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:
\[ \pi_i = (1 - \tau_Y)Y_i - wL_i - (1 + \tau_K - \tau_s)RK_i \]
• A subsidy \( \tau_s \) is an additional distortion that can improve or deteriorate allocative efficiency.

Measurement & Decomposition of distortions
• Measure \( \tau_Y, (\tau_K - \tau_s) \) from production data,
• and \( \tau_s \) from the subsidy data.
• Recover the capital distortion net of subsidies \( \tau_K \).

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 \( \tau \) 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 ≥ 10 employees.

Subsidy data
• \( \approx 25\% \) of firms applied for a subsidy,
• and \( \approx 20\% \) of them received a subsidy.
• Cash transfer
• 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 \( (\tau_Y, \tau_K) \).
• 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
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• Paper on SSRN: bit.ly/SubsidiesMisallocation
• Slides: bit.ly/SubsidiesMisallocationSlidesAEA21