Impact assessment of the EIB support to SMEs

Workshop on measuring impact and additionality
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Balance-sheet perspective of a C19 shock

**Assets**
- Valuation adjustments
- LT assets
- ST assets
- Trade credit
- Depleting cash buffers

**Liabilities**
- Debt
- Equity
- Access to finance (guarantees and loans)
- P&L
- Access to outside equity
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

This study
Empirical strategy

Data
- Merge the EIB allocation tables with ORBIS and create a pool of potential control group firms using stratified.

Matching
- Propensity Score Matching (PSM) on pre-treatment characteristics (like profitability, size or leverage) to create a counterfactual scenario.

ATET
- DID regressions to estimate if the treated and control firms showed different behavior after receiving the treatment along the outcome variables.
- Control for observable and time-invariant unobservable confounders.

CATET
- Estimate the conditional treatment effects by geography, firm class and treatment level.
Empirical strategy - illustration
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

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.
Summary

• 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

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

pre-treatment | post-treatment

t-2  t-1  t  t+1  t+2  t+3

\[ \beta_0 \quad \beta_1 \quad \beta_2 \quad \beta_3 \]
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

By transferred financial advantage
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.

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.