

## **Covid-19 government subsidies and their implications for pandemic labour productivity**



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*The Covid-19 pandemic has led to a massive and unprecedented government intervention to support the economy and, in particular, firms. By matching firm performance outcomes with corresponding firm-level information on government support from five European countries, we find that “deserving” firms in temporary need received the bulk of employment and overall subsidies. However, the pandemic government support appears to have had only a limited effect on aggregate productivity developments, especially compared to the pandemic shock to productivity.*

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Supporting companies with public funds was a key part of the economic policy response to the Covid-19 crisis. The considerable size of the funds spent on business support, their distribution on a fast schedule and the possible harmful side effects of support have raised legitimate questions about the targeting and effectiveness of support.

In Bighelli, Lalinsky and Vanhala (2022), we provide the first in-depth cross-country firm-level evidence on the allocation of government employment support and overall direct subsidies. We combine firm-level administrative data on firm-performance before 2020 with firm-level information on subsidies received by each firm during 2020. We ensure cross-country comparability and confidentiality of the administrative data by applying the same micro-distributed approach as CompNet (2020). We focus on the experience of a group of five EU countries representing both less and more advanced economies, as well as economies experiencing mild and severe economic consequences, or weak and strong policy responses to the pandemic. Although, the conditions and scale of support differs across countries, we identify several common stylized facts.

### **Pandemic government subsidies were allocated rather appropriately**

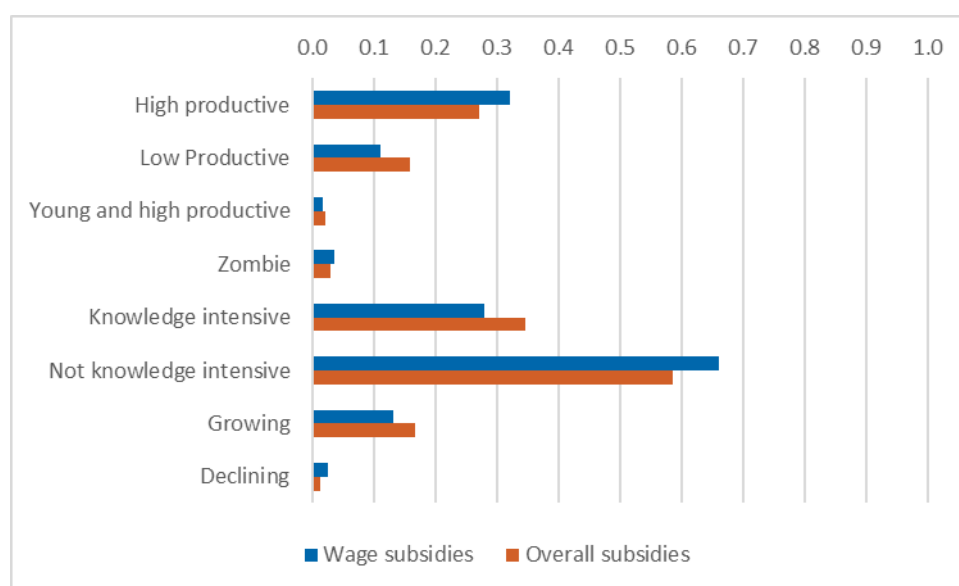
We examine the firm-level probability of being supported and find that larger or older firms and firms supplying accommodation and food services had higher chance to be supported. The probability of receiving support was higher for domestic or growing firms. Moreover, the support seemed to reach more frequently firms from less developed regions.

In terms of the relative size of the support per firm, more productive or growing firms received lower relative subsidies. The size of support decreased also with firm size or firm age. In line with the share of employment subsidies and their design, higher relative support was observed in labour-intensive firms.

### **Firms that would (or should) quit the market did not receive much support**

In addition, we define several clusters and assign firms to the clusters based on their performance in the years preceding the pandemic. We find that roughly one third of the support was allocated to highly productive firms, defined as firms that belonged to the highest quintile of the labour productivity distribution. Although, a similar share of support was distributed to firms in knowledge intensive industries, most of the subsidies ended up in low-tech firms, or firms outside of the knowledge intensive industries.

The excessive misallocation of the Covid-19 related support to financially distressed or zombie firms cannot be confirmed. We find that in all countries under review, only a small share of subsidies went to firms recording negative profits for three consecutive years and not high labour growth prior the pandemic (i.e. to zombie firms). The share of subsidies allocated to declining firms was also very small and in strong contrast to the value of support allocated to growing firms.

**Figure 1. Allocation of subsidies to selected firm clusters**

Note: Simple average across countries.

Relatively timely and efficient state aid has probably reduced not only the long-run scarring effect of the pandemic on the labour market, but also on output and productivity. A thorough assessment of long-term effects is not yet feasible, so we report findings related to the immediate impact of the pandemic and state support on productivity.

### The pandemic led to a significant short-term decline in within-firm productivity

Covid-19 related lockdowns and temporary supply chain disruptions resulted in significant annual declines in sales in most of the developed countries. As documented, by e.g. Fernández-Cerezo et al. (2021), we have witnessed the asymmetric impact of the COVID-19 crisis across different dimensions and the responses of firms to the shock.

To shed more light on the granular consequences of the pandemic on productivity, we follow Lalinsky and Pal (2021) and utilize cost elasticities to sales estimated by Maurin and Pal (2020). Our calculations show that firms tried to compensate the gaps in revenue by adjusting their costs. However, with generally lower elasticities of labour costs or employment than elasticities of material costs to sales, most firms recorded lower labour productivity.

When decomposing overall productivity growth, in our baseline estimates we follow Bloom et al. (2020) and confirm a large reduction in productivity within firms that is (in most of the countries) partially offset by a positive between-firm effect. The positive between-firm effect can be explained by the fact that firms operating in low productivity sectors making a smaller contribution to the overall productivity are disproportionately affected.

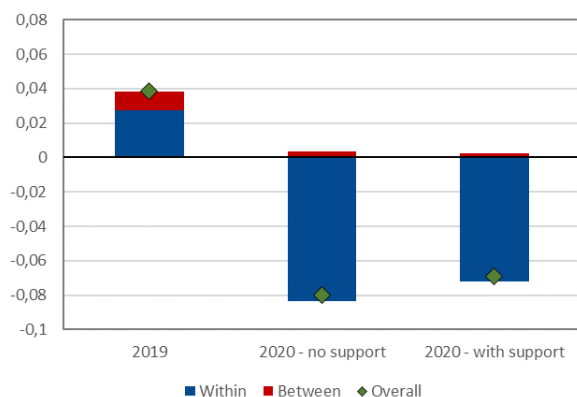
## Government support only partially mitigated the decline in productivity

The effect of government support on overall productivity growth was relatively mild. An economically significant effect of the overall, but also of employment subsidies, was recorded only in the Netherlands. As further documented in Figure 2, the pandemic support reduced mainly the drop in within-firm productivity and had negligible effect on the reallocation component.

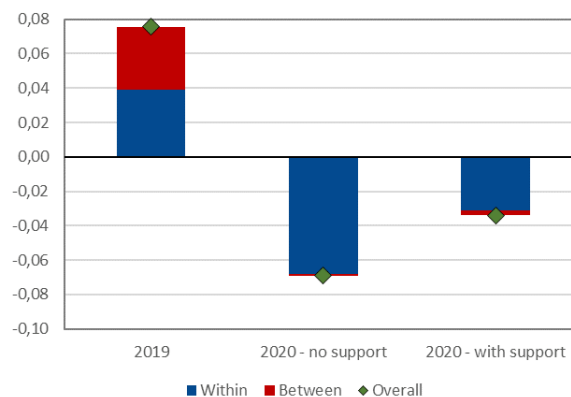
**Figure 2. Within and between-firm productivity growth with and without support**

### A) Employment subsidies

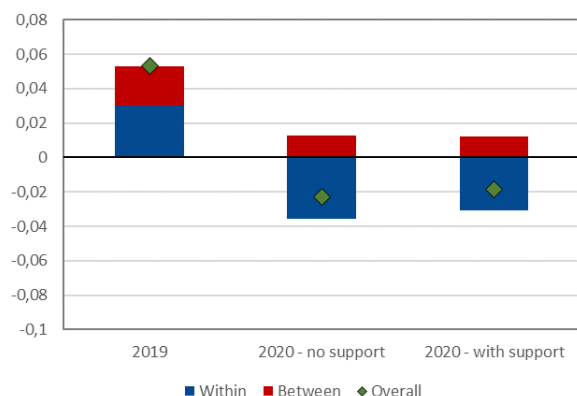
Croatia



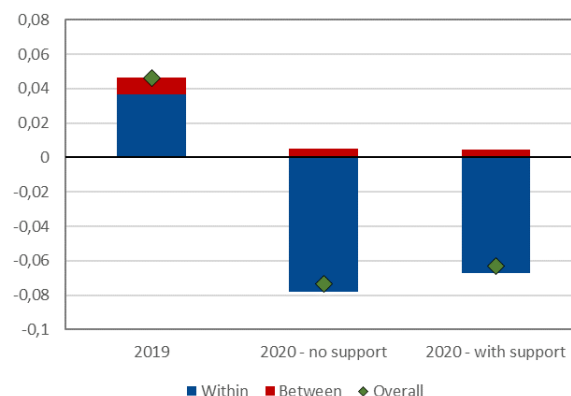
Netherlands



Slovakia

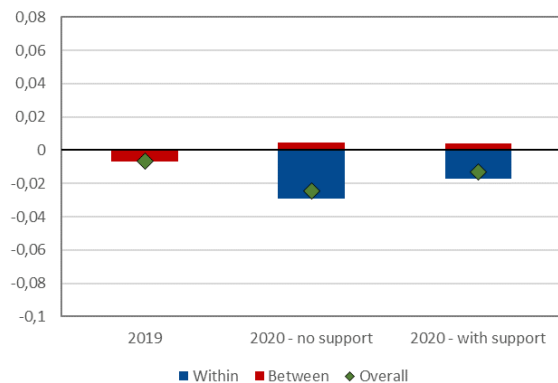


Slovenia

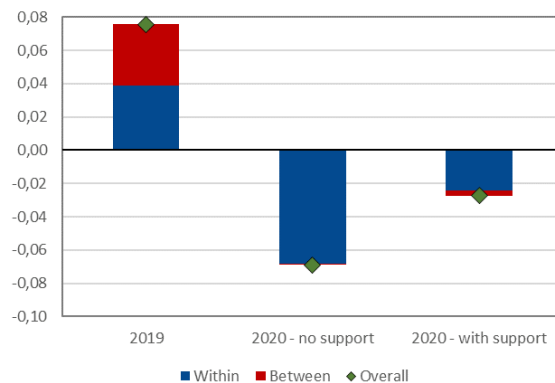


### B) Overall subsidies

Finland



Netherlands



Source: Bighelli, Lalinsky and Vanhala (2022).

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