Firm Subsidies and Resource Misallocation

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School of Business at ITAM, January 2021. Prepared for the Annual conference of the American Economic Association.

This paper

An analysis of capital subsidies to firms from a misallocation viewpoint.

Building blocks

Data

- Information on firm inputs/outputs (typical census data).
- Unique data on subsidies at the firm level.

Framework

- Policy implemented on a distorted economy with Hsieh-Klenow capital and output wedges that prevent the efficient allocation of resources.

Counterfactuals

- TFP with and without the subsidies.
- TFP-maximizing and TFP-min policy implementations.

Distortions

- Even in the absence of subsidies firms face distortions
- Firm's profit:
  $\pi_i = (1 - \tau_{Yi})p_i Y_i - wL_i - (1 + \tau_{Ki} - \tau_{si})RK_i$
- A subsidy τ_{si} is an additional distortion that can improve or deteriorate allocative efficiency.

Measurement & Decomposition of distortions

- Measure $\tau_{Yi}, (\tau_{Ki} - \tau_{si})$ from production data,
- and τ_{si} from the subsidy data.
- Recover the capital distortion net of subsidies τ_{Ki}.

How much of the observed misallocation do subsidies explain?

Little, but on par with other sources of misallocation found in the literature.

- Subsidies explain 5.5% of the variance of log MRPK, which is $\approx$ the explanatory power of capital adj. costs.
- Reduced TFP by 0.15%, explaining 0.61% of the output loss from misallocation.

What is the potential effect of such a policy on TFP?

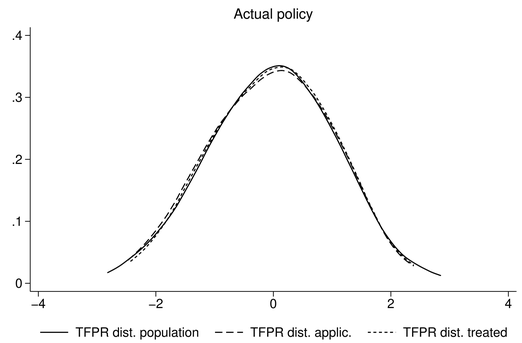
Substantial.

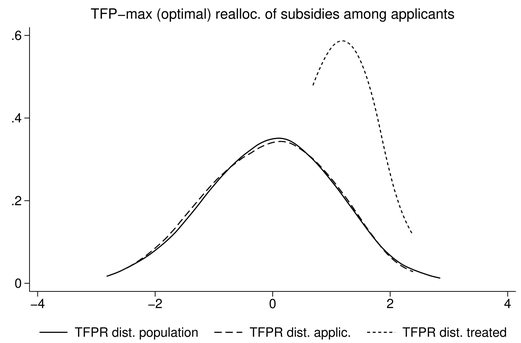
- If subsidies are directed to the **'right' firms**, TFP can increase by up to 2.2%.
- But if are directed to the **'wrong' firms**, TFP can decrease by up to 3.5%.

Why is the effect of the actual policy so small, then?

Because the **'right'** and the **'wrong'** firms received a subsidy with similar odds.
The graphs below show who is applying and who is subsidized under the actual and TFP-maximizing policies.

- Conditioning on the TFPR measure of overall distortions, the applicants and receivers of subsidies are nearly random draws from the population of firms (left graph).
- A TFP-maximizing policy would subsidize firms with high TFPR (right graph).





Empirical setting

- Data on a policy subsidizing the acquisition of capital for Greek manufacturing firms, typical in the EU.
- Sample of 2,000 firms $\geq$ 10 employees.

Subsidy data

- $\approx$ 25% of firms applied for a subsidy,
- and $\approx$ 20% of them received a subsidy.
- $\dfrac{\text{Cash transfer}}{\text{Capital at time of the grant}}$: Median = 16%.

Second-Best approach

- The literature shows that each market or policy failure responsible for the observed misallocation explains a tiny fraction of it.
- Hence, any policy analysis falls in *Second Best* territory (Lipsey and Lancaster, 1956): focusing on a particular friction while ignoring the rest leads to wrong policy recommendations.
- This paper analyzes subsidies considering all other frictions summarized in the recovered output and capital wedges (τ_{Yi}, τ_{Ki}).
- The TFP-maximizing policy crucially depends on the existing distortions. Different implementations of the same policy can have markedly different effects: From an increase in TFP of 2% to a decrease of 3%.

Additional Information

- Email: alexandros.fakos@itam.mx
- Paper on SSRN: bit.ly/SubsidiesMisallocation
- Slides: bit.ly/SubsidiesMisallocationSlidesAEA21