The market implications of industrial subsidies

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Do government subsidies fuel firm growth or just distort competition? Our latest study reveals that subsidies boost market share but they do not have positive effects on investment and productivity. This raises important questions about efficiency and spillovers in industrial policies.

Governments are increasingly employing subsidies and other types of industrial policies in general. This calls for not only quantifying support measures, but also investigating their market implications. The OECD has played an important role in improving transparency regarding industrial subsidies. One of notable contribution is the recent creation of the OECD MAnufacturing Groups and Industrial Corporations (MAGIC) database (OECD, 2025a). This database provides detailed information on the amount of government subsidies received by the largest global manufacturing firms in 14 industrial sectors. In our latest study, we add to the empirical literature about subsidy effects by estimating the causal impacts of government subsidies on the performance of these firms using the OECD MAGIC database (OECD, 2025b).

Subsidies have ambiguous theoretical implications and mixed

empirical outcomes

The impact of subsidies on firm performance is ambiguous in theory. Subsidies can encourage investment by lowering firms' cost of capital, with potential positive effects on productivity and competitiveness. This, in turn, can help firms gain market shares or boost profitability. However, subsidies may also support inefficient investment or reduce incentives to innovate, especially if paired with protectionist measures.

The impacts of government subsidies on market outcomes can also vary over time and across specific policy tools. For instance, one-off support measures to distressed companies during crises are likely to have a different impact on firm performance than ongoing subsidies disbursed in the context of sustained industrial policy strategies.

Ultimately, the impact of subsidies on firm performance is an empirical question. However, econometric evidence thus far tends to vary across studies, which mostly use data for one jurisdiction or one sector only (Aghion et al., 2015; Criscuolo et al., 2019; Branstetter and Li, 2023; Brandão-Marques and Toprak, 2024). Our recent paper seeks to fill this gap by providing cross-sector and cross-country evidence.

Main empirical findings

According to our panel estimations using two methods to address reverse causality, on average, across the largest manufacturing firms operating in 14 sectors and numerous countries, total government subsidies:

- increase market shares. This impact is economically sizeable, relative to observed small annual changes in market shares, with an increase of one percentage point in subsidies as a share of revenue corresponding to between the 27^{th} and 51^{st} percentile of the observed

distribution of annual absolute market share changes, depending on the estimation method.

- do not seem to have an impact on firms' investment rate but appear to increase nominal spending on investment. This implies that subsidies do not substantively shift firms' overall tendency to invest.
- have no or a negative effect on real productivity growth, in line with most frequent findings in the literature that subsidies do not enable firms to become more productive.
- have no significant contemporaneous impact on various measures of profitability. This suggests that firms generally do not translate subsidies into simple windfall profits.

Given that overall subsidies appear to have no or negative impact on the investment rate and productivity, the finding that subsidies are associated with increases in market shares does not seem to be explained by efficiency gains. Instead, this relationship could result from the ability of firms receiving subsidies to cover part of their operating costs and lower their prices. This narrative is consistent with evidence that subsidies do not boost profitability.

Effects tend to vary across subsidy types and firm characteristics

For several performance indicators, the effects of subsidies differ across their types, with most frequent and consistent findings for tax concessions.

- Several specifications point to a positive impact of tax concessions on investment levels and rates, productivity, and profitability. These effects can stem from their perceived predictability, in particular if they are part of the tax code, as compared to other forms of subsidies that are often discretionary.

Moreover, they generally allow firms to make independent decisions, unlike grants tied to individual projects. Thus, tax incentives could be more conducive to investment and productivity improvements.

- In contrast, there is some evidence that below-market borrowings lower real productivity growth and profitability. This can reflect the fact that this policy tool at times has been used to support distressed firms, when it is less likely to have positive contemporaneous effects on productivity and profitability. Below-market borrowings may just help firms to survive in the market that would not otherwise have done so without seeking to increase their productivity.

These heterogenous results for individual subsidy types suggest that the effects of government support can differ significantly depending on the nature and design of individual support measures. There is also some tentative evidence about differentiated effects of subsidies across various characteristics of firms. Some of them relate to China-based companies. For instance, the negative impact of below-market borrowings on productivity and profitability is less strong for China-based firms. This could be because, in contrast to other countries, below-market borrowings are a systemic rather than an emergency type of government support to companies.

Future research

While our paper has enhanced understanding of some market implications of subsidies, continued efforts are needed to improve the transparency and measurement of government support and to broaden the scope of analysis of possible subsidy effects.

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Increasing public investment to strengthen the recovery from the pandemic: A glass only half-full

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As the recovery from the pandemic progresses, there is an opportunity to refocus fiscal policy support and shift the composition of government expenditure towards productive investments in physical infrastructure, education and research. Provided they are well designed and managed, such investments can strengthen growth prospects and have a durable impact on living standards (Fournier, 2016; Pain et al., 2018).

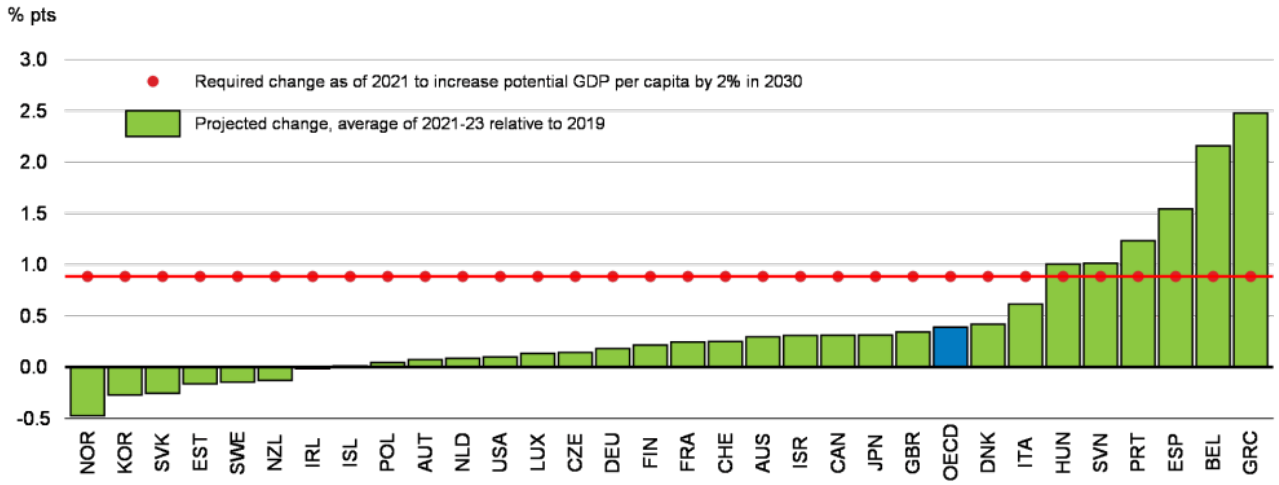
Additional public investment and research is needed to help foster the transition to a low-carbon economy, strengthen the digital transition, and enhance incentives for private investment. In many countries, there is also a need to enhance spending on the maintenance, repair and modernisation of existing infrastructure after an extended period when investment was barely enough to make up for infrastructure depreciation. Following the global financial crisis, many countries disproportionately cut public investment in a context of sharp fiscal consolidation, slowing the recovery and leaving scars for the future (OECD, 2016).

Fortunately, the policy response to the COVID-19 pandemic appears to be so far more favourable. Public investment, which understandably was not the key priority when the pandemic struck, is expected to increase in 2021-23 relative to 2019 levels in about 80% of OECD member countries, by 0.4% of potential GDP on average (Figure 1).[1] The share of investment in (cyclically-adjusted) total public expenditure is also

expected to increase in about three-fifths of OECD economies, and rise from 8.8% in 2019 to an average 9.3% in 2021-23 in the 33 OECD countries with available data.

Figure 1. Projected public investment increases are welcome but often too modest

Changes in the average annual public investment-to-potential GDP ratio



Note: Red markers show the increase in the average annual public investment-to-potential GDP ratio over 2021-30 that is required to boost potential GDP per capita by 2% in 2030. The growth effects of spending reallocation towards public investment are estimated keeping government size unchanged, and thus imply proportional decreases in spending on other budget items, whose growth effects, positive or negative, are controlled for. “OECD” shows the unweighted average of countries included in the figure.
Source: OECD Economic Outlook 110 database; Fournier and Johansson, 2016; Cournède et al., 2018; and OECD calculations.
Is this ambitious enough? Past OECD research quantifies the impact on potential growth of shifting the composition of public expenditure towards public investment while keeping total spending unchanged (Fournier and Johansson, 2016; Cournède et al., 2018). These estimates can be used to compute how much spending reallocation towards public investment would be needed to increase potential GDP per capita by a certain amount in the medium and long run. For instance, a rise of

close to 1 percentage point in the average annual public investment-to-potential GDP ratio over 2021-30 would yield a 2% increase in potential GDP per capita by 2030, corresponding to an acceleration of approximately 0.2 percentage points in the annual growth of potential GDP per capita in the coming decade.

This would be a sizeable gain, but still only a partial compensation for past losses. Annual potential GDP per capita growth stood at a modest 1.1% in the median OECD country over 2010-19, about 0.9 percentage points lower than in the decade before the global financial crisis. Even so, most countries are projected to fall short of the required public investment threshold over 2021-23 in the December 2021 OECD Economic Outlook (Figure 1). However, it is not too late for countries to catch up: ramping up investment later in this decade could also yield the same 2% gain in potential GDP per capita, even if with some delay relative to 2030.

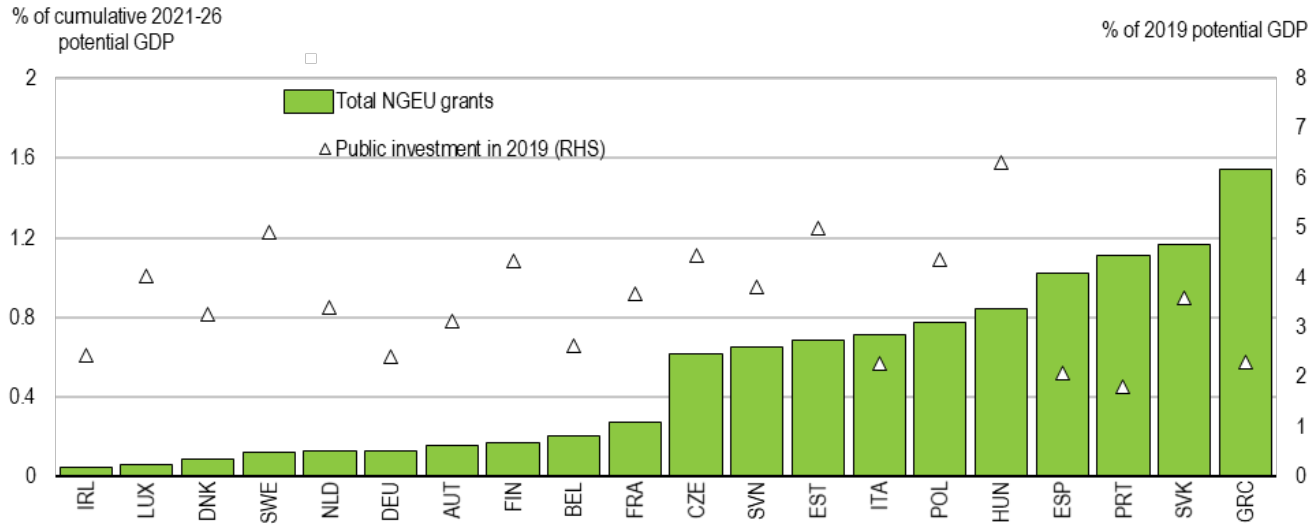
The required improvement in public investment over the current decade is based on highly stylised estimates that reflect average effects across countries. These abstract from country-specific features, such as differences in administrative capacity for carrying out investment projects efficiently or potential diminishing returns to further new investment when public capital stocks are already very high.[2] Nonetheless, the results point to a need for larger annual public investment increases over the next decade than those currently envisaged until 2023.

Next Generation EU (NGEU), the European recovery package, is expected to make a difference in the EU member states. The countries with the most ambitious projected increases in public investment over 2021-23 tend to be among the largest estimated recipients of NGEU grants relative to GDP, notably Greece, Portugal and Spain (Figure 2). Another major recipient, Italy is also projected to raise investment

substantially in the coming years, but more gradually.[3] In all four cases, pre-pandemic public investment-to-potential GDP ratios were very low (Figure 2). Some countries with relatively high public investment prior to the pandemic and sizeable estimated NGEU support are also projected to increase investment swiftly, such as Hungary and Slovenia. In contrast, others are projected to do it more slowly, such as Poland. Whether implementation strategies are more or less frontloaded, NGEU can ensure substantial support to public investment across the EU until 2026 (when projects should be completed) provided NGEU grants add to, rather than replace, national funding.

Policy mistakes made in the past decade are not being repeated, but stronger increases in public investment are called for in many countries. It would be a pity to leave the glass only half-full.

Figure 2. NGEU can provide substantial support to public investment in Southern and Eastern EU countries



Note: The illustrative estimates include the following NGEU components: Recovery and Resilience Facility (RRF), REACT-EU, Just Transition Fund and European Agricultural Fund for Rural Development. Part of RRF allocations will be revised by June 2022. Potential GDP estimates assume that annual potential output growth over 2024-26 will be unchanged from that

projected for 2023. The period 2021-26 broadly corresponds to the implementation of NGEU. Grants can also be used to finance government expenditure other than public investment, such as government capital transfers to support private investment.
Source: European Commission, Directorate-General for Budget (2021), *The EU's 2021-2027 long-term budget & NextGenerationEU: Facts and Figures*; European Commission, European Structural and Investment Funds database; OECD Economic Outlook 110 database; and OECD calculations.

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[1] Measuring public investment as a ratio to *potential* GDP, rather than actual GDP, is useful to focus on long-term structural effects and ensures that the ratio is not distorted by short-run fluctuations in output, which have been particularly sharp in the pandemic period.

[2] Diminishing returns would be more likely for new investment in the type of projects often carried out in the past (e.g. new motorways or airports in a country where they are already abundant), as opposed to public investment in new or still underdeveloped areas (e.g. smart grids or fast-charging infrastructure for electric vehicles).

[3] Nonetheless, by 2023, the Italian public investment-to-potential GDP ratio is expected to be 0.9 percentage point higher than in 2019.