Walking the tightrope: avoiding a lockdown while containing the virus

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Recent optimistic news about the availability of a number of vaccines against the coronavirus needs to be tempered by the realisation that, even in the countries that are in the vanguard, it is likely to be the middle of next year before a large share of the population has been vaccinated. In the meantime, governments around the world are trying to calibrate policy interventions so as to keep the spread of the disease under control without crippling economic activity, in many cases with limited success, as virus transmission has recently picked up again in many countries, especially in Europe.

The empirical analysis summarised in this post draws on the experience of a large sample of nearly 150 countries using daily data to consider the relative effectiveness of policy measures to reduce the spread of the virus, while limiting the costs to mobility and, by implication, economic activity (for further details see OECD, 2020). The main conclusions relevant to policy-makers as they tackle further waves of the virus are as follows:

- **The typical lockdown measures applied by many countries in dealing with the first wave of the virus — combining school closures, stay-at-home requirements and workplace closures — do reduce the spread of the virus, but at a substantial cost to mobility and economic activity.** From an initial reproduction number of 1.5, such a lockdown would be expected to reduce R to just over 1.0, but also reduce mobility by up to 40%. The analysis also suggests

that ramping up the stringency of such lockdown measures beyond a certain point results in further economic losses, but for little gain in reducing the spread of the virus.

Figure. The effect of containment and public health policies on R, from an initial R value of 1.5
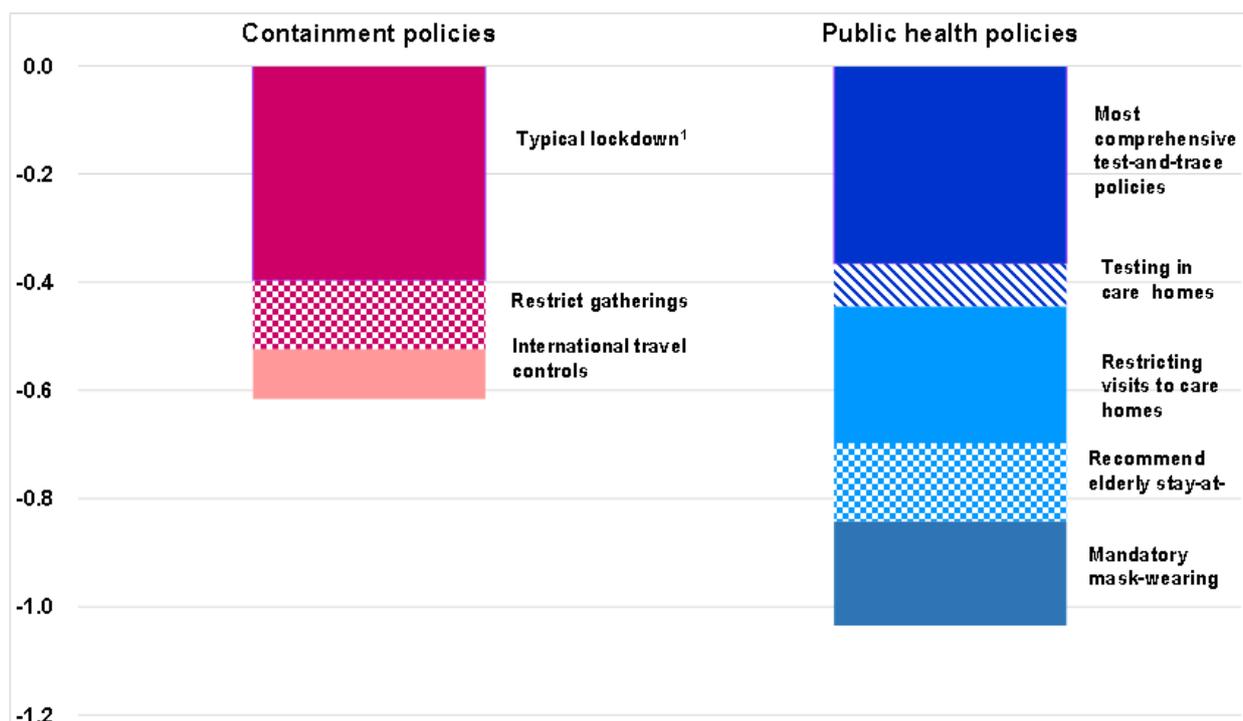
Note: Containment policies are measured using a set of variables maintained by the Oxford Blavatnik School of Government (Hale et al., 2020) which is also the source of the test-and-trace variables. The empirical analysis distinguishes policy effects according to the degree of stringency with which they are applied, but this distinction is ignored in the chart. Other public health policies, as well as R estimates, are constructed by the authors, for details see OECD (2020). The policy effects on R are shown on the assumption that each policy is implemented when R is initially 1.5 (the estimations on which these results are based use a log specification for R, which suggests that at lower levels of R policies have smaller effects in further reducing it).
1) The effects of school closures, stay-at-home requirements and workplace closures have been combined into one segment labelled 'Typical lockdown', both because such policies have

often been imposed at the same time and because it is difficult to separately identify their effects in the empirical analysis.
Source: See OECD (2020) for further details.

- **A comprehensive package of public health measures can be more effective in reducing the spread of the virus (see Figure), with little or no cost to mobility.** Test-and-trace policies are the single most effective public health measure to reduce R, but are found to be most effective when the level of infections is low. Other public health policies are also found to contribute to restraining the spread of the virus, including: specific testing in care homes; mandating mask-wearing in public indoor environments; restricting visits to care homes; and stay-at-home recommendations for the elderly population. However, applying them all in their most comprehensive form may be difficult, especially if they are seen to discriminate against particular groups and/or have other social costs: for example, banning visits to care homes is likely to cause considerable distress.
- **Even with a comprehensive test-and-trace regime and supporting public health policies, there may be a need to resort to selective containment measures, especially when the level of infections is high.** These should prioritise restrictions on large gatherings and international travel, which have a smaller cost in terms of mobility and economic activity. Where there are localised outbreaks of the virus, then targeted lockdown measures are appropriate.

References

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