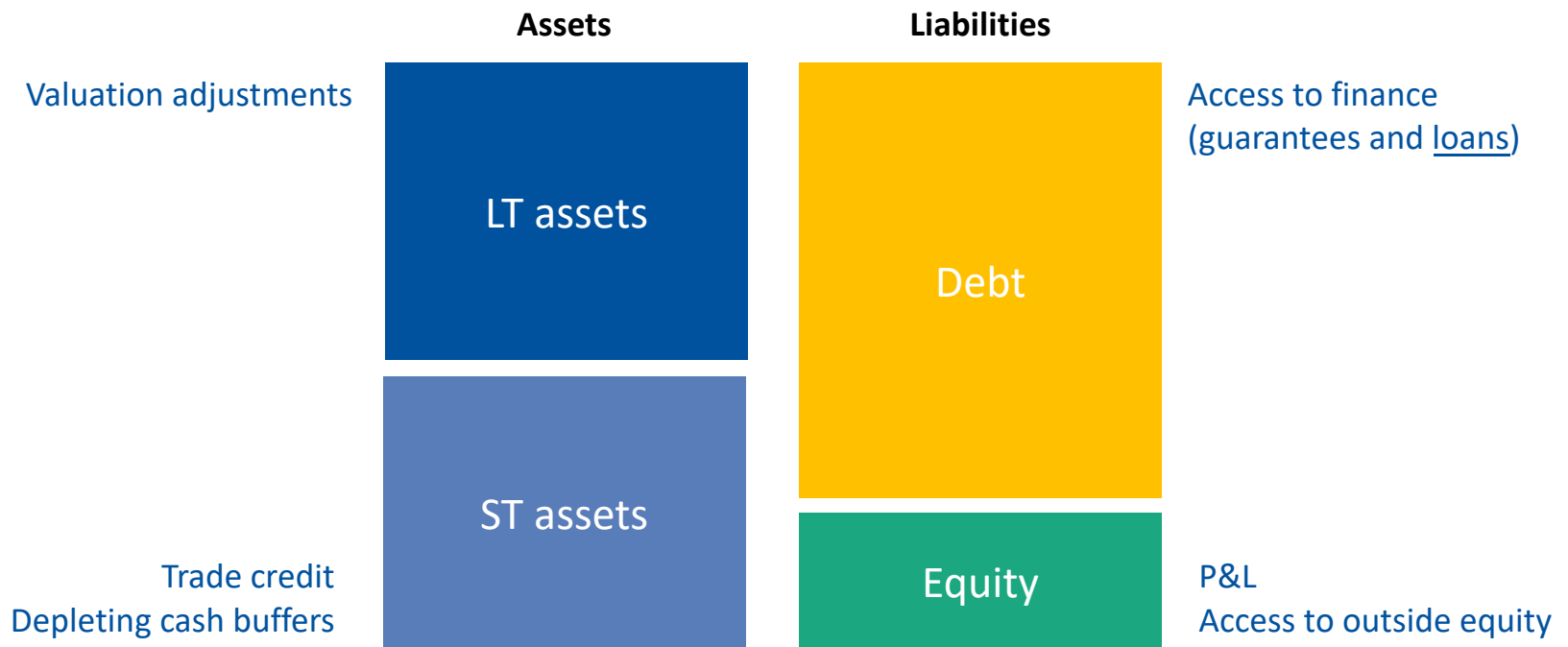


Impact assessment of the EIB support to SMEs

*Workshop on measuring impact and additionality
30 June 2020 (online)*

Alessandro Barbera, Áron Gereben, Marcin Wolski

Balance-sheet perspective of a C19 shock

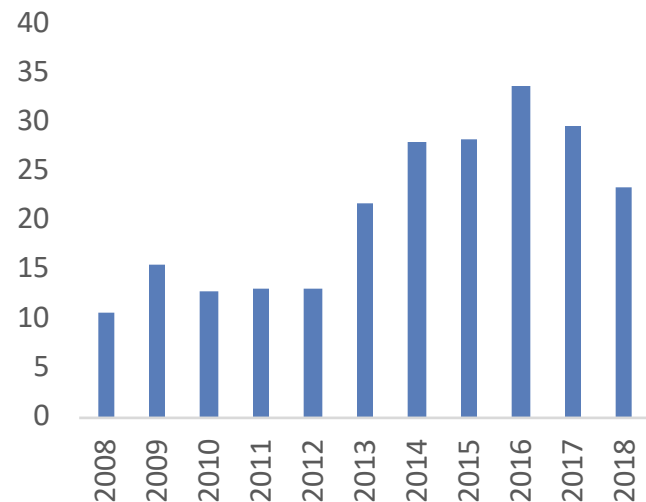


EIB's key policy instrument to support SMEs is the *Multi-Beneficiary Intermediated Loan (MBIL)*.

- The EIB provides funding to local private or public financial intermediaries at preferential conditions.
- The intermediaries are obliged to use this funding to grant loans to SMEs and to pass on a part of the financial advantage.

EIB support committed to SMEs

Annual loan volumes in EUR bn



Source: EIB.

Rationale for public sector (EIB) intervention: SME financing gap, exacerbated during market turmoil.

2 possible channels of impact:

- Transfer of financial advantage: Intermediary banks pass some of the funding advantage to borrowing SMEs. This can take the form of lower interest rates, longer maturity etc. This makes EIB loans more favourable to beneficiaries compared to other, purely market based loans, and this advantage translate to better firm performance.
- Easing of funding constraints: In certain circumstances (e.g. during financial downturns) intermediary banks may face constraints to access funding, which could limit their ability to lend. In such situations EIB funding can generate additional lending that would not have materialised otherwise, and this improved access to finance translates to better performance in case of the final beneficiaries.

Both channels can provide valid justification for public sector intervention.

Objective: Quantifying the impact of intermediated EIB lending (MBILs) on SME performance using firm-level data (EIB allocation tables combined with ORBIS)

Methodology: estimate the Average Treatment Effects on Treated (ATET) using a combination of *propensity score matching* (PSM) and *diff-in-diff* (DID) – controlling for observable and time-invariant unobservable confounders

Outcome variables: no. of employees, total assets, no. of patent applications, fixed assets, profits, leverage ratio (liabilities/total assets)

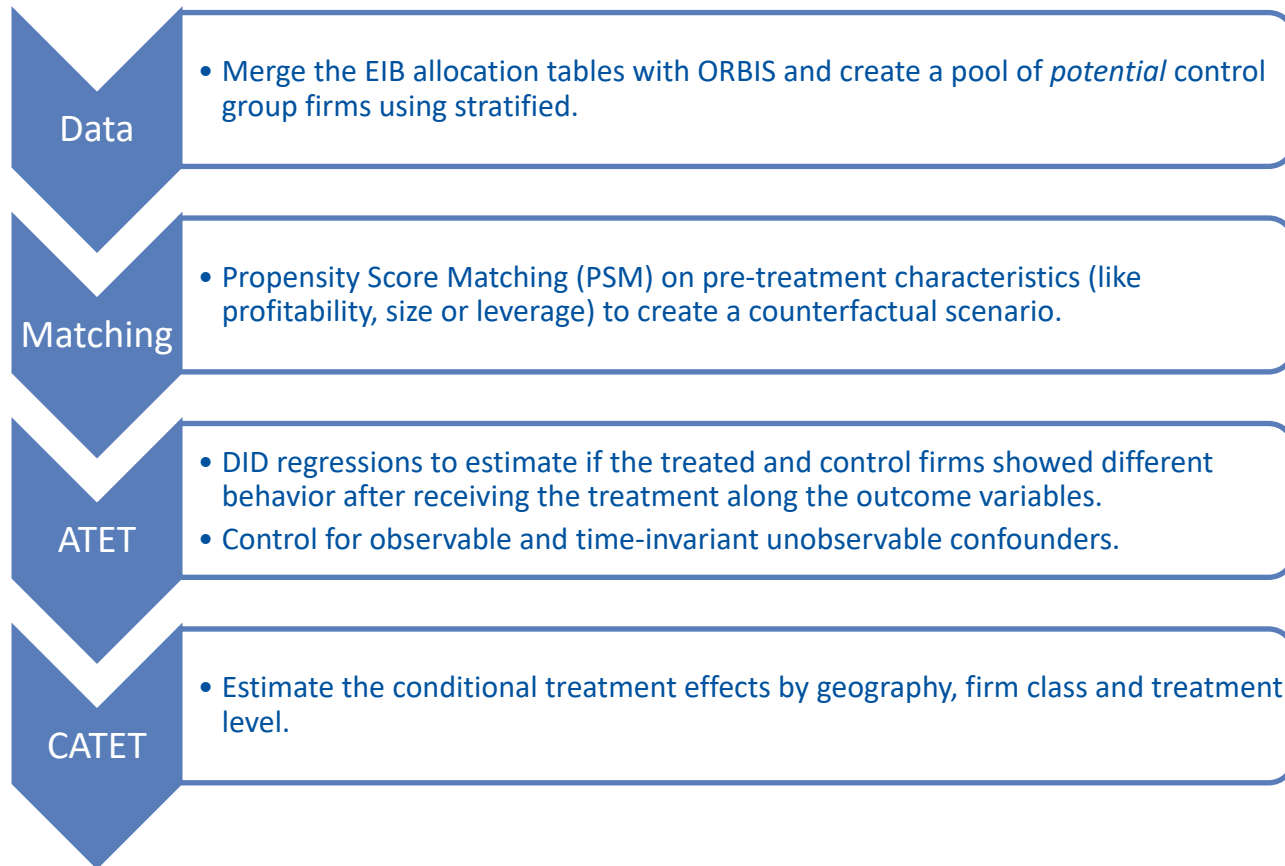
Treatment: receiving a loan from the EIB-supported intermediate institution

Time period: 2008-2015

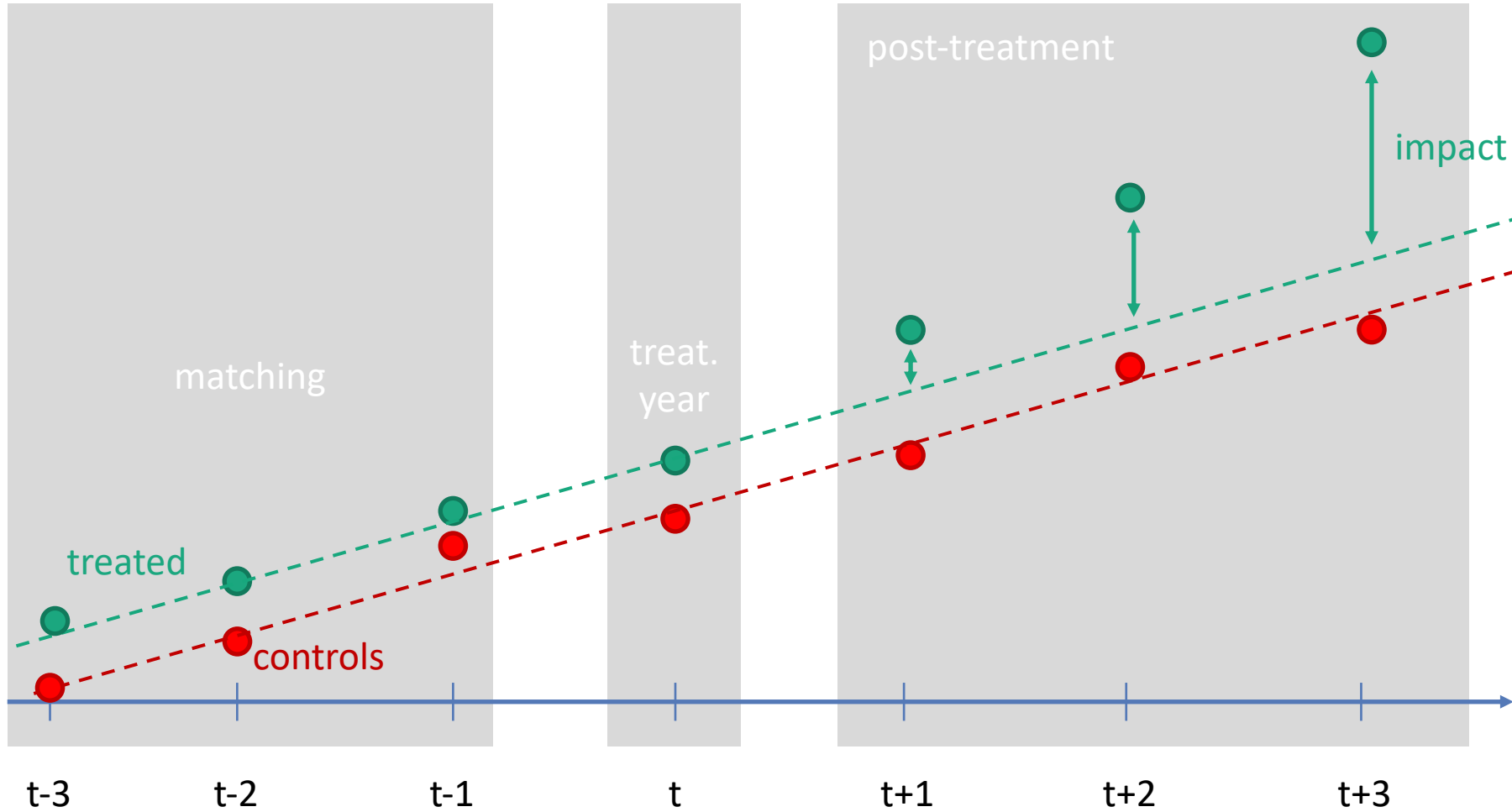
Number of treated firms: +67,000

Geographical coverage: EU

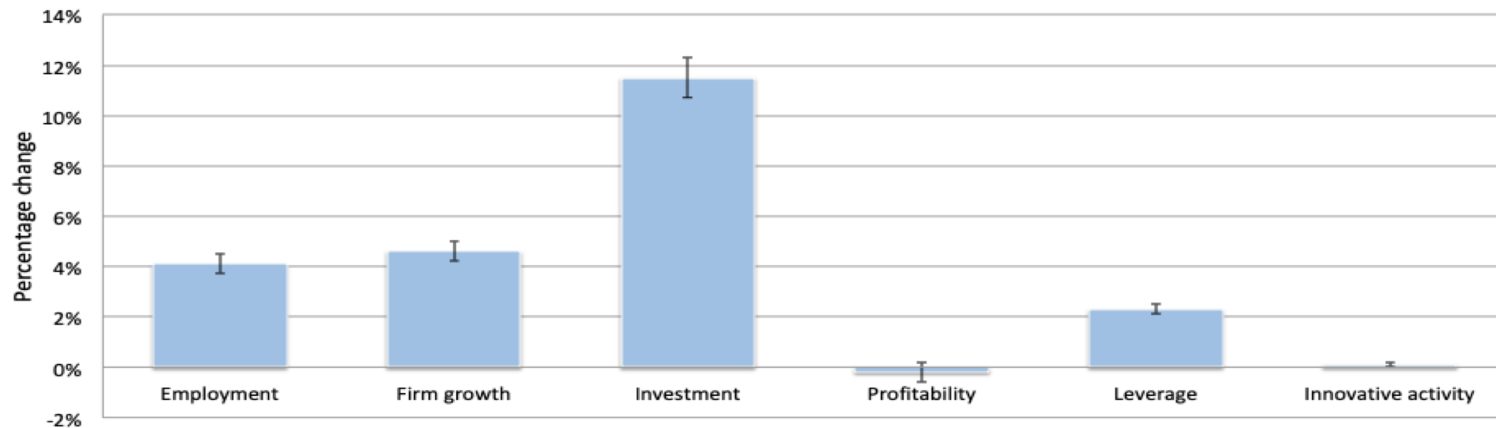
Empirical strategy



Empirical strategy - illustration



Results - overview



Source: Own calculations based on ORBIS.

Employment growth: significant impact in the 3 years following the allocation of the loan: 4 per cent higher for MBIL beneficiaries.

Firm growth: Total assets increase by 5 per cent relative to the control group.

Investment: Fixed assets are approximately 12 per cent higher for MBIL beneficiaries.

Profitability: MBILs have no statistically significant impact.

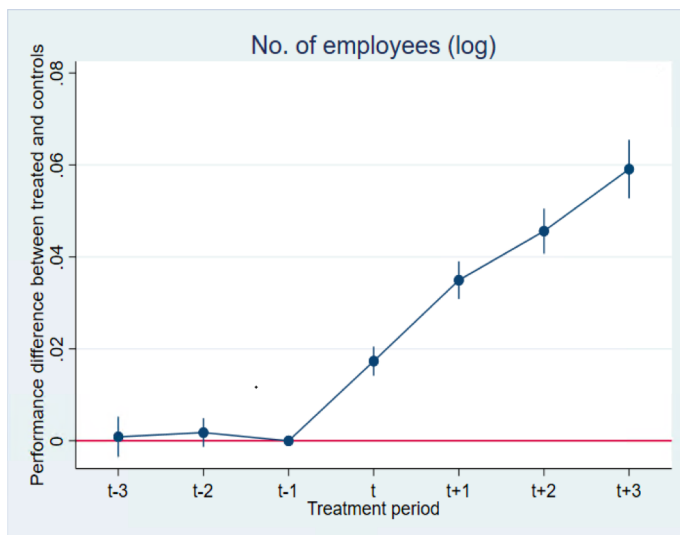
Leverage: an increase of 2 per cent.

Innovative activity: Very small, yet statistically significant impact. MBIL beneficiaries are more likely to submit patent applications, but the overall share of such firms is low in the sample.

Results – time profile

Employment impact

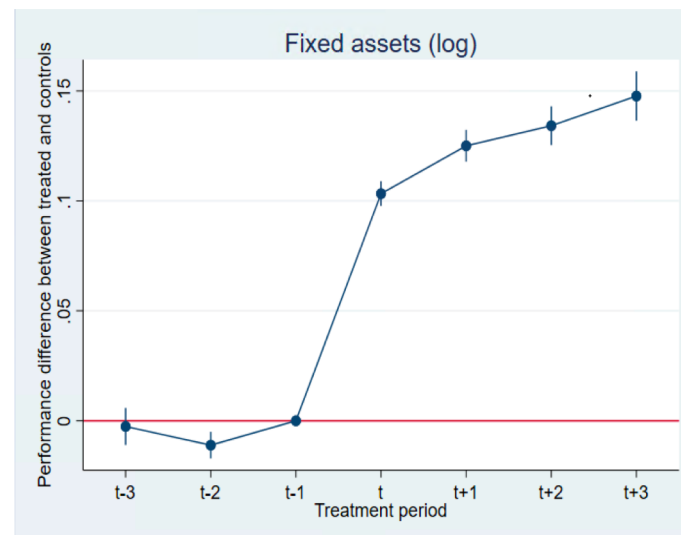
Difference between EIB beneficiaries and controls



Source: Own calculations based on ORBIS.

Investment impact

Difference between EIB beneficiaries and controls

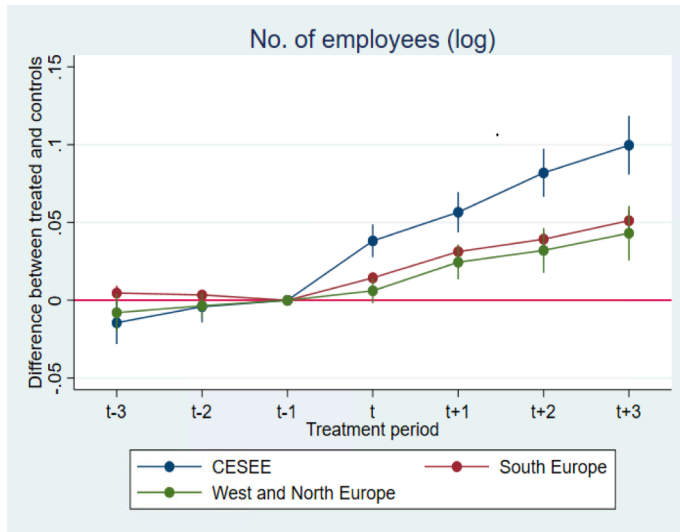


Source: Own calculations based on ORBIS.

Results – geographic profile

Employment impact

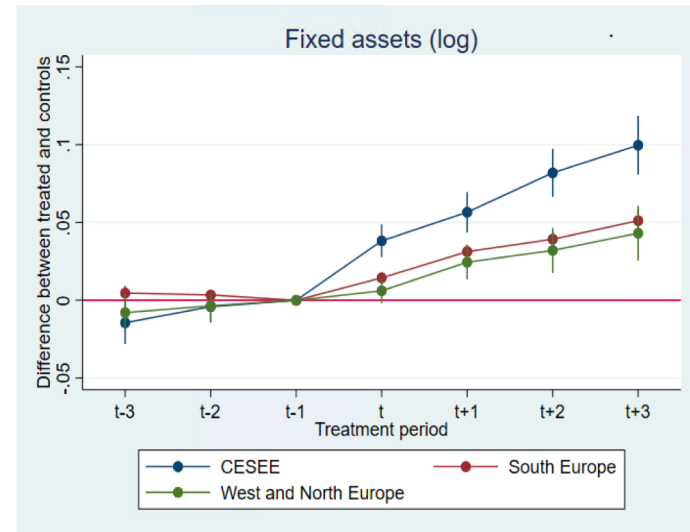
Difference between EIB beneficiaries and controls



Source: Own calculations based on ORBIS.

Investment impact

Difference between EIB beneficiaries and controls

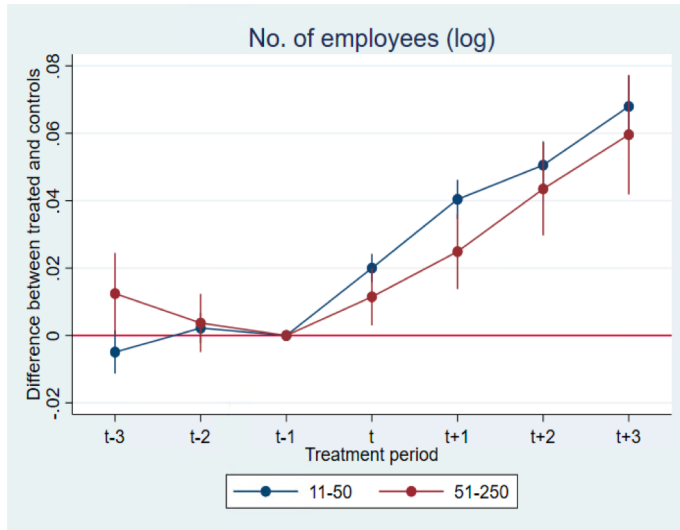


Source: Own calculations based on ORBIS.

Results – firm profile

By firm size

Difference between EIB beneficiaries and controls

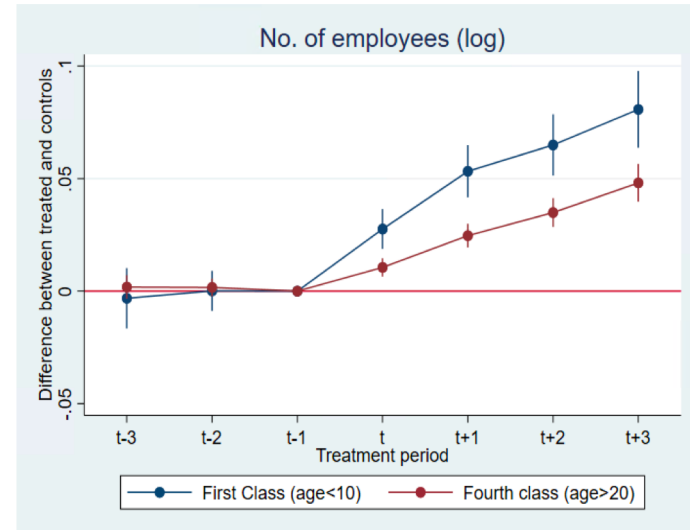


Note: Firm size class is based on the number of employees at time t.

Source: Own calculations based on ORBIS.

By age

Difference between EIB beneficiaries and controls



Note: Firm age class is based on the number of years since incorporation.

Source: Own calculations based on ORBIS.

Results – loan profile

By loan size

Difference between EIB beneficiaries and controls



Note: Loan size class is based on quantiles of the loan amount distribution (scaled by total assets).

Source: Own calculations based on ORBIS.

By transferred financial advantage

Difference between EIB beneficiaries and controls



Note: ToFA class is based on quantiles of the ToFA distribution.

Source: Own calculations based on ORBIS.

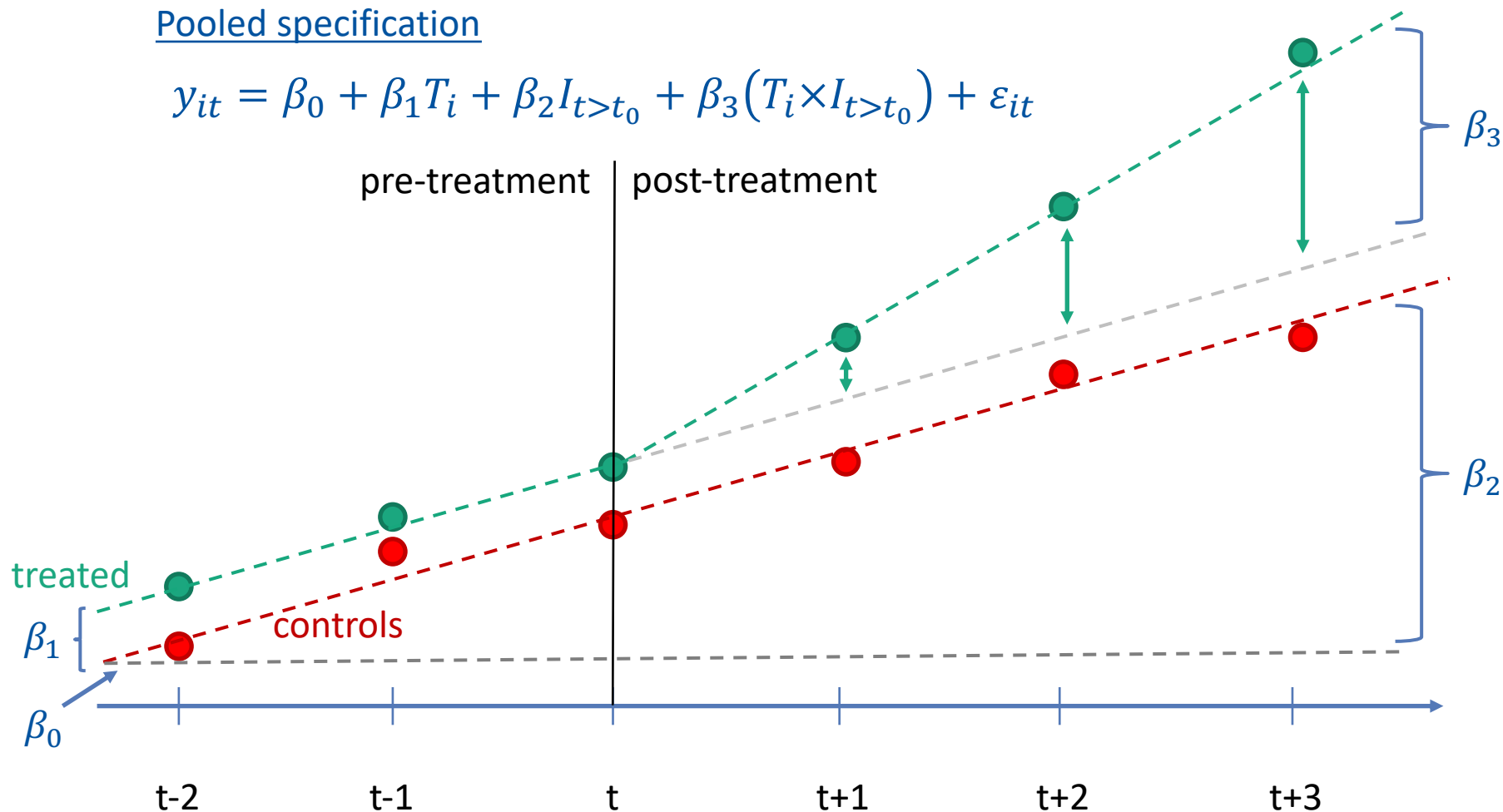
- The EIB-supported loans have a significant, positive effect on the economic and financial performance of the beneficiary firms. This is consistent with other studies (Brault and Signore (2019), Brown and Earle (2017)).
- The scale of the positive impact varies by geographic area. The impact was the higher in the Central and East European countries and the lowest (yet positive) in Western Europe.
- Higher impact among smaller and younger firms.
- Impact seems to be associated with the pricing rather than volume effect.
- But our methodology cannot fully control for time-varying unobservables – such as getting an idea for an investable project. We propose several robustness checks against such possibilities.

Annex

Difference-in-differences

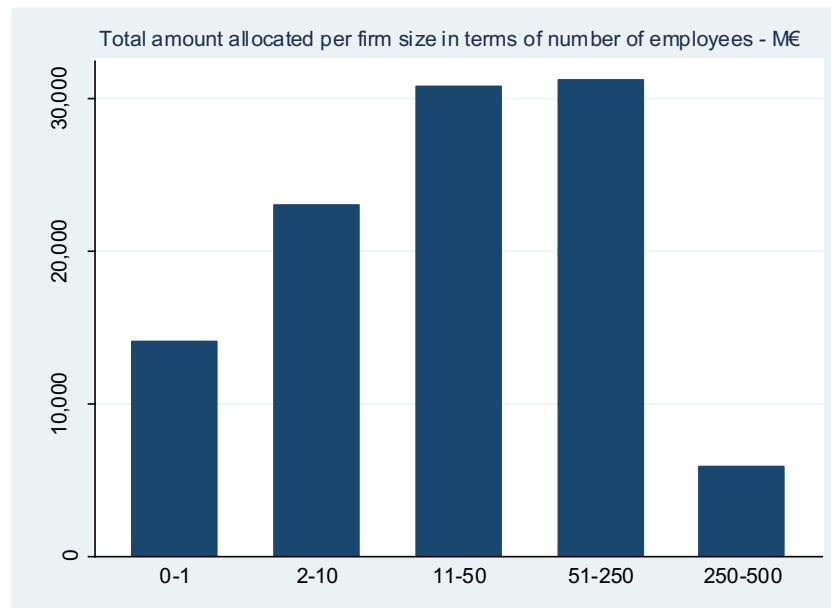
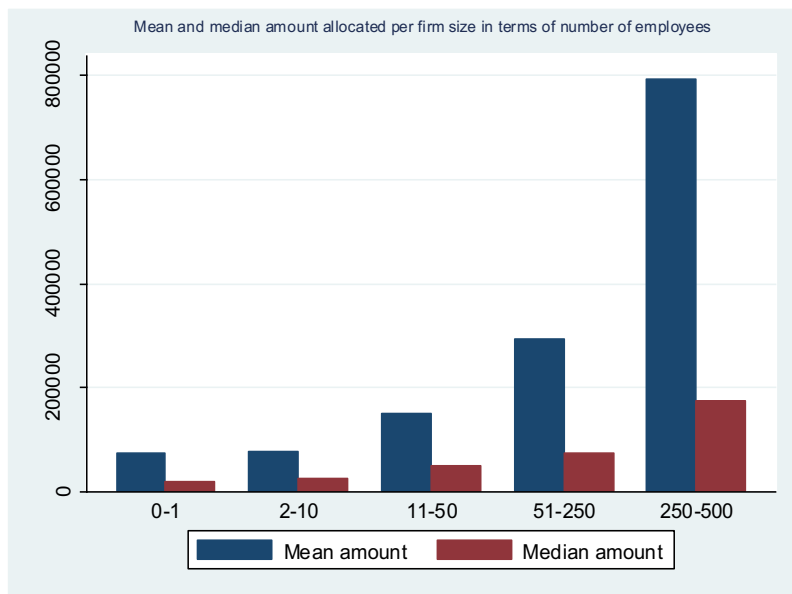
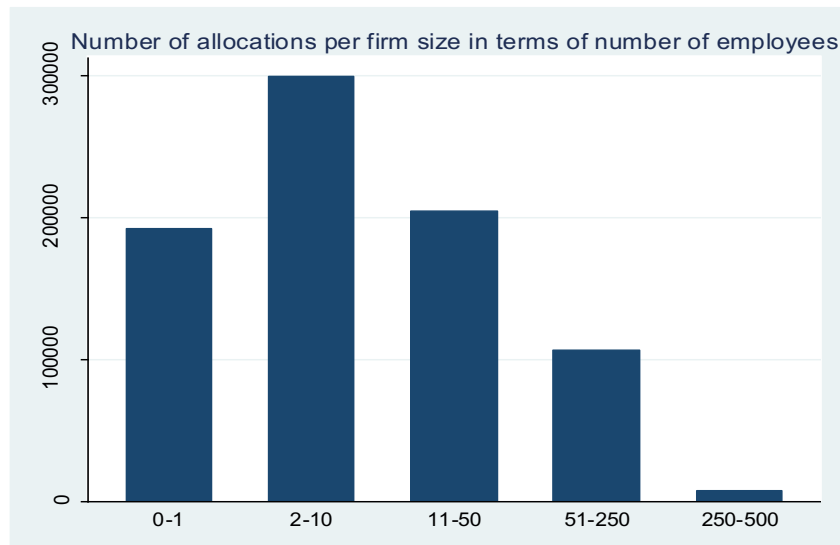
Pooled specification

$$y_{it} = \beta_0 + \beta_1 T_i + \beta_2 I_{t>t_0} + \beta_3 (T_i \times I_{t>t_0}) + \varepsilon_{it}$$



Allocation data

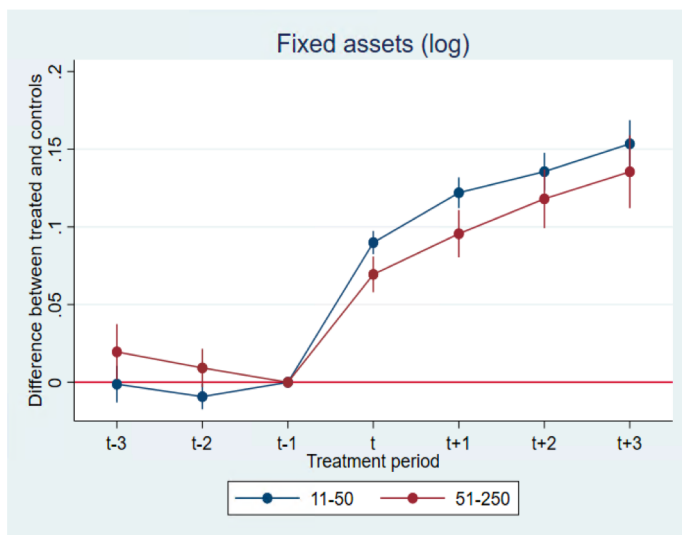
Most allocations went to small firms, but when we take loans size into account, firms between 11-250 employees received the bulk of the amount.



Results – fixed assets – firm profile

By firm size

Difference between EIB beneficiaries and controls

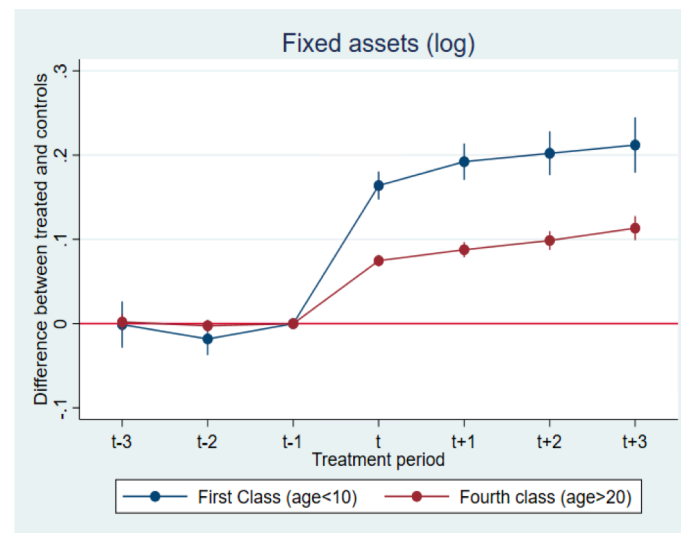


Note: Firm size class is based on the number of employees at time t.

Source: Own calculations based on ORBIS.

By age

Difference between EIB beneficiaries and controls



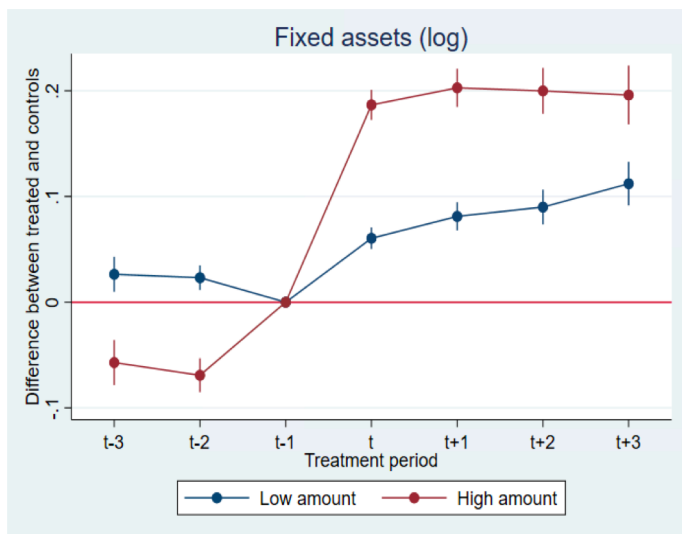
Note: Firm age class is based on the number of years since incorporation.

Source: Own calculations based on ORBIS.

Results – fixed assets – loan profile

By loan size

Difference between EIB beneficiaries and controls

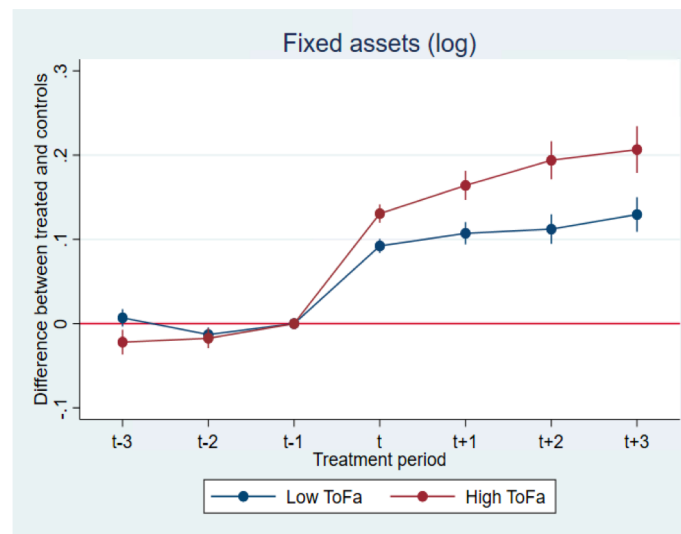


Note: Loan size class is based on quantiles of the loan amount distribution (scaled by total assets).

Source: Own calculations based on ORBIS.

By transferred financial advantage

Difference between EIB beneficiaries and controls



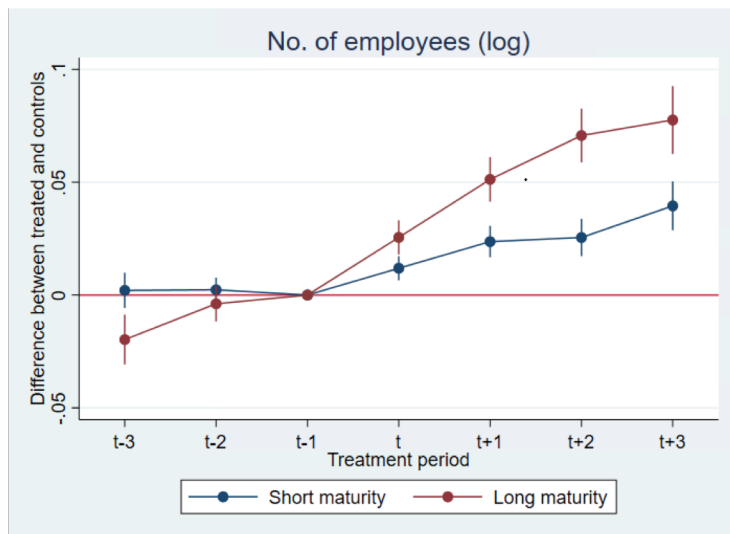
Note: ToFA class is based on quantiles of the ToFA distribution.

Source: Own calculations based on ORBIS.

Results – maturity profile

Employment impact

Difference between EIB beneficiaries and controls

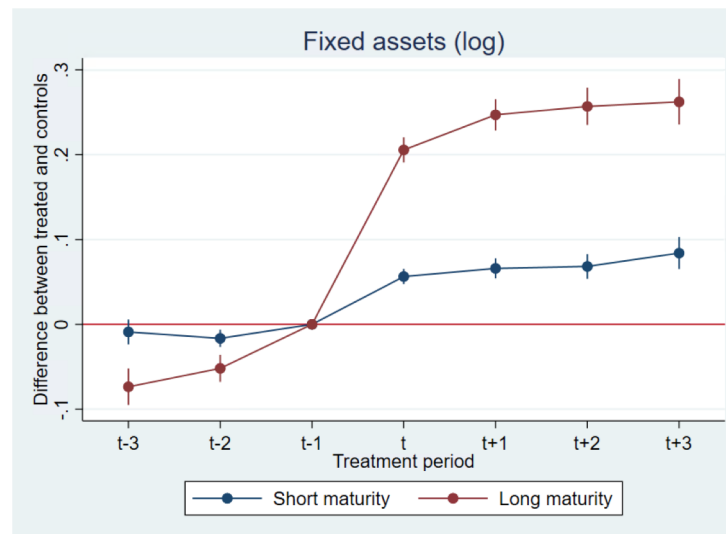


Note: Maturity class is based on quantiles of the maturity distribution.

Source: Own calculations based on ORBIS.

Investment impact

Difference between EIB beneficiaries and controls



Note: Maturity class is based on quantiles of the maturity distribution.

Source: Own calculations based on ORBIS.