ECONOMICS – IMPACT STUDIES

# EIB Group support for EU businesses:

## Evidence of impact in addressing market failures

European Investment Bank | Group

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**EIB Group support for EU businesses: Evidence of impact in addressing market failures**

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**About the Economics Department**

The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and in the definition of its positioning, strategy and policy. The department and its team of economists is headed by Debora Revoltella, director of economics.

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# Executive Summary

## The rationale behind EIB Group[1] support for businesses

**Market failures affecting Europe's smaller businesses are costly**. A non-negligible share of businesses faces challenges to access finance, with the difficulties typically more pronounced for smaller firms. As small and medium businesses (SMEs) contribute more than half of the value added of the non-financial business sector and close to two-thirds of total employment in Europe, any impairment of their ability to finance investment implies high economic costs in terms of slower job creation, innovation and productivity growth.

**Business support instruments contribute to achieving strategic objectives like sustainability, digitalisation and competitiveness**. They provide vital ways to promote investments by the private sector that achieve public goods (positive externalities), which the private markets might not otherwise achieve. Examples include public support for green investments and market-shaping investments in equity finance and strategic industries.

**In 2023, the EIB Group provided €31.1bn in support to SMEs and mid-caps in the European Union**, €14.9bn of which was from the European Investment Fund (EIF). The EIB Group's financing annually supports circa 400 000 SMEs and mid-caps, with about 83% of EIB financing and more than 85% of EIF financing directly benefiting SMEs. Different EIB Group instruments target specific market failures and firm types:

- **Loans, such as multi-beneficiary intermediated loans** (MBILs) administered through banks, leasing companies or other financial institutions, address the disadvantages faced by micro, small and medium-sized enterprises and mid-caps in accessing finance, such as those arising from asymmetric information, screening costs and collateral requirements.

  **Credit guarantee schemes and portfolio guarantees** are a commonly used response to market failures as guarantees reduce the risk of lenders and favour the provision of financing to viable businesses that are constrained in their access to finance. Moreover, risk-sharing products such as asset-backed securities (ABS) can strengthen the capacity of banks to supply new loans. Guarantees and MBILs can play an important countercyclical role, countering credit rationing when the banking sector faces liquidity or capital constraints. Thematic MBILs and portfolio guarantees are used to target objectives such as climate action, gender equality and youth employment.

- **Venture investments** target the unmet needs of innovative companies by filling their cyclical and structural financing gaps, while also catalysing private financing into Europe's fragmented and underdeveloped VC markets.

  - **EIF's indirect investments** into venture capital (VC) and private equity (PE) funds aim at fostering a European VC/PE ecosystem. The scale and scope of investments, along with the added value on fundraising, also enables the EIF to promote best market practices. Moreover, it can counterbalance periods when equity financing suffers from a "flight from risk". Overall, it addresses the early-stage to later-stage financing gap faced by high-growth enterprises and allows firms to achieve sufficient scale to compete globally, particularly in strategic sectors such as biotech, greentech, and digital technologies.

  - **EIB's direct investments** serve the early and later-stage financing needs of high-risk companies with groundbreaking technologies, for example via European Innovation Council Fund investments and financial support for commercial-scale first-of-a-kind demonstrations. Direct investments, such as venture debt and co-investments alongside specialised private and public sector players, such as the EIF-backed ETCI (European Tech Champions Initiative) funds, are also directed to close the scale-up financing gap faced by businesses operating in new market segments, emerging sectors or untapped geographies.

[1] The EIB Group consists of the European Investment Bank (EIB) and the European Investment Fund (EIF).

## Evidence on impact: MBILs

**The EIB's multi-beneficiary intermediated loans support SMEs' access to finance through financial intermediaries.** Impact studies have demonstrated the impact of EIB intermediated lending through a comparison of loan recipients with peer firms with similar characteristics but no EIB funding. For example, the estimated and statistically significant impact of EIB-supported loans to 96 830 firms in the European Union between 2008 and 2017, over the three years after funding, included:

- 5% higher levels of employment and productivity.
- 15% higher levels of investment, indicating the use of funding for the purchase of investment goods.
- larger impacts for smaller firms, younger firms and firms in less developed/cohesion regions.

## Evidence on impact: guarantees

**Guaranteed loans support SMEs' access to finance in the presence of strict collateral requirements and insufficient capital**. Analysing guaranteed loans by the EIF (under the SME Guarantee Facility of the European Union's MAP and CIP programmes) to SMEs across 19 EU countries between 2002 and 2016, impact studies have shown several positive impacts:

- Increasing beneficiary firms' assets by 7% to 35%.
- Increasing employment by 8% to 30%.
- Decreasing bankruptcy rates by about a third, and by as much as a half in some countries.

## Evidence on impact: venture capital funds

**Venture capital financing is an indispensable source for startups**. EIF studies on EIF-supported indirect venture capital investments, comparing venture capital-backed firms with comparable new technology-based firms without such financing, show that these interventions had a positive impact on the startups' growth. After five years:

- Supported firms achieved higher capitalisation levels (up to two times higher than peer firms), revenues (19% to 97% higher levels) and faster job creation (100% higher levels).
- Startups backed by EIF-supported VC funds had a 10.3 percentage point higher chance of being acquired and a 1.7 percentage point higher rate of going public than similar firms not backed by venture capital.

## Evidence on impact: venture debt

**EIB venture debt helps fill the scale-up financing needs faced by high-growth, innovation-focused companies in the European Union**. A study by SG/ECON has evaluated the impact of EIB venture debt on beneficiaries' performance compared to similar firms that do not receive venture debt:

- EIB venture debt recipients report significantly higher firm growth, measured as an increase in total assets.
- Recipients achieved additional debt funding at favourable lending conditions (crowding-in).

# Introduction

**Small and medium-sized enterprises (SMEs) constitute a key part of economic activity within the European Union.**[2] In addition to the large share of employment provided, SMEs form a vital fabric of economic dynamism. SMEs contribute to the European economy and its competitiveness in important ways, including through innovation, productivity enhancements, and the dissemination of strategic technologies (for example, sustainable practices). Therefore, it is essential to foster an environment conducive to SME growth and transformation.

**Startups and scale-ups are less prevalent among European businesses.** Highly innovative startups and scale-ups play a pivotal role in shaping the European Union's economic landscape. However, as these companies transition from nascent startups to established scale-ups they encounter unique challenges. Scaling up involves navigating complexities related to funding, market access and talent acquisition. The lack of a fully developed startup ecosystem has contributed to a lower relative population of startups in Europe. Supporting innovative startups and scale-ups has thus proven to be imperative to ensure the European Union's sustained growth and global competitiveness.

**One critical aspect affecting SMEs is access to finance.** Evidence suggests that credit gaps persist, hindering the growth potential of these enterprises. The public sector can play a pivotal role in bridging this gap. Tailored financial programmes, risk-sharing mechanisms and targeted interventions can facilitate SMEs' access to capital, both public and private, thereby supporting competitiveness and economic resilience.

**This report presents the rationale behind EIB Group support for businesses and the evidence on the impact of SME-targeted financial instruments**. It gives an overview of relevant market failures and financing gaps, and how different EIB Group instruments address them. It summarises the findings of the research by the EIB's Economics Department and the EIF's Research and Market Analysis Division[3] on the impact of these instruments, as well as other evidence from the literature.

**The analysis covers all EIB and EIF financing instruments that aim principally to sustain or create private-sector jobs, or to enhance business growth and transformation**. It thus covers multi-beneficiary intermediated loans (MBILs), guarantees and loan securitisation and microfinance that target established SMEs and mid-caps, as well as venture capital, venture debt and microfinance that target young, innovative companies such as startups and scale-ups.

**Support for businesses makes up around 43% of EIB Group activity, by volume, and contributes to all Public Policy Goals (PPGs) of the EIB Group.**[4] EIB Group financing for businesses in 2023 amounted to €31.1bn, of which €14.9bn was from the EIF. Financial support for corporates aims at alleviating SME and mid-cap financing, assisting corporates as catalysers of innovation, digitalisation and human capital, as well as increasing measures supporting sustainability. Of EIB Group support for businesses, roughly 84% goes to SMEs.

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[2] Following EU Recommendation 2003/361/EC, the term SME refers to firms with up to 249 employees. In accordance with the European Commission's recommendation, the European Investment Bank defines mid-caps as firms with 250 to 3 000 employees.

[3] Now: EIF's Impact Assessment Division (following reorganisation).

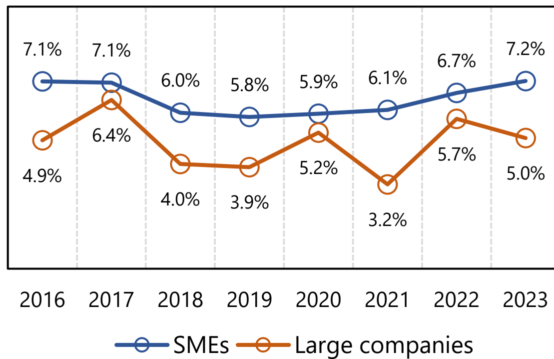
[4] The public policy dimension of the EIB Group is reflected by these PPGs. The EIB PPGs are "Innovation, Digital and Human Capital", "SMEs and Mid-cap Finance", "Sustainable Cities and Regions", and "Sustainable Energy and National Resources". The EIF's activity is centred around "Competitiveness and Growth", "Innovation and Digitalisation", "Sustainable and Green Transformation", "Social Impact, Skills & Human Capital". There are also two transversal PPGs: "Climate Action and Environmental Sustainability" and "Economic and Social Cohesion".

# The rationale behind public support for businesses

## Why it matters if market failures impact smaller businesses' access to finance

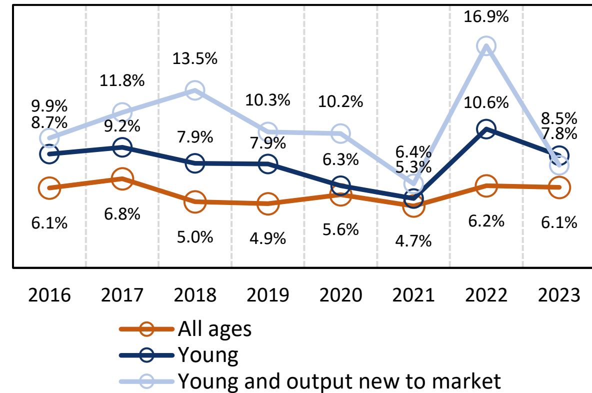
**A non-negligible share of EU firms faces challenges to access the necessary financial resources for their operations and growth, with the difficulties more pronounced for smaller firms**. In the European Union, the share of finance-constrained firms remains significant (Figure 1). As of the most recent EIB Group Survey on Investment and Investment Finance, more than 6% of EU firms fall into this category. However, the percentage varies across different EU countries, ranging from 3% to 18%. The share of finance-constrained firms is persistently higher among SMEs than among large companies. The main constraint reported by EU firms is rejection (that is, firms sought external finance but did not receive it), followed by an insufficient amount of finance received (Figure 3).

**Figure 1: Share of finance-constrained firms in the European Union, by firm size class**



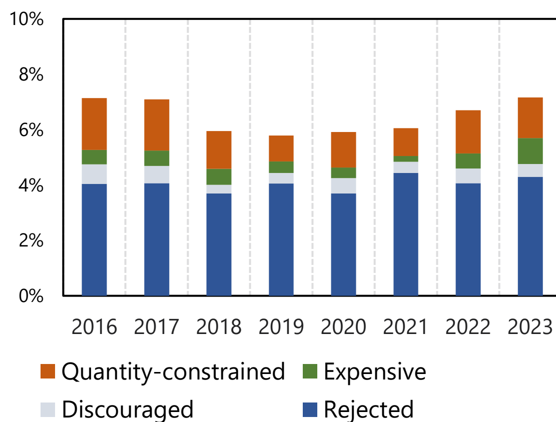

Source: EIB Group Survey on Investment and Investment Finance (EIBIS), 2023.

**Figure 2: Share of finance-constrained firms in the European Union, by firm age and innovation class**



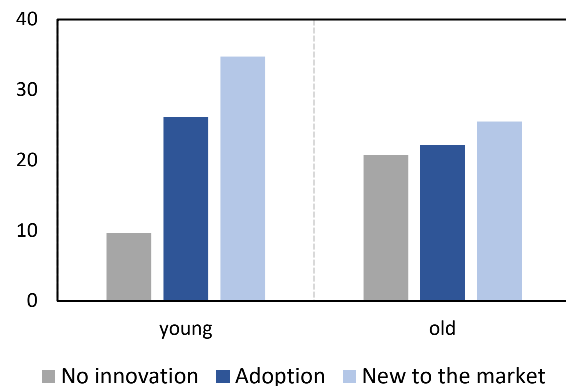

Source: EIB Group Survey on Investment and Investment Finance (EIBIS), 2023.

**Figure 3: Share of finance-constrained firms in the European Union, by source of constraint**




Source: EIB Group Survey on Investment and Investment Finance (EIBIS), 2023.

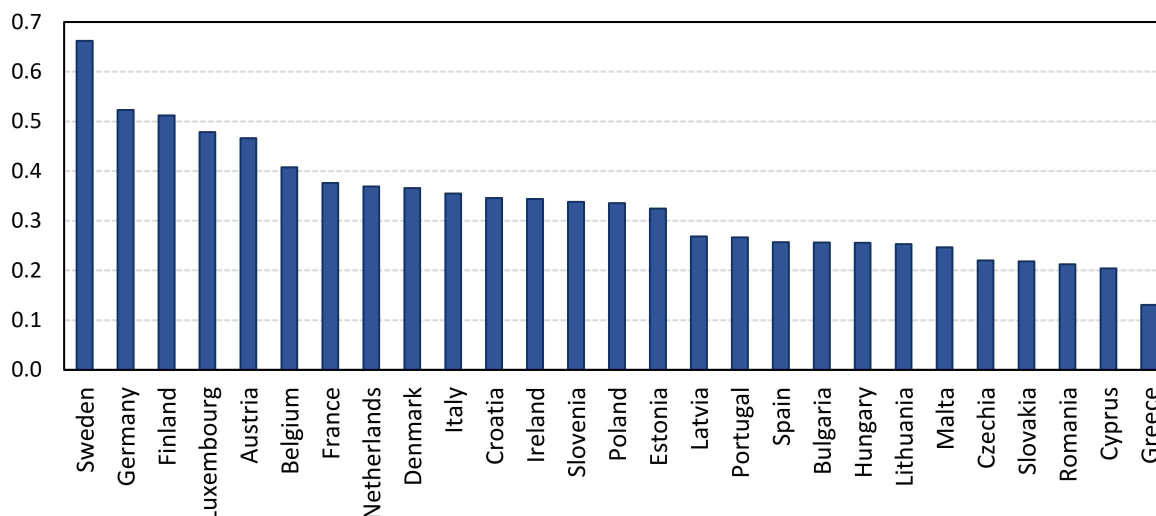
**Figure 4: Firms expecting a deterioration in the availability of external finance in the next 12 months (% of firms)**




Source: EIB (2024), based on EIBIS 2023.

**The EIF SME Access to Finance Index confirms the cross-country variation.** As a composite indicator, the index summarises the state of SME financing for each of the EU Member States and shows the relative ranking in terms of access to finance (Figure 5). It is composed of sub-indicators related to loans, equity, credit and leasing, as well as macro factors.[5] It confirms the cross-country variation as regards SMEs' access to finance, mentioned above.

**Figure 5: The 2022 EIF SME Access to Finance Index**




Source: Torfs (2023)

**Given the economic importance of SMEs for the European economy, market failures impairing their access to finance come at a high cost.** SMEs contribute more than half of the value added of the non-financial business sector and close to two-thirds of total employment in Europe (Table 1).[6] The relative importance of SMEs in national production and employment varies substantially between EU Member States. For example, Greek SMEs, employing close to 85% of the total workforce, contribute significantly more to aggregate employment than French SMEs, which employ about 56% of the workforce in France.[7]

**Table 1: EU firms characteristics by size**

| **Size class** | **Number of enterprises** | | **Employment** | | **Value added** | |
|---|---|---|---|---|---|---|
| (number of employees) | Number | % | Number | % | € bn | % |
| Micro (0-9) | 30 119 467 | 94.1% | 48 498 126 | 30.3% | 1 808 | 19.2% |
| Small (10-49) | 1 578 954 | 4.9% | 30 277 970 | 18.9% | 1 513 | 16.1% |
| Medium (50-249) | 246 577 | 0.8% | 24 628 019 | 15.4% | 1 610 | 17.1% |
| Large (250+) | 52 704 | 0.2% | 56 503 915 | 35.3% | 4 463 | 47.5% |
| **Total** | 31 997 702 | 100.0% | 159 908 030 | 100.0% | 9 393 | 100.0% |

Source: EIB staff calculations based on Eurostat structural business statistics (SBS).
Note: Number of enterprises and employment based on 2022 data. Value added from 2021. Eurostat SBS cover NACE sectors B-S (excl. O); therefore, it covers a subset of the potential outreach given that the EIB Group also supports SMEs in the agricultural sector (sector A).

[5] For detailed results see Torfs (2023), and for methodology, Gvetadze et al. (2018).
[6] See also, for example, European Commission (2023): "Annual Report on European SMEs 2022/2023." Technical report.
[7] Eurostat structural business statistics for 2022.

**SME growth is a catalyst for overall economic growth and productivity.** As SMEs grow and innovate, they increasingly contribute to productivity and generate added value. Business dynamism also ensures the diffusion of technologies and innovation across firms, preventing the productivity gains from remaining confined to a few highly productive firms. As such, it is essential to address access to finance for such businesses, for an inability to do so could impair job creation, the adoption of innovations and overall productivity growth.[8]

**Support for young innovative businesses — startups and scale-ups — is critical for innovation and competitiveness**. Business dynamism and the reallocation of resources from older, less efficient firms to younger and more innovative firms is a key driver for innovation, productivity growth and competitiveness.[9] Building a financial ecosystem that is effective at facilitating the formation and growth of new firms, from early-stage startups to scale-ups and eventually "unicorns", is thus essential for EU competitiveness.

**Finance constraints impair SMEs' and mid-caps' vital role in the green and digitalisation transition and the promotion of gender equality**. Going forward, the net-zero transition will require a substantial increase in green investment by businesses, including for more energy-efficient buildings and equipment, alternative fuels, the circular economy and low-emissions vehicles, all of which need to be accompanied by the rapid adoption of new digital technologies. Meanwhile, addressing finance constraints for women entrepreneurs and women-led businesses is needed to reduce economic gender inequalities.

## The market failures affecting smaller businesses' access to finance

The need for public policy intervention in this area is the result of market failures and gaps that can be grouped as follows:

- **Structural market failures — Asymmetric information** and **screening costs** are established in the literature as the main structural cause of the financing gap for smaller businesses.[10] This creates an **adverse selection** situation, in which lenders resort to offering worse financing conditions based on average risks, rather than identifying and selecting better clients. Likewise, lenders typically respond by raising **collateral requirements**.[11] Smaller firms, innovators and younger firms with no track record are more affected. In addition, **discrimination** in financial intermediation can result in gender inequalities in access to finance.[12]
    - **Market development** — In addition to mitigating the above-mentioned market failures, public development banks can also have a **market-creating and shaping role**, particularly as cornerstone investors helping to establish **strategic markets** (such as the European venture capital market), to nurture emerging industries that are critical to EU competitiveness or to foster the development of specific market segments, for example, microfinance in Europe, SME-focused private debt, or specific securitisations (such as SME-focused or "green"). Public intervention provides a coordinating role to achieve economies of scale and catalyse private finance.
    - **Strategic goals** — Investments in areas such as environmental and social sustainability generate **positive externalities and public goods**. Similarly, innovation and strategic objectives such as digitalisation can be seen as generating public goods for the EU economy, particularly regarding productivity growth and competitiveness.
- **Cyclical market failures — Financial crises and exogenous** shocks may necessitate countercyclical interventions. Both liquidity shocks and capital constraints (from regulatory measures or legacies of non-performing loans) may force banks to ration credit supply to corporates. Moreover, heightened uncertainty may drive a "flight from risk", which particularly affects equity and quasi-equity finance for young and innovative companies.

**Each of these market failures and goals results in finance gaps** for different types of firms or investment situations. Available estimates of the size of these gaps are described in the following section.

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8 Rahaman, 2011; Gerlach-Kristen et al., 2015; Cornille et al., 2019; Moscalu et al., 2020.
9 CompNet Task Force, 2014.
10 Berger and Udell, 1998, 2006; Hadlock and Pierce, 2010; De Jonghe et al., 2020.
11 Beck and Demirguc-Kunt, 2006.
12 Discrimination is not necessarily prejudicial, but may also be statistical in nature: see, for example, Pavlova and Gvetadze, 2023.

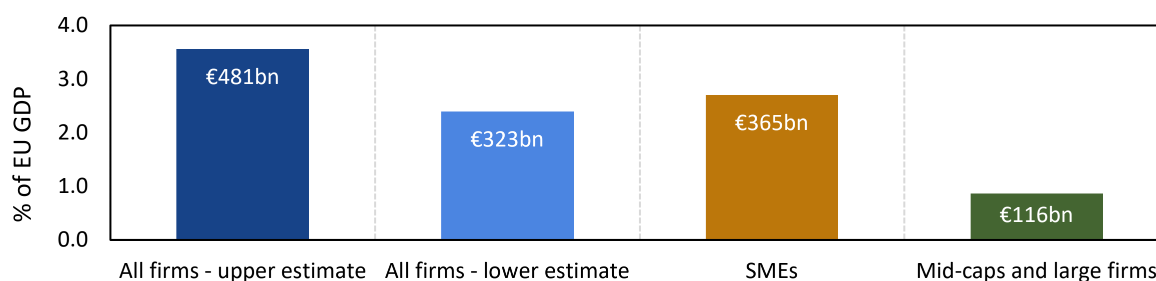
## The credit gap for SMEs and mid-caps in Europe

**Credit gap estimates depend on how the desired level of lending is defined, as well as on hard-to-observe variables, making it difficult to endorse a narrow estimate**. Broadly speaking, two approaches have been deployed in the literature, macroeconomic approaches and methodologies centred on firm-level data.[13]

**One credit gap estimate is provided by EIB research using firm-level data from the Enterprise Survey.**[14] It focuses on firms that stated they need a loan, but which were discouraged from applying for a number of reasons — unfavourable interest rates, high collateral requirements, complex application procedures, insufficient loan amounts and fear of being rejected. The methodology applies a scoring model to assess the creditworthiness of these firms, to screen out firms that would have been rejected had they applied for loans. It adjusts for observable firm-specific differences in the pool of non-applicants vis-à-vis the pool of applicants, while controlling for unobservable factors common to firms operating in a given country or sector. The desired credit volume of creditworthy discouraged firms can then be estimated from aggregate lending statistics to give the estimated credit gap. Adjustments for institutional quality or banking sector characteristics yield higher and lower bounds for the estimate.

**Estimating creditworthy discouraged firms yields an estimated credit gap of 2.4% to 3.6% of EU GDP, or €323bn to €481bn per year**. While 26.6% of EU firms receive a loan in the period examined, some 5.2% of all firms are discouraged but creditworthy. The credit requirement of these firms yields the estimated credit gap. It is significantly higher for Southern Europe than for Northern and Western Europe, with Central and Eastern Europe close to the EU average.[15] The corresponding credit gap for EU SMEs makes up 76% of the EU total (2.7% of GDP at the upper bound, or €365bn).

**Figure 6: Estimated credit gap for discouraged but creditworthy EU firms (% of GDP)**




Source: EIB staff estimates based on the Enterprise Survey. Volumes in euros are per year.

## Different EIB Group instruments target different market failures and firm types

**Policymakers can employ a wide range of instruments to support SMEs in the presence of market failures, with each instrument addressing a distinct financing need.** For example, access to affordable credit lines and guarantee programmes enables SMEs to invest, expand and mitigate liquidity shocks, particularly during economic downturns. Guarantees reduce the risks for investors, encourage private-sector participation and can be instrumental in directing investment towards projects of strategic importance for the implementation of EU policies and priorities. By bundling financial assets (such as loans) into securities, securitisation allows banks to manage and offload credit risk, making them more resilient to financial shocks and economic downturns.[16] Subsidies are usually employed to promote desired outcomes (for example, adopting green technologies).

[13] IFC (2017) also exploits firm-level data and identifies a financing gap for MSMEs across 128 developing economies of around $5.2tn, or 19% of GDP on average. The fi-compass (2019) study uses the 2018 wave of the European Central Bank (ECB)'s SAFE survey to estimate the debt financing gap in the European Union at €177bn or 1.1% of EU GDP. See also Lopez de Silanes et al. (2015) who quantify the financing gap for some EU countries making use of both micro and macro data.

[14] See EIB (2023: 123-5). The methodology is also reported in full in Akba, Betz and Gattini, 2023.

[15] However, these differences may partly reflect macroeconomic variations over time, as surveys in Northern and Western Europe took place later that those elsewhere.

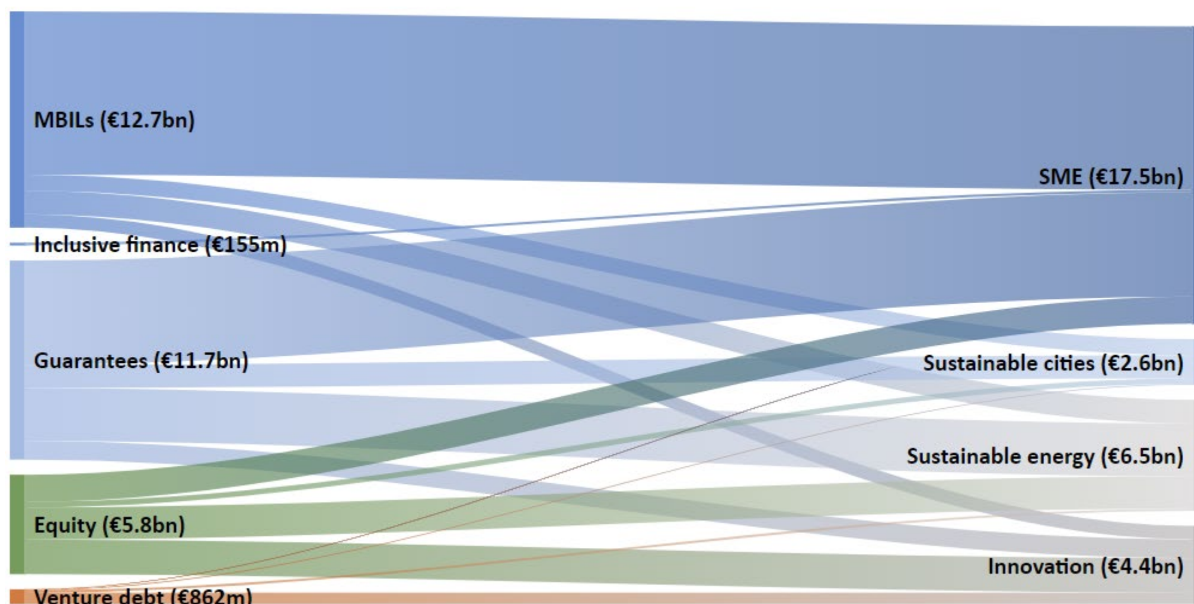
[16] For detailed information about the European securitisation market, please refer to Kraemer-Eis et al. (2023).

Similarly, tax credits may incentivise specific behaviours, such as investment in research and development and employee training. Equity and quasi-equity financing is particularly beneficial for startups and high-growth enterprises in need of patient capital to support innovation.

**At the same time, public support plays a pivotal role in the mobilisation of private capital to support and foster a vibrant business environment**. Intermediated lending and guarantees, for example, could mobilise a multiple of three times the initial investment. (Quasi) equity financing, on the other hand, mobilises a multiple of this, but consumes more capital from the Bank's own balance sheet. For example, for higher risk-based instruments under the European Fund for Strategic Investments (EFSI) a multiplier of 8.9 is estimated using data on venture capital investments in Europe.[17]

**Financial support for businesses makes up around 43% of EIB Group activity, by volume, and contributes to all Public Policy Goals (PPGs) of the EIB Group.** EIB Group financing under these instruments in 2023 amounted to €31.1bn, of which €14.9bn was from the EIF. On average, around 83% of EIB financing and more than 85% of EIF financing for businesses supports SMEs. The funding is provided through intermediated lending (€12.7bn), guarantees (€11.7bn), (quasi) equity (€6.7bn) and microfinance (€155m).

**Figure 7: EIB Group's private-sector instruments provided to businesses and related PPGs (2023)**




Source: EIB staff calculations based on EIB private-sector instruments' contribution to PPGs in 2023.
Note: In limited cases, some of the lending covered may include financing to public entities.

**Different EIB Group instruments target specific market failures and firm types:**

- **Credit guarantee schemes and portfolio guarantees** are a commonly used response to market failures, as guarantees reduce the risk of lenders and favour the provision of financing to viable businesses that are constrained in their access to finance.[18] Guarantees might become even more important going forward. Due to the trend towards a knowledge-based economy there is also a trend towards more intangible investments in the real economy; as a consequence, firms might have lower collateral capabilities. Without guarantee mechanisms, this can lead to a comparative disadvantage for EU firms that are dependent on a largely bank-based financial system.

  Risk-sharing products such as asset-backed securities (ABS) can also strengthen the capacity of banks to supply new loans. By bundling financial assets (such as loans) into securities, securitised products unlock collateral value and alleviate banks' capital constraints due to portfolio risk management restrictions.

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[17] EIB EFSI multiplier methodology calculation.
[18] Kraemer-Eis and van Steensel, 2016.

- **Lending, such as multi-beneficiary intermediated loans (MBILs)**, addresses the disadvantages faced by SMEs and mid-caps arising from asymmetric information, screening costs, collateral requirements, etc. MBILs and guarantees can also play an important countercyclical role, countering credit rationing when the banking sector faces liquidity or capital constraints, as they can be rapidly and broadly deployed according to market needs. Moreover, thematic MBILs and portfolio guarantees are used to target issues such as climate action, gender, and youth employment.
- **Venture investments** target the unmet needs of innovative companies by filling their financing gap while also catalysing private financing into Europe's fragmented and underdeveloped VC markets.
  - **EIF's indirect investments** into venture capital (VC) and private equity (PE) funds aim at developing a European VC/PE ecosystem. The scale and scope of investments, along with the added value on fundraising, also enables the EIF to promote best market practices. Moreover, it can counterbalance periods when equity financing suffers from a "flight from risk". Overall, it addresses the early-stage to later-stage financing gap faced by high-growth enterprises and allows firms to achieve sufficient scale to compete globally, particularly in strategic sectors such as biotech, greentech, and digital technologies.
  - **EIB's direct investments** serve early and later-stage financing needs of high-risk companies with groundbreaking technologies, for example via European Innovation Council Fund (EIC Fund) investments and financial support for commercial-scale first-of-a-kind (FOAK) demonstrations. Direct investments, such as venture debt products and co-investments alongside specialised private and public sector players, such as the EIF-backed ETCI funds, are also directed to close the scale-up financing gap faced by businesses operating in new market segments, emerging sectors or untapped geographies.

**Figure 8: How EIB Group business support instruments address market failures**

| Market failures and investment needs | | Standard/ established (M)SMEs, mid-caps | Startups: Early/later-stage, and scale-ups |
|---|---|---|---|
| **Structural:** | • Asymmetric information<br>• Screening costs<br>• Discrimination | • MBILs<br>• Guarantees (such as risk sharing, securitisation) | Venture investments:<br>• VC/PE Mid Market<br>• EIC Fund<br>• Venture Debt (such as first-of-a-kind, scale-up)<br>• Co-investments (such as under ETCI) |
| **Cyclical:** | • Credit rationing<br>• Capital constraints<br>• Flight from risk | | |
| **Strategic goals:** | • Innovation/digitalisation<br>• Sustainability | • Thematic MBILs<br>• Thematic guarantees | |
| **Market development:** | • Nascent markets<br>• Strategic industries<br>• Establishing market scale | | |

**The above also shows that the EIB Group is key to promoting single market objectives and the development of the Capital Markets Union (CMU).** Among other things, the CMU aims at enhancing access to finance for SMEs, particularly by strengthening traditional bank financing in areas where there are market failures, and by diversifying SMEs' financing sources with alternative financing tools. The EIB Group approach is fully in line with these objectives, with the support of traditional and alternative financing forming the product mix: lending and guarantees enhance traditional bank lending, while the EIB Group also diversifies SMEs' access to finance by offering alternative financing tools like VC/PE, venture debt or private credit. The revival of the securitisation market is also a specific objective of the CMU.[19]

[19] This was recently specifically mentioned in the report "Much More Than a Market: Speed, Security, Solidarity – Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens" by Enrico Letta, as well as in the report of the French Expert Committee on the Capital Markets and for a Savings and Investment Union.

# Supporting businesses through intermediated lending and guarantees

A large share of smaller European businesses is affected by adverse financing conditions and even the rationing of credit. Intermediated lending and loan guarantees are the two main instruments used by the EIB Group to address these market failures. Impact studies by both the EIB and the EIF provide evidence of the success of these instruments in promoting investment and the creation of jobs.

## Why promotional banks support lending to SMEs and mid-caps

**SMEs constitute the backbone of the EU economy**. They account for more than half of the value added generated by the non-financial business sector and close to two-thirds of total employment in the European Union. The ability of SMEs to access finance and invest is thus essential to employment generation at scale. It is also critical for the large-scale adoption of innovations, such as digital and green technologies, as well as investments in human capital. All these are, in turn, vital for productivity growth, sustainability and competitiveness in the European Union.

**Small business size is linked with an exacerbation of structural market failures impairing access to finance.** It is well established in the literature that smaller businesses disproportionately suffer from asymmetric information, whereby lenders have difficulty assessing the true creditworthiness of business activities and associated screening costs.[20] This leads to adverse selection, in which lenders resort to offering worse financing conditions based on average risks, rather than identifying and selecting better clients. Lenders typically respond to these difficulties by raising collateral requirements which particularly affects younger and more innovative firms. Access to finance is also structurally impaired by discrimination, leading to worse outcomes for women-led businesses, for example.

**Rationing of credit to smaller businesses may be strongly exacerbated by economic downturns**. Both liquidity shocks and capital constraints may force banks to pull back from more challenging lending to smaller businesses, threatening to precipitate a wave of business failures or job losses, with further procyclical effects on the macroeconomy. Small and medium-sized companies located in regions with lower per capita GDP (cohesion regions) tend to have less access to credit than those in richer geographical areas. Extending access to finance for expansion and innovation activities for firms in lagging regions can contribute to convergence given the tighter credit constraints.

**Although mid-caps suffer less from market failures, they are nonetheless a cost-effective target of support**. Research has consistently shown that the impact of individual intermediated or guaranteed loans is greater for smaller companies, which face more severe access to finance constraints. However, targeting smaller, higher-risk firms is likely to imply greater financial risk and costs for intermediaries and public promotional banks. Given this trade-off between costs and benefits, the support of larger (but still credit-constrained) firms such as large SMEs and mid-caps may be seen as a cost-effective complement to the support of smaller firms.[21] As illustrated in Box A, mid-caps also face difficulties in accessing finance, despite their key role as drivers of growth.

**BOX A: Unlocking mid-caps' potential to foster economic dynamism in the European Union**

A recent EIB-EPC (2024) report confirms mid-caps' key role as drivers of Europe's growth. Building upon data from the EIB Investment Survey (EIBIS), the report suggests that mid-caps could be Europe's hidden champions, particularly in three fields that are essential for innovation and global competitiveness: investment, training and productivity.

Mid-caps invest more than SMEs and large firms, both in terms of number and intensity per FTE employee. Mid-caps are more likely to invest in training. Moreover, mid-caps, particularly small ones, show higher labour

[20] Berger and Udell, 1998, 2006; Hadlock and Pierce, 2010; De Jonghe et al., 2020.
[21] Brault and Signore, 2019; Bertoni et al., 2019.

productivity. Large mid-caps, in turn, have a relatively high share of high-growth and very high-growth firms. Mid-caps also stand out as key vectors in facing Europe's major transitionary challenges — digitalisation, climate change and economic security. In terms of innovation, digitalisation and their perception of both climate change risks and the related investment, mid-caps are almost at par with large firms and more active than SMEs.

Notwithstanding their potential as an economic growth engine and their role in the European Union's transitions, several indicators point to difficulties for mid-caps in accessing finance. On average, mid-caps rely more on intra-group funding than SMEs and large firms. They are also less likely to issue new equity compared to other firm sizes, albeit only marginally. While larger and better capitalised than SMEs, mid-caps lack the financial resources and creditworthiness of large firms, hindering their ability to issue bonds or equities in capital markets, with the gap being wider for EU firms than for US firms (Figure 9).

Mid-caps are also less likely than SMEs and large firms to receive external financing on favourable terms. The likelihood of receiving bank finance on concessional terms, that is, loans with either subsidised interest rates or longer grace periods, falls sharply from SMEs to small mid-caps (Figure 10). A 'fall' in support once a firm outgrows the SME phase suggests that mid-caps could be performing below potential. It could also be generating lock-in effects in the SME size class, corroborating existing data on the European Union's difficulties to develop scale in companies and industries. To tackle the aforementioned challenges, policies could be more targeted, as well as more gradual, to specifically facilitate mid-caps' capability to scale up and transform.

**Figure 9: Access to market-based finance**

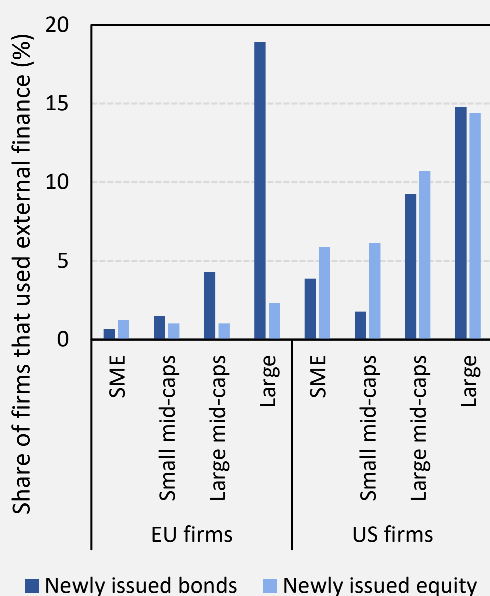
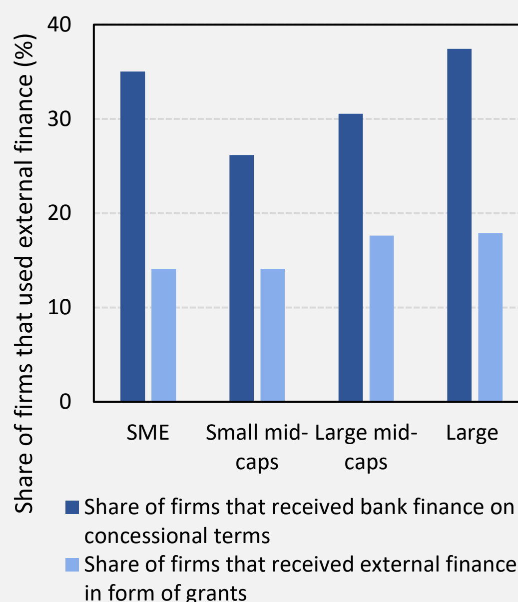



**Figure 10: Access to advantageous financing**




Source: EIB SG/ECON staff calculation based on EIBIS 2018-2023. Company size categories are based on the number of full-time equivalent (FTE) employees: SME (<250), small mid-cap (250-499), large mid-cap (500-2 999) and large (3 000+).

**Different instruments to support lending to businesses can be combined depending on the context**. MBILs, for example, may be used in economic downturns, although they directly address liquidity constraints. Guarantees may also be used counter-cyclically as they are particularly effective to de-risk business lending at scale and reduce credit rationing related to portfolio risk management positions or capital constraints.[22] For example, risk-sharing products (both linked and de-linked) are capital relief instruments combining guarantee with liquidity features. Although all instruments address structural access to finance constraints, MBILs are particularly used to address thematic concerns such as green investment. Microfinance (including guarantees benefiting microfinance institutions) has a specific role in targeting small business owners and social entrepreneurs.

[22] Similar consideration applies to support for asset-backed securitisation of SME loans.

Microfinance offers recipients opportunities to become more self-sufficient and contributes to poverty reduction and economic growth. Many microfinance institutions also focus on supporting women, recognising their vital role in economic development.

**Promotional banks also support other strategic objectives (such as gender equality) through intermediated lending to businesses.** In the case of the EIB, MBILs can be partially or fully dedicated to investments related to strategic objectives, so-called Thematic MBILs. Green eligibilities include assets and investment activities that constitute climate action and promote environmental sustainability, for example, a working capital loan to an SME producing parts for photovoltaic panels. Box B illustrates other recent initiatives to support the environmental sustainability of European businesses. Similarly, the EIB Group supports female-owned and female-led businesses to foster gender equality and women's economic empowerment.

**BOX B: Supporting the energy efficiency of European businesses**

The EIB Group has a wide array of instruments targeting environmental sustainability and climate action to serve different economic sectors and counterparty types, including SMEs and mid-caps. Energy efficiency, for example, is a central lever to decarbonise our economies, to support the competitiveness of the European Union's economy and enhance energy security by reducing dependency on carbon-intensive fossil fuels. SMEs and mid-caps benefit in particular from energy efficiency due to their often high reliance on affordable energy and restricted access to credit for long-term investments.

The EIB Group's product suite includes funding instruments, guarantees and equity, as well as advisory services. Thematic MBILs, for example, enable beneficiaries to allocate EIB funds to investments and activities in support of climate action and environmental sustainability. Moreover, the offering has recently been strengthened through two InvestEU products supporting the green transition of SMEs and small mid-caps.

Under InvestEU, the EIB Group and European Commission jointly launched the Sustainability Guarantee in 2022. The Sustainability Guarantee is a pan-EU guarantee product, specifically aimed at supporting the green and sustainable transition of SMEs and small mid-caps. With a guarantee rate of up to 70%, the programme supports investments in climate change mitigation and adaptation, the transition to a circular economy, related to the environmental impact and sustainable management of natural resources, and the protection and restoration of biodiversity and ecosystems/nature-based solutions. The guarantee can be increased up to 80% in the case of final recipients located in just transition or cohesion regions, private individuals or housing associations. The Sustainability Guarantee is also the largest EIF-fronted guarantee product under InvestEU, by allocated resources, with a total guarantee amount allocated (European Commission, Member States and EIB Group resources) of around €7bn. As of December 2023, the EIF signed operations for the Sustainability Guarantee with about 100 financial intermediaries for a total guarantee amount of around €2.8bn.

The EIB Group also executes a green securitisation programme of €800m through InvestEU. Green asset securitisation incentivises the financing of climate action and sustainability by bank and non-bank players. In particular, the proposed lending envelope supports new projects in the European Union through the participation in mezzanine tranches of securitisation structures issued by EU financial institutions.

In 2023, the EIB's financing to energy efficiency reached an all-time-high of €8.3bn and the EIB's contributions are expected to increase going forward. The EIB is set to step up its support to accelerate the adoption of energy efficiency technologies across SMEs by customising instruments to address the specific needs of the energy efficiency value chain. Possible avenues for doing so include the expansion of its green asset securitisation, blending its loans and guarantees with grants from EU or national sources to offer green bonification incentives, and scaling up the Green Gateway and other advisory programmes.

## Evidence on the impact of intermediated lending to SMEs and mid-caps

**Intermediated lending is a way for public promotional banks to address market failures affecting credit availability and conditions.** In this case, commercial banks with extensive branch networks are used as intermediaries to on-lend liquidity provided by an institution such as the EIB. Central to this arrangement is a contractual agreement on the transfer of financial advantage from the promotional bank to the final beneficiary firms. This typically takes the form of lower interest rates or longer loan tenor periods than the commercial bank would otherwise be able to supply, and generates impacts at the firm level in the following ways:

- Better financing conditions can contribute to better economic performance of beneficiary SMEs and mid-caps due to strengthened profitability, which in turn promotes investment and job creation.
- It creates an incentive for the intermediary to extend credit to more firms (increasing lending at the margin), by making borrowing and investment more attractive and feasible for firms, whilst also increasing the number of viable potential clients for the intermediaries. It thereby counters the effect of adverse selection.
- It can alleviate banks' liquidity constraints, particularly in economic downturns. A public line of credit can expand the funding base of banks. Banks are then able to lend to firms presenting viable investment projects that would otherwise have been rejected, or only partially financed, due to a lack of funds.

**The EIB Economics Department assessed the impact of the EIB multiple-beneficiary intermediated loans (MBILs) to firms in the European Union**, using an approach that measures the performance of supported firms relative to similar firms that did not access an EIB loan.[23] The study encompasses loans provided to 96 830 businesses between 2008 and 2017, the largest sample of EIB beneficiaries analysed to date. Data on the EIB loan beneficiaries were linked to firm-level data providing balance sheet and other economic information. A counterfactual analysis was then carried out by selecting a control group of firms with comparable financial and other characteristics from data on over two million firms. The analysis compared data from before and after the treated firms received an EIB-backed loan.

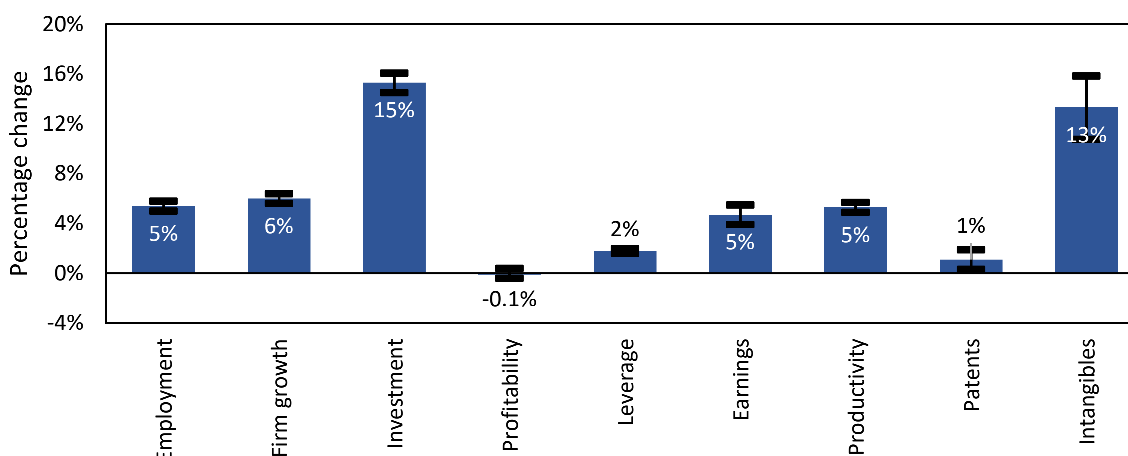
**The results show that, relative to their peers, EIB loan beneficiaries**:

- **Created jobs faster**, achieving employment 5.4% higher on average in the three years after the loan (rising from 2.5% higher after one year, to 7.7% after three years).
- **Grew faster**, with total assets increasing by 6.0% relative to the control group in the three years after the loan.
- **Invested more**, with a 15.3% higher increase in tangible fixed assets over three years after the loan, and a 13.3% higher increase in intangible fixed assets. This is achieved despite an increase in leverage of only around two percentage points.
- **Increased earnings** (4.7%) **and productivity** (value added, 5.3%). Profitability did not increase in the period examined.
- **Were more likely to innovate**, achieving a small but significant increase in patenting activity (1.1% more applications).

**The impact on firm growth was larger for smaller firms, younger firms, and recipients in less developed (cohesion) regions.** Grouping recipients using the 2014-2020 cohesion region classification, results show that relative to beneficiaries located in more developed regions, beneficiaries in less developed regions experience a higher impact on employment, firm growth, investment, earnings and productivity (by 2 to 5%).[24] Recipients in transition regions report increases in employment that are about 2% higher than those in more developed regions

[23] Sinnott et al., 2023.
[25] For CESEE, see Gereben et al., 2019; for the European Union, Barbera et al., 2020 and Amamou et al., 2020.

**Figure 11: Estimated impact of EIB intermediated loans (% increase over counterfactual)**




Source: EIB staff estimations based on EIB allocation data linked to corporates' financials in Bureau van Dijk's Orbis database.
Note: Bars represent the estimated effect for EIB beneficiaries compared to the ones in the control group in the three years after the loan. The bands show the 95% confidence intervals of the estimates.

**These results confirm earlier findings of the positive effect of the EIB's SME financing on employment, revenues and profitability** in Central, Eastern and Southeastern Europe (CESEE) and the European Union.[25] For example, a recent study shows that EIB intermediated lending to SMEs in the Western Balkans creates 15 additional jobs for every €1m of EIB loan issued, and that the impact is larger for firms without previous access to finance.[26] Moreover, longer maturities and more advantageous loan pricing of EIB-supported loans are associated with larger employment and investment effects.[27]

## Evidence on the impact of portfolio guarantees

**Credit guarantees are an important policy tool to support credit availability for SMEs, particularly during economic downturns but also in order to mitigate structural market failures.** By absorbing risk from the lender, guarantees act as a substitute to increased collateral requirements. This reduces moral hazard and credit rationing due to asymmetric information.[28] It also enables intermediaries to offer better conditions: larger financing, longer maturities, lower costs to creditworthy but risky firms, including younger and more innovative firms with little collateral.[29] This function becomes critical at times of heightened risk and/or risk aversion, for example during a credit crunch.[30] Yet, for public guarantee support programmes to be successful it is key that proper risk-sharing mechanisms, that exist in different variants, are put in place.

**The EIF implements and manages credit guarantee programmes on behalf of the European Union.** The guarantees are provided at the portfolio level, involve a financial intermediary and include risk-sharing mechanisms. This ensures a catalytic effect (crowding-in) of the guarantee products, as well as the avoidance of moral hazard effects. In 2023, the EIF provided €14.9bn in financing for corporates, through equity, guarantees and inclusive finance, with a key focus on finance for SMEs and mid-caps, innovation and sustainable energy. The EIF's guarantee programmes, guaranteeing outstanding SME portfolios of banks throughout Europe, have the added advantage of sharing SMEs' credit risk across the European Union.

**Econometric studies by the EIF have shown positive and significant impacts on asset and employment growth.**[31] The studies used statistical techniques to compare SME beneficiaries of 360 000 loans, worth €22bn

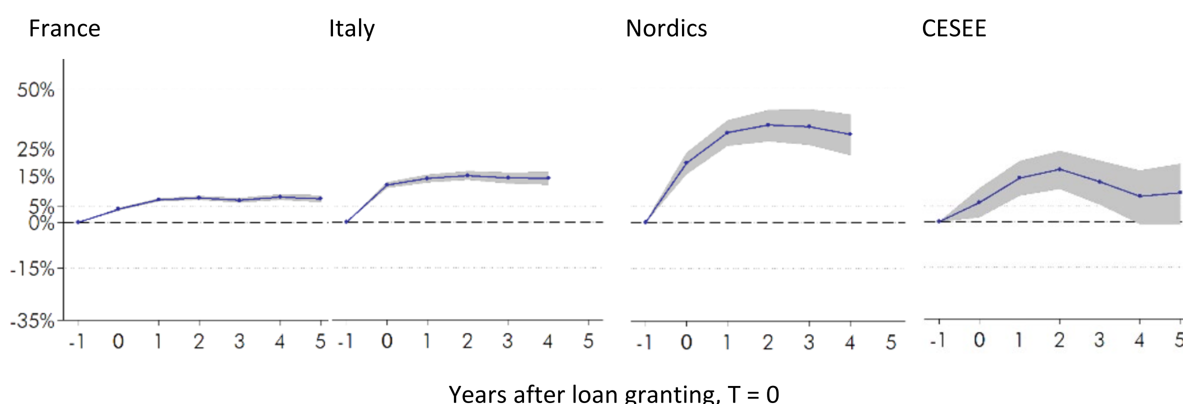
[25] For CESEE, see Gereben et al., 2019; for the European Union, Barbera et al., 2020 and Amamou et al., 2020.
[26] Gatti et al., 2023.
[27] Barbera et al., 2020.
[28] Stiglitz and Weiss, 1981; Berger and Udell, 1992.
[29] Kraemer-Eis et al., 2018.
[30] Hancock et al., 2008.
[31] Asdrubali and Signore, 2015; Bertoni et al., 2018, 2019; Brault and Signore, 2019.

that were guaranteed by the EIF, to similar firms that did not receive EIF-guaranteed finance. EIF-guaranteed loans:

- **Increased firms' assets** by 7% to 35%, depending on firm type and region.
- **Increased employment** by 8% to 30% (Figure 12).
- **Reduced bankruptcy rates** by about a third, and by as much as a half in some regions.
- **Had no significant effect on profitability**, suggesting an effective shift to a higher-investment, higher-employment equilibrium.

The positive economic impact of credit guarantees also appeared to be stronger for younger and smaller firms, which typically experience more severe credit rationing in times of economic stress. The positive impact of the EIF loan guarantee scheme is in line with other firm-level evidence on the impact of guarantee schemes on employment, firm growth, investment and productivity.[32] On the bank side, there is also evidence that public-guaranteed loans can be leveraged to change banks' lending behaviour, promoting greener industries' growth and supporting the global economy's decarbonisation.[33]

**Figure 12. Impact on employment of EIF credit guarantees to SMEs (Difference between treated firms and controls, log scale)**




Source: Brault and Signore, 2019.

## The countercyclical role of intermediated lending and guarantees

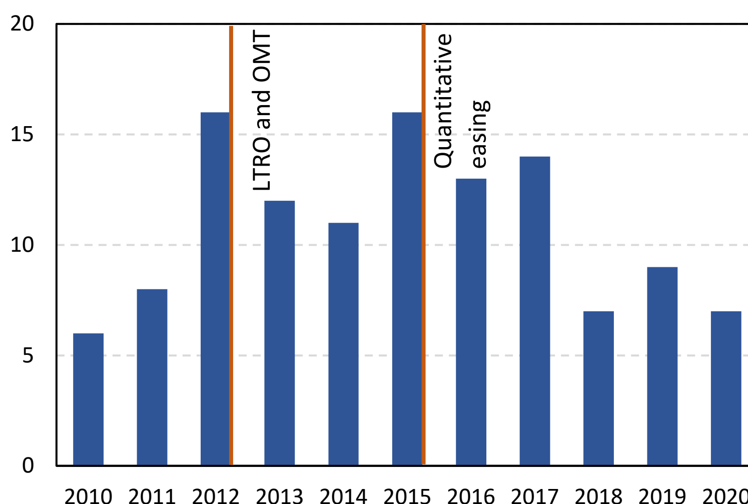
**Public lending and guarantee schemes are an important countercyclical policy tool.** Public guarantee schemes are especially important in times of economic downturn, as part of a countercyclical policy response aiming to fill the financing gap for SMEs, particularly in the case of credit market failure.[34] Moreover, some guarantee products are standardised and can be scaled up relatively quickly during crises (and subject to available budget). Empirical analyses confirm that portfolio guarantee facilities have successfully acted as countercyclical tools during past crises.[35] Consequently, these countercyclical actions contribute to macroeconomic stability. SME financing instruments at the EU level have the additional advantage of making countercyclical policies available to a similar extent to all Member States. Countercyclical actions like the European Guarantee Fund in response to COVID-19 provided a buffer at a time when the full economic impact of the crisis was uncertain.

The transfer of financial advantage under MBILs shows a degree of countercyclical variation. The most recent EIB impact study of intermediated lending covered the period 2008 to 2020.[36] During that period, the volume of loans peaked in 2016, in the wake of the sovereign debt crisis, before declining until just before the pandemic. Average loan maturity remained stable but transfer of financial advantage to financial beneficiaries reached peaks of 16% of total SME lending costs in 2012 and 2015, before declining (Figure 13). Its evolution over time mirrors the evolution of financial market liquidity and credit market conditions to firms, with the ECB intervening

[32] Brown and Earle, 2017; Erhardt, 2017; Horvath and Lang, 2021; Martín-García and Morán Santor, 2021.
[33] Buchetti et al., 2024.
[34] Stiglitz and Weiss, 1981.
[35] Asdrubali and Signore, 2015; Lagazio et al., 2021.
[36] Sinnott et al., 2023.

to foster market liquidity first in 2012 (long-term refinancing operations (LTRO) and outright monetary transactions (OMT)) and then in 2015 (quantitative easing), after which credit conditions eased.

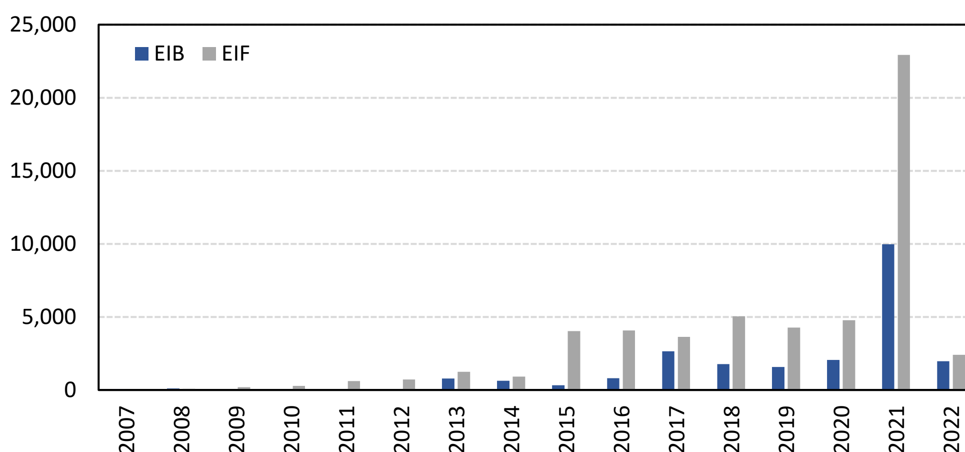
**Figure 13: Average transfer of advantage to beneficiary firms (share of lending rate, %)**




Source: Sinnott et al., 2023.

**By de-risking investments, public guarantee schemes are particularly effective during downturns, as envisioned by the performance of the EGF during the pandemic.** In 2020, the EIB Group set up the Pan-European Guarantee Fund (EGF), a €24.4bn fund, backed by 22 Member States, to help businesses weather the economic impact of COVID-19 and get back on track after the shock. The EGF offered a more diverse product mix than national schemes, covering guarantees, asset-backed securities, equity-type funding and equity investments. The increased demand for the guarantees is visible in the evolution of the EIB Group's guarantee volumes over time (Figure 14). The uptake of EGF funds was particularly high for countries experiencing a larger drop in GDP as a result of the pandemic, and it was particularly effective when it complemented national support programmes. As the COVID-19 pandemic hit, national governments introduced a comprehensive range of support measures for businesses. However, owing to variations in fiscal capacity, not all countries could respond to economic shocks with the same strength. The EGF provided a tool to support firms uniformly across the European Union, complementing the coverage of national support programmes where there were gaps.

**Figure 14: EIB Group guarantees over time (signatures, EURm)**[37]




[37] It is important to note that the finally mobilised amounts are significantly higher due to the crowding-in/catalytic effect of the guarantees.

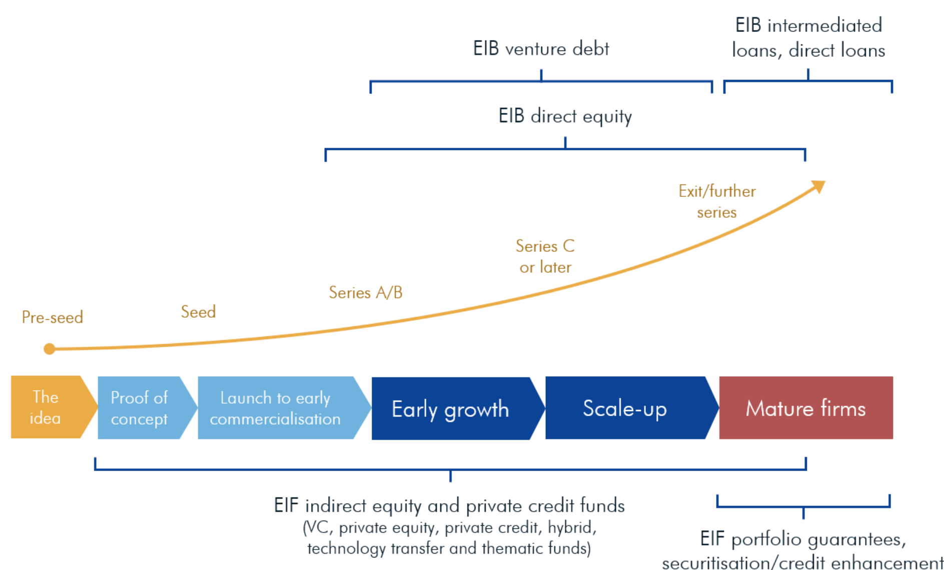
# Supporting startups and high-growth businesses

The EIB Group's venture investment plays a critical role in the early development and growth of startups and innovative companies with high growth potential. Despite being key contributors to European productivity growth and job creation, the European venture capital markets remain underdeveloped and benefit from public involvement. Over the last few years, the EIF has become a key player in the European Union's VC market, by indirectly investing in VC funds (both well-known and first-time teams) and by catalysing additional private investment. Like for its guarantee products, the EIF follows an intermediated business model in order to catalyse additional financing and further develop the European VC ecosystem. In turn, the EIB has gained additional relevance in the provision of direct investments to meet the early and later-stage financing needs of high-risk companies. Impact studies have shown the effectiveness of EIF-backed venture capital for startup survival and growth and of EIB venture debt loans on recipients' performance and ability to secure further financing.

## Firm growth and the accompanying financing

**As startups and high-growth companies pass through the distinct stages of growth, their financing needs change.** At a nascent stage, founders often rely on self-funding, grants or loans from friends and family. As business ideas turn into companies, startups depend on seed capital to finance investment and then early-stage venture capital when they need to launch their products. Venture capital financing comes at the cost of dilution for the founders, as these give up greater control over the company in exchange for funding, mentorship and access to a broader network. Increasingly successful startups rely on growth financing to scale up. Examples of scale-up financing instruments include later-stage venture capital, co-investments and other quasi-equity instruments, such as venture debt or hybrid form of debt and equity. Figure 15 provides an overview of the financing typically used during the various stages of firm growth. The schematic is, however, a simplified rendering for illustration purposes, as the different stages are not always as clear-cut in practice and the various types of financing may be tapped into earlier or later depending on firms' needs.

**Figure 15: Stages of firm growth**




**Venture capital financing is paramount for startups, as access to finance for these firms is hit the hardest by market failures**. Startups' access to finance is particularly affected by market failures because of their size, lack of an established credit-history, and engagement in hard-to-evaluate innovative investments. Successful venture capital investments also provide active ownership that seeks to strengthen management expertise, deliver operational improvements and facilitate access to new markets. As such, the development of a deep, well-functioning venture capital market has positive spillovers for the wider economy in terms of innovation, productivity growth and competitiveness.

**As startups grow, quasi-equity financing provides startups and scale-ups with greater flexibility than traditional senior debt, avoiding the dilution costs associated with venture capital injections.** Quasi-equity instruments are hybrid financing instruments characterised by both debt and equity features.[38] Firms often issue senior debt only when already well-established, in the presence of lower asymmetric information costs and when they generate sufficient cash to service it. Before then, quasi-equity instruments help startups and scale-ups address the funding needs of fast-growing, innovative firms by allowing for greater flexibility and a less constraining repayment structure than more traditional senior debt.[39] Traditional debt has stricter conditions such as payment dates and covenants that require firms to be in a mature stage of their growth trajectory.

**Venture debt has increasingly gained popularity among startups in need of quasi-equity financing.** After several venture capital rounds, companies need to diversify their financing strategy, seeking a larger volume of debt-like financing to finance product development, market expansions or even working capital, while avoiding the dilution costs of equity investments. Venture debt is characterised by long maturity, designed to address the unique funding needs of fast-growing innovative companies that have already raised Series B/C equity and need additional financing to accelerate growth. To compensate for the associated higher risk, the instrument offers a higher nominal interest rate and additional upside as compared to standard debt. Venture debt is an important tool to assist SMEs and mid-caps heavily involved in research to continue to invest in research and development and market expansion. A good moment to raise venture debt is just after the last venture capital round to leverage on a larger equity base.

## The relative underdevelopment of the European venture capital market

**The venture capital market in the United States is around six times larger than that in the European Union**. Following the global financial crisis, the European VC ecosystem has experienced a period of significant sustained growth, driven by a combination of a maturing market, more and more success stories, serial entrepreneurs and investors, and catalytic public support such as that of the EIF. Despite these positive developments, the EU market remains a fraction of the size of the venture capital investment in the United States and has tended to trail that in China (Figure 16).[40] The distribution of venture capital investment is also very uneven across EU Member States.

**More recently, the amount of venture capital investment has contracted severely following the tightening of monetary policy.** Spurred by abundant and cheap liquidity, venture capital boomed in 2021. The boom is also explained by the realisation of market participants during the pandemic (after an initial shock) that innovative startups delivered solutions and opportunities during the crisis. However, the market underwent a strong correction in 2022 with a contraction of 15% in the European Union (31% in the United States), driven by increased financing costs and reduced risk appetite in connection with the increase in monetary policy rates. This negative impact of the monetary tightening continued in 2023, both globally and in the European Union. The liquidity dry-up affected scale-ups above all other firms, as it discouraged exits and additional funding rounds. Tighter financial market conditions add to the existing structural challenges in equity financing of startups and scale-ups, suggesting persistent financing difficulties in the foreseeable future.

**The lack of a fully developed venture capital ecosystem has contributed to a lower relative population of startups in Europe**. European startups and scale-ups are less able to rely on venture capital financing relative to those in the United States (Figure 17), leading them to resort to other sources of financing that are less suited to high-growth enterprises and pushing them to relocate or search for foreign buyers. This has also translated into fewer scale-up firms and unicorns. Nevertheless, the start-up ecosystem in the European Union is catching up, as incubators and accelerators contribute to fostering know-how, access to finance and a solid network.

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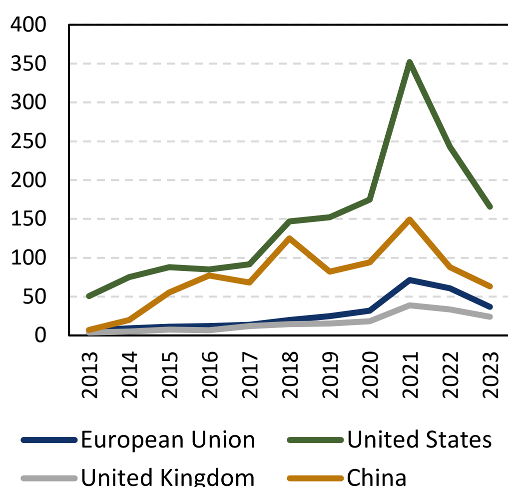
[38] Among the equity components, quasi-equity instruments can include a bullet repayment at the end and their remuneration can be linked to the equity risk of the company. Moreover, lenders can get warrants for shares in the company they lend to, but founders usually include call and put options to retain their share.

[39] Large-scale (quasi)equity financing has been critical to the dominance achieved by US firms in emerging technologies such as ICT, particularly in digital technologies and services, to achieve global market dominance through the exploitation of network effects and other economies of scale.

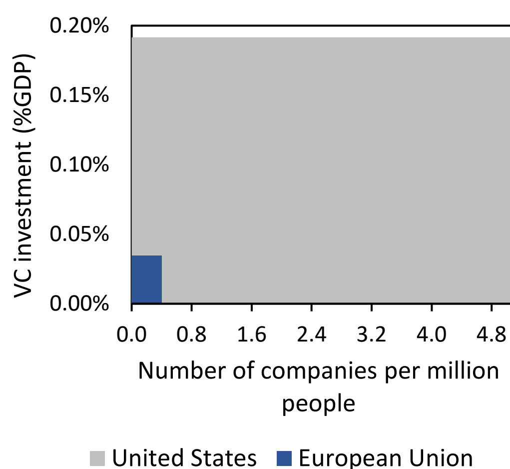
[40] For a detailed picture of the European VC and PE market please refer to Kraemer-Eis et al. (2023) and Fratto et al. (2024).

**Figure 16: Venture capital ($bn)**




Source: Fratto et al. (2024)'s calculations based on PitchBook Data, Inc.
Note: The data have not been reviewed by PitchBook analysts.

**Figure 17: The size of the scale-up ecosystem**




Source: Fratto et al. (2024)'s calculations based on PitchBook Data, Inc. and World Bank data on population
Note: The number of companies refers to the number of VC-backed companies that completed at least one deal between 2013 and 2023 with a market valuation of between $500m and $10bn. VC investment is the aggregate amount invested in those companies in the period under consideration. Number of companies and VC investment were rescaled by the population of the region. The data have not been reviewed by PitchBook analysts.

## Evidence on the impact of venture capital

**Venture capital investments have been shown to have positive microeconomic and macroeconomic effects.** At the firm level, analysis points to value added from venture capital investments by spurring business creation, firm growth and innovation.[41] VC-backed companies are drivers of growth due to their strong innovation content and scalability of ideas. As a result, research also finds an impact of venture capital investments on aggregate income, employment and regional economic growth, particularly in economically less developed regions.[42]

**The European VC ecosystem is a dense network of VC firms and startups, spanning Europe and evolving over time.** Remarkable features of this network relate to the concentration ("VC hubs") and geographic dispersion of invested capital.[43] Notably, European VC hubs tend to be highly interconnected; consistent cross-investment routes can be observed, especially among hubs with a longstanding tradition.

**As the EIF prioritises the support of cross-border oriented VC firms, this helps reduce the fragmentation across national VC markets and facilitate the build-up of a unified pan-European VC market.**[44] In addition, the EIF prioritises the support of emerging investor teams as well as teams with significant female participation, further lowering barriers to entry and promoting a more inclusive VC and private equity ecosystem in Europe. Overall, the EIF's activity is a key driver for the development of the European VC ecosystem: EIF commitments have represented an average of 10-15% of overall VC fundraising in the past ten years, as well as typically about half of the overall public VC funding in Europe (including the United Kingdom). Through its catalytic effect the EIF supports 40-50% of venture capital-backed startups in Europe in a typical year.

**Concerning aggregate effects on the European VC ecosystem, EIF research provides some evidence of a crowding-in effect:** more capital flew into the market because of the EIF's activity. Comparing VC investment levels across European regions (NUTS2) in the 2007-2014 period and distinguishing between EIF-backed flows and non-EIF-backed flows, EIF researchers estimated that, on average, a 1% increase in EIF-provided VC capital

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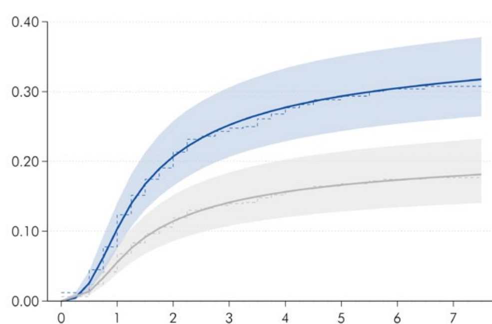
[41] Tykvova, 2000; Hall, 2002; Peneder, 2010; Samila and Sorenson, 2011; Popov and Roosenboom, 2013; Cheng et al., 2019.
[42] Pistoresi and Venturelli, 2015; Samila and Sorenson, 2011.
[43] Crisanti et al., 2023.
[44] Kraemer-Eis et al., 2016.

in a region led to a 0.089% increase in other investors' activity in the same region three years later. The crowding-in effect of the EIF was stronger in areas with less developed VC markets, as signalled by the regional rate of tertiary educational attainment.[45]

**EIF-supported venture capital investments have had a positive impact on the growth of startups.**[46] Combining data from the EIF, Invest Europe and Bureau van Dijk's Orbis database of firms' financial accounts, EIF researchers were able to compare venture capital-backed firms with a comparable group of firms with no such VC backing (although they may have still received other forms of finance). The researchers used new tools such as machine learning to scan through startup business models and identify promising entrepreneurial ideas as well as geospatial data and airline routes to better simulate the investment selection process of European venture capital firms. Over five years, supported firms achieved:

- **Higher capitalisation and assets** (statistically significant), going beyond the direct effect of the venture capital financing. EIF-supported startups tend to be one to two times more capitalised than their counterfactuals. Moreover, the spread between the two groups widens over time. Similarly, assets of EIF-supported firms are found to be two times larger than for those firms in the control group, in particular two years after receiving the funding.
- **Significantly higher revenues and employment growth.** Revenues of supported firms are found to be 19% higher one year after treatment, rising to 97% five years after treatment. However, the difference only turns statistically significant in the second year after treatment. [47] Staff costs are about 100% higher for treated firms following the VC investment.
- Significantly lower profitability for three years after financing, supporting the conclusion that **venture capital enabled the startups to forego profitability in the short term to achieve faster growth** and economies of scale. Short to medium-term financial losses are thus the norm for young and highly innovative startups. Yet, supported firms' return on assets and return on equity are negatively impacted in the first three years after the VC investments.

**Figure 18: Impact on patenting by EIF-supported VC investments in startups (Cumulative probability to apply for a patent, over time)**



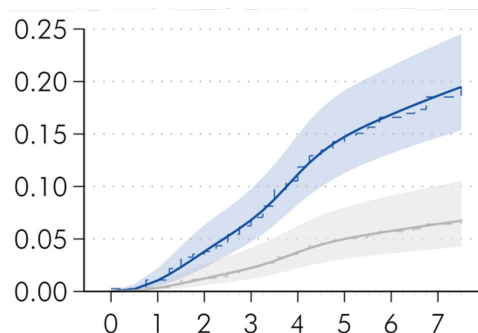

Years after investment (t = 0)

— VC-invested — Counterfactuals

95% confidence bands

Source: Pavlova and Signore, 2021.

**Figure 19: Impact on M&A exit rates of EIF-supported VC investments in startups (Cumulative probability to experience an M&A, over time)**




Years after investment (t = 0)

— VC-invested — Counterfactuals

95% confidence bands

Source: Pavlova and Signore, 2021.

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[45] Kraemer-Eis et al., 2016.

[46] Pavlova and Signore, 2019.

[47] Note that a significant portion of startups are pre-revenue at the time of VC backing, and this partly explains the delayed onset of the treatment effect on revenues.

**EIF venture capital-supported startups also issued more patents**. A follow-up EIF study compared beneficiary startups with a control group of comparable firms, this time to assess the effects on innovation and fund exit outcomes.[48] It found that EIF-supported venture capital investments were positively affected by startups' patenting rates, which were ten percentage points higher than comparable startups not backed by venture capital.

**In turn, better growth and innovation performance leads to increased chances of favourable exit outcomes**. The prospect of a successful "exit" — such as through an initial public offering (IPO) on the stock market, or through acquisition by a larger firm — provides a crucial incentive for entrepreneurs and for high-risk investments in early-stage companies. Thereby, good exit prospects not only encourage the formation of startups but also catalyse the flow of more private investment into the venture capital market and the innovation ecosystem. Looking at results after five and a half years, the follow-up EIF study also showed that startups backed by EIF venture capital were:

- **Three times more likely to exit through merger or acquisition** (a 10.3 pp increase).[49]
- **Three times more likely to exit through an IPO** (a 1.7 pp increase).[50]

## EIB venture debt and the Scale-up Initiative

**Like standard debt, quasi-equity finance suffers from financial frictions that limit liquidity supply from private markets.** Above all, asymmetric information between borrowers and lenders limits firms' access to finance due to the presence of adverse selection or moral hazard.[51] These frictions are particularly relevant for firms such as startups and scale-ups, as they are younger, riskier and more opaque than firms benefiting from traditional bank lending finance. In the absence of multilateral financing institutions, firms would face the financial markets with binding liquidity constraints[52] and limited collateral[53], exacerbating the effect of these financial frictions and ultimately discouraging business formation.

**Multilateral financing institutions such as the EIB have played a key role in promoting quasi-equity instruments.** Multilateral financial institutions such as the EIB have provided reliable sources of financing, reducing information asymmetries in otherwise opaque credit markets. Thanks to their size and below-market financing rates, public institutions can sustain monitoring and screening costs and provide credit to constrained firms. With its venture debt and thematic operations, the EIB is the largest venture debt supplier in the European Union.[54] For example, evidence from a recent impact study shows that EIB lending to startups had positive spillover effects on traditional credit markets. EIB venture debt signals beneficiaries' creditworthiness, enabling them to raise additional debt in the years after receiving venture debt.

**EIB introduced a venture debt instrument to pilot the provision of quasi-equity to European firms, with an initial focus on late-stage startups**. With the aim of reducing the size of this financing gap, the EIB issues venture debt to innovative European startups in need of more flexible debt products. The EIB venture debt programme has been implemented under the European Fund for Strategic Investments (EFSI), a partnership between the European Commission and the EIB that aims at making alternative financing options available to European businesses. Rolled out in 2015, the programme saw constant growth over the following years. In 2023, the EIB venture debt financing amounted to €862m. In terms of sectoral coverage, the EIB venture debt portfolio has a strong focus on social goods, including health (for example, COVID-19 vaccine development), e-mobility and sustainability.

**Building on the positive venture debt experience, and stemming from the existing scale-up gap, the EIB has recently introduced the European Scale-up Initiative (ESI).** This initiative is part of the pan-European Scale-up Initiative, complementing the equity-based European Tech Champions Initiative (ETCI) managed by the EIF. It

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48 Pavlova and Signore, 2021.

49 The respective exits of VC-supported firms through an M&A are found to be statistically more likely to be international, meaning either by acquirers from within the European Union/United Kingdom or from outside the European Union.

50 Pavlova and Signore, 2021. Results are only weakly significant for IPOs, given the rather low numbers of these exits. No significant differences in outcome were detected for other types of buy-outs and bankruptcies.

51 Akerlof, 1970; Stiglitz and Weiss, 1981; Jaffee and Russell, 1976.

52 Evans and Jovanovic, 1989; Evans and Leighton, 1989.

53 Black et al., 1996.

54 Evaluation of EIB Group equity and quasi-equity support for small businesses and mid-caps, 2022.

aims to provide crucial financing for Europe’s high-tech companies in their late-stage development when they want to scale up their business from a startup status to potential unicorns, enabling them to compete on a global scale whilst staying in Europe (see Box C). In such phases, investee companies are seeking to raise equity amounts of over €50m on the private market. A lack of large European funds specialising in this segment makes it difficult for companies to pursue their plans or forces them to seek capital outside Europe.

**BOX C: Scale-up support under the European Tech Champions Initiative (ETCI) and InvestEU**

In February 2023, the EIB Group and several EU Member States launched the European Tech Champions Initiative, a fund-of-fund structure investing in large-scale VC funds and boosting financing for promising European innovators. With €500m worth of EIB Group resources alongside contributions from Germany, France, Spain, Italy, Belgium, and more recently the Netherlands, the total capital of the initiative stands at €3.85bn[55]. The ETCI is a flagship achievement, mobilising significant resources designed to support the emergence of large-scale venture capital funds in Europe that are able to invest large amounts in the European Union’s most promising tech companies, to be in a position to compete at global level.

The programme is dedicated to supporting technological innovation, driving growth, and fostering the development of Europe's tech ecosystem. By making significant investments in large-scale VC funds, the ETCI helps deepen the scale-up VC markets, providing critical funding for scale-ups, particularly innovative companies seeking to raise amounts of over €50m.

In its first year, close to €1bn was invested under the ETCI, which is expected to leverage up to €6bn of investments in the investee funds. For comparison, European scale-ups received about €30bn in VC investment in 2023. As its first year comes to a close, the ETCI is expected to already help mobilise or support a significant fraction of the market. So far, the initiative has supported four funds involved in the financing of scale-ups, including Atomico Growth VI, FSI II, and Keensight Nova VI. These three funds raised more than $1bn each, a size seldom achieved by European VC funds. Thanks to the ETCI contributions, these funds have been able to support ambitious European projects in a number of sectors, including cybersecurity, automation and robotics, enterprise software, med tech, and healthcare services.

The ETCI is only the latest initiative in the context of a broader strategy to support scale-ups. The InvestEU programme provides a good example of a successful EU-wide instrument with targeted forms of intervention towards key priorities, including scale-ups. In particular, the European Scale-up Action for Risk Capital (ESCALAR) programme under InvestEU makes equity investments in funds with a focus on scale-ups, yet foregoing participation in the full return and enhancing returns for other investors in case of positive returns. Equally, the SME IPO Fund under InvestEU helps to develop a class of fund managers that are active at the pre-IPO stage and can support the European Union’s most promising companies in their journey from private to public.

## Evidence on the impact of venture debt

**A recent EIB report assessed the impact of the EIB’s venture debt investment on beneficiaries’ performance and ability to secure further financing.**[56] The study compares 133 firms receiving venture debt from the EIB against a control group composed of similar firms that did not benefit from any venture debt, although they may still receive other forms of finance. Comparability between EIB beneficiaries and the control group is ensured by restricting the control group to a set of firms that received VC financing as a proxy for innovativeness and strong growth. Firms in the control group have also been selected to match EIB beneficiaries’ financials, employment and age. Estimates rely on an econometric model comparing differences between EIB beneficiaries and firms in the control group, before and after receiving venture debt.

**The study shows positive effects on firm growth and the crowding-in of further debt financing**. Figure 20 shows a strong and positive impact of EIB venture debt on firm growth, with beneficiaries reporting on average a third higher total assets in the three years after signature, compared to firms that did not sign any venture debt contract. Figure 21 suggests that the increase in total assets is partially driven by additional debt issued in the

[55] Of which €600m in conditional commitments.
[56] Gatti et al. (2022).

years following the receipt of venture debt finance. Taken together, these results suggest that EIB venture debt beneficiaries experience higher growth due to crowding-in of additional debt, with the effect of asymmetric information countered by the effect of the instrument in signalling creditworthiness to the financial markets.

**Figure 20: Impact of venture debt on firm size (% change in total assets relative to control firms)**

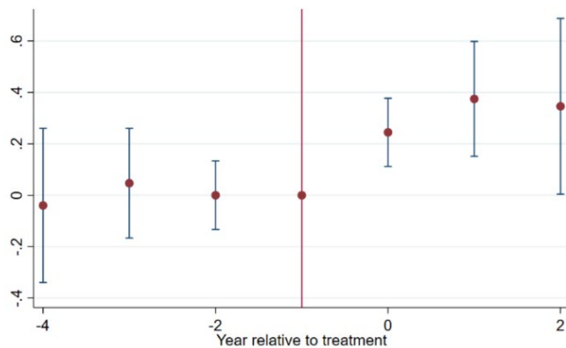
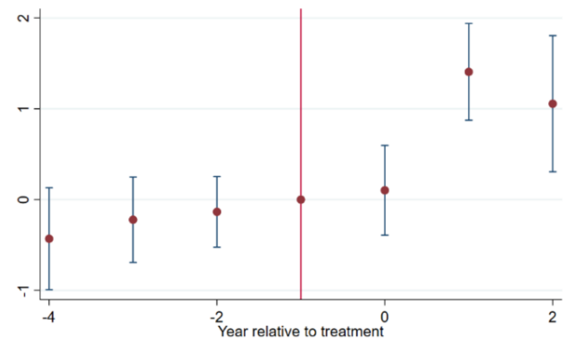



**Figure 21: Impact of venture debt on additional debt funding (% change relative to control firms)**




Source*:* EIB staff estimations based on EIB allocation data linked to corporates' financials in Bureau van Dijk's Orbis database.
Notes*:* Dots represent the estimated effect for EIB beneficiaries compared to the ones in the control group, at each point in time. The effects are normalised to zero in the year prior to loan signature (t=-1) and can thus be interpreted as relative to the year immediately before signing the contract. The bands around the dots show the 90% confidence intervals of the estimates.

**The analysis also shows a positive and significant effect on firms' value added, while a larger study will be needed to investigate other aspects**. Results on turnover, employment and innovation are positive but not statistically significant. Given the relatively small sample size and the recent nature of the programme, the study argues that the lack of significance could be due to the limited availability of financial data. Moreover, as the EIB venture debt product was only recently introduced, data are only available for a limited number of years after venture debt signature and the study could only consider a short-term horizon (one to three years). Nevertheless, the current study indicates the strong initial value of the EIB's venture debt programme to recipient firms.

# Conclusions

**Multilateral financing institutions (MFIs) play a crucial role in supporting business lending.** MFIs assist firms that struggle to access essential financial resources for their operations and growth. Due to market failures, the share of finance-constrained firms is persistently higher among smaller companies than among large companies. Asymmetric information and screening costs, for example, affect smaller businesses more, widening the financing gap. Financial crises and exogenous shocks may exacerbate financing needs and necessitate countercyclical interventions. More broadly, MFIs contribute to shaping developing markets by acting as anchor investors, fostering strategic industries vital for competitiveness.

**This report presents evidence on the impact of the business-targeted financial instruments of the EIB Group.** It summarises the findings of impact studies of EIB intermediated lending, EIF portfolio guarantees, EIF-supported venture capital investments and EIB venture debt.

- Analyses have demonstrated the positive impact of **intermediated lending** on firms' growth, employment, investment and productivity. The impacts tend to be larger for smaller firms, younger firms and recipients in less developed regions. EIF-**guaranteed loans**, in their turn, have been shown to increase beneficiary firms' size, employment and survival chances, with an important countercyclical role.
- The evidence on the impact of EIB Group support for startups and innovative companies with high growth potential is positive. EIF-supported **venture capital** investments support firms' capitalisation, revenues and job creation, and provide higher chances of successful exits through an M&A or IPO. EIB **venture debt**, in turn, has been shown to significantly support firm growth and crowd in private capital.

**Business growth is a catalyst for economic growth and productivity.** Business dynamism and the reallocation of resources from older, less efficient firms to younger and more innovative firms is a key driver for innovation, productivity growth and competitiveness. In addition, SMEs and mid-caps also play a vital role in the green and digitalisation transition. Therefore, it is essential to address barriers to the access to finance of such businesses. There is a need to ensure access to finance for SMEs and mid-caps is sustained going forward given the large investment needs. Europe needs to be competitive and "future-proof". InvestEU and other mandates given to the EIB Group by the European Union and other important mandators have enabled the provision of needed finance to the enterprise sector. While this support will be crucial going forward, the continued commitment of the EIB Group to assess market gaps and the impact of its financial instruments on businesses will ensure resources are effectively deployed and targeted — in line with market needs and the EIB Group's policy objectives.

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