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Research Report

Cost-benefit considerations of lockdowns: What are we missing?

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IW-Kurzbericht 33/2021

Cost-benefit considerations of lockdowns - what are we missing?

Thomas Obst / Dan Schläger, 29. Mai 2021

A cross-country comparison shows similar behavioural adaptations of individuals despite different degrees of stringency of the respective lockdown in place. In Germany, during the first lockdown in spring 2020 mobility fell by 45 percent, while in Sweden it also decreased by 27 percent during the same period. A comprehensive cost-benefit analysis is crucial to better evaluate the efficacy of lockdowns and implied trade-offs.

Since the outbreak of the corona crisis governments tried to find the optimal policy strategy to tackle the adverse outcomes of the transmission of the virus while keeping associated economic and social costs low. However, few approaches have been presented that reconcile both objectives leaving policy makers often with a 'one-size-fits-all' approach of hard lockdowns that severely impact social and economic life. When it comes to the crucial question of choosing an appropriate public policy careful consideration of trade-offs are indispensable (Bardt and Hüther, 2021). Ronald Coase (1960, p. 44) put it best when he wrote:

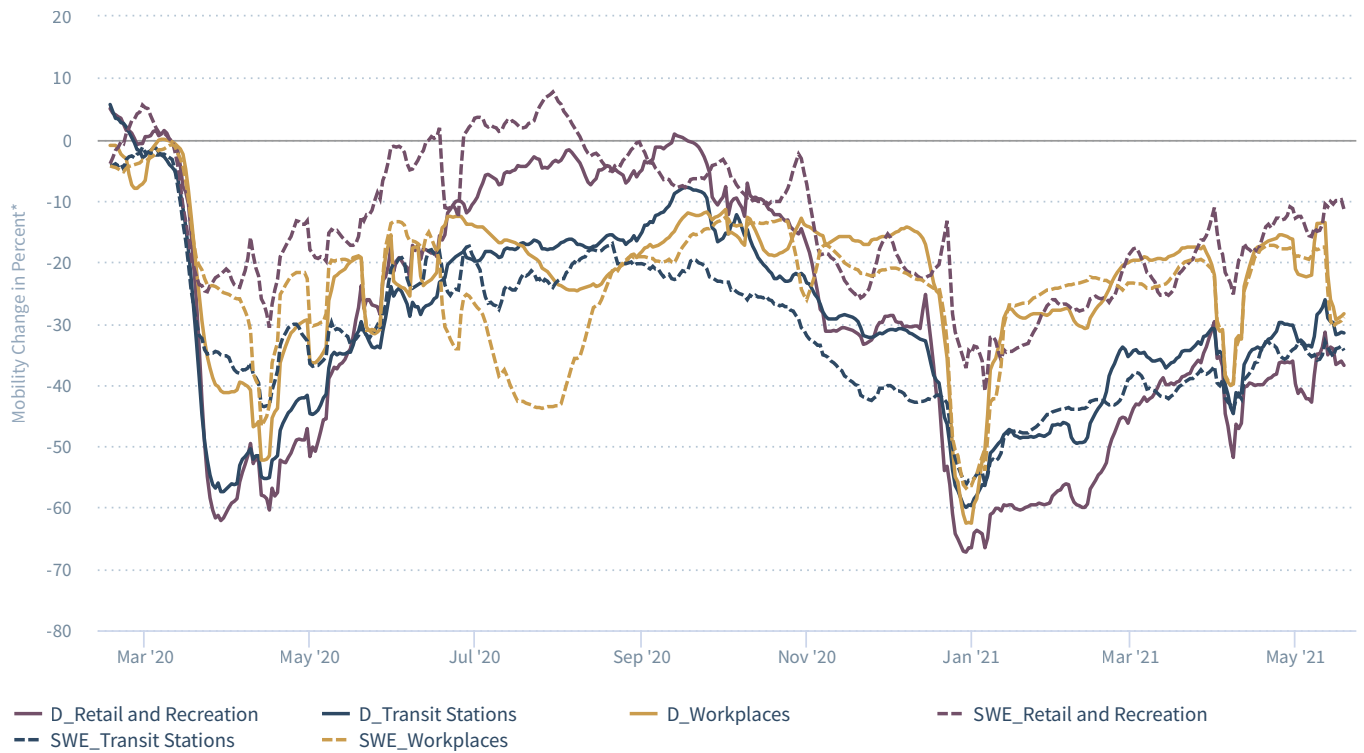
"It would clearly be desirable if the only actions performed were those in which what was gained was worth more than what was lost. But in choosing between social arrangements within the context of which individual

decisions are made, we have to bear in mind that a change in the existing system which will lead to an improvement in some decisions may well lead to a worsening of others.... In devising and choosing between social arrangements we should have regard for the total effect."

Indeed, research has become more critical concerning the efficacy and trade-offs implied by lockdowns, commonly referred to as non-pharmaceutical interventions (NPIs). Current Covid-19 studies reveal that benefits (reduction in case transmissions and death growth rates) might have been overestimated and the economic and social costs of lockdowns (e.g. educational inequalities) have been underestimated. More recent papers try to discuss the important question of the total effect and to illustrate more welfare-enhancing alternatives compared to the one-size-fits-all approach.

Benefits of NPIs are generally defined as successfully altering the reproduction number and transmission rates of Covid-19. Born et al. (2021) for instance find that if Sweden had introduced a 9-week lockdown in the first half of 2020, it would have reduced infections by 75 percent causing little additional output loss. However, the study makes only a 'first pass' at quantifying the economic costs and ignores social costs altogether.

Changing Mobility in Germany and Sweden



*Change relative to baseline period from January 3rd to February 6th, 2020.

Source: Google Covid-19 Community Mobility Reports

A series of recent studies argue that the importance of the role of policy mandated NPIs in shaping the progression of the pandemic might have been overstated. Atkeson et al. (2020) show that in the early phase of the pandemic, transmission rates of Covid-19 declined almost universally worldwide, whereas region specific NPIs varied in their degree of severity. While NPIs typically involved closing non-essential shops and banning gatherings of more than two people, Sweden only forbid gatherings of more than 50 people. Germany only advised to reduce social contacts. Other countries such as France, Italy or Spain strictly ordered citizens to stay at home (Born et al., 2021).

Despite differences in NPIs between Germany and Sweden, a glance at mobility trends indicates similar dynamic behavioural adaptations of individuals as can be seen in the Figure below. The number of visitors to transit stations, workplaces, and places of retail and recreation declined sharply in both countries in March 2020 and rebounded only in the summer months, except for the number of visitors to workplaces in Sweden, which initially lagged behind the increase in Germany but since

then roughly follow the same pattern. Despite the different levels of retail visitors in Sweden compared to Germany, the trajectories are strongly correlated as well. In Sweden, therefore, there were similarly strong declines in mobility as in Germany, although no comparable restrictions were imposed in the spring of 2020. Moreover, people seem to adjust their behaviour in anticipation and reduce social contacts even before the introduction of NPIs. Mobility trends during the second Corona wave are very similar: A decline in activity from the end of September and a renewed increase in activity since the beginning of 2021, with another dip in April 2021.

Measurement issues aside this suggests that other common factors across regions might have contributed to transmission rate declines and possibly bias the efficacy of NPIs:

- Distinction between lockdown (elimination of virus transmission domestically) and isolation (border closure to prevent trans-border movements)
- Measurement biases due to omitted variables

- Distinction between effects of natural pandemic-related developments and government induced restrictions

At this point, there is still little evidence to clarify conclusively why some nations like New Zealand, South Korea, or Taiwan are less affected by the pandemic. One hypothesis is that island states can isolate themselves better. However, countries such as Finland, Norway or South Korea achieved similar results by restricting cross-border movement significantly whereas the UK suffered severely from Covid-19 infections during 2020. Recent studies have argued that other country-specific conditions such as population density and age are likely to play an important role in the progression of the pandemic (Allcott et al., 2020). Another omitted variable that potentially positively biases the presumed efficacy of lockdown restrictions is voluntary dynamic behavioural change as indicated by the comparison of mobility trends of Germany and Sweden. Born et al. (2021) also suggest that effects of voluntary social restraint are likely to have been underestimated in the case of Sweden.

Consequently, an endogenization of these omitted variables is advisable in future research to better assess the impact and effectiveness of NPIs. Current research generally lacks the inclusion of these factors.

More issues arise when trying to quantify the economic costs caused by NPIs. Most studies estimate short-term trade-offs between health harms and forgone economic growth. However, there are other relevant costs that – depending on where we are on the time horizon axis – must also be considered. Among the most far-reaching from an economic perspective include loss of education potential, distributional inequality, and (more permanent) structural changes post-Corona. The first and second issue are related to each other because less education particularly affects households who are socio-economically disadvantaged and thus also fuels into inequality issues. The third factor concerns structural changes in the economy, caused by adjustments in consumption and investment behaviour. Due to the still insufficient data basis in Germany, the real and more substantial effects on the economy and society can only

be assessed post-corona.

Nevertheless, they already clearly show that the total effect of the trade-offs is not only between health-related costs and lost GDP in the same period. Hence, research that only considers a bivariate relationship between GDP loss and Covid-19 deaths has not yet adequately addressed the important long-run effects of the crisis on society and the economy.

Admittedly, doing a comprehensive cost-benefit analysis is incredibly difficult since there are many subjective values at play and need to be aggregated. Often, cause and effect are conflated, and mono-causal explanations tend to trump more complex approaches. Nevertheless, given the major restrictions of NPIs on social and economic life clarifying these trade-offs, even under uncertainties and with caveats, is crucial.

Literature

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