- Shielding the elderly and medically vulnerable provides an effective alternative to blanket lockdowns for policymakers in developing countries looking to maintain livelihoods while also saving as many lives as possible.
- Governments should elicit the support of various stakeholders, such as religious, market, and traditional leaders to implement policy measures that shield the elderly and those with serious comorbidities.
- Shielding the elderly should not be taken as a substitute for other non-pharmaceutical responses to the pandemic. In particular, younger populations should still be required to wear masks at all times while in public places, and to exercise all possible sanitary procedures, such as regular handwashing, while they continue to work and to maintain their livelihoods.

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