Discussion paper series on investor impact mechanisms

Mechanism #1: grow new/undersupplied markets

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Globally focused with offices in Paris, New York and Berlin, 2DII coordinates some of the world's largest research projects on sustainable finance. Our team of finance, climate and risk experts develop research, tools, and policy insights to help financial institutions and regulators hasten and adapt to the energy transition.

In order to ensure our independence and the intellectual integrity of our work, we have a multi-stakeholder governance and funding structure, with representatives from a diverse array of financial institutions, governments and NGOs.

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Mechanism #1: grow new/undersupplied markets

Presenting the mechanism

According to Heeb and Kölbel (2020), this mechanism is about "*allocating capital to impactful companies whose growth is limited by access to financing*".

IMP adds that investors should self-classify their investor contribution as "grow new or undersupplied capital markets" if they have reason to believe that their investment itself directly caused a change in the amount, cost or terms of capital available to an enterprise that enables it to deliver impact that would likely not otherwise occur[1].

Examples of actions implementing the mechanism include:

- Provide an equity investment or loan with terms or in amounts that the enterprise likely would not have received but for the investor
- Lead a round of investment in an early-stage enterprise when other investors are not stepping up to do so
- Serve as lead lender for a syndicated debt transaction when other lenders are not stepping up to do so
- Make a cornerstone investment in a nascent high impact potential investment fund

Growing undersupplied markets is always about correcting market failures, when market should provide capital to positive impact profitable projects but fail to do so due to misperceptions or missing competencies. Investors may apply the mechanism when they identify a misperception of risk/return by the market. It may happen when investors have a specific technical expertise about industry sectors. Another possibility arises when investors take on complexity that other investors wouldn't, in order to structure a new type of financial product (e.g., a first-loss guarantee that enables the pilot of a new financial product).

Often, growing undersupplied markets requires proposing innovative financial solutions. For instance, those innovations can embed project risk transfer. This occurs when capital providers are directly engaged with underlying "green" projects and therefore bear financial risks linked with the latter, as opposed to a general risk sharing across funders into a company's or entity's balance sheet through conventional financial solutions (equity, bonds, loans). The innovative solution can also imply longer duration financing to match the extended timeline of revenues associated to some sustainable projects.

Examples of products

In this section, we present a list of products that, by nature, could lever the mechanism. We chose examples of products with environmental features.

[1] They also consider investments that cause "a change in the price of the enterprise's securities, which in turn pressures the enterprise to increase its social and/or environmental impact and/or rewards it for doing so". Such investments fall in the category of "market signaling" in the follow-up classification by Zurich's CSP. We subscribe to the latter interpretation.

Asset-backed green bonds

Green bonds do not restrict to use-of-proceed bonds that are backed by the issuer's entire balance sheet with no transfer of project risk. Other green bonds are instead backed by green assets separated from the rest of the issuer's balance-sheet. Those include:

- green use of proceed revenue bonds;
- green project bonds;
- green securitised bonds;
- green covered bonds.

The table below explains the main differences across the structures and how they depart from the classic use of proceed structure.

Table 1: the different types of green bonds

Type of green bond	Use of Proceeds	Debt recourse
Use of proceed bonds	Earmarked for green projects	To the issuer
Use of proceed revenue bonds	Earmarked for green projects	To the project's revenues
Project bonds	Ring-fenced for the specific underlying projects	To the project's assets and balance sheet
Securitised bonds	Earmarked for the financing or refinancing of the underlying pool of projects	To the underlying group of projects (e.g. solar leases or mortgage loans)
Covered bonds	Earmarked for the underlying pool of projects	To the issuer and, in case of default, to the pool of underlying projects

Source: Climate Bonds Initiative

With asset-backed green bonds, the investor bears project risk to help the financed companies to run green projects that are technologically/financially risky.

Environmental impact bonds

Environmental impact bonds (EIBs) are modelled after social impact bonds (SIBs) which are not 'bonds' in the traditional sense. In essence, SIBs and EIBs are three-party outcome-based contracts between a commissioner (that would finally turn into an 'outcome payer'), a service provider and an investor. The 'outcome payer' commissions a purpose-driven delivery organization to achieve a particular social or environmental outcome and the impact-motivated investor provides the funding to deliver the services, which eliminates the commissioner's financial risk. The investor will then be repaid fully with interests only in case the targeted social or environmental outcome is achieved. As such, SIBs and EIBs use a pay for success approach.
Specifically, the sequence in an EIB scheme, is the following:

1) bond investors pay up-front costs needed for the deployment of the environmental project;
2) then the environmental solution is deployed;
3) at a pre-fixed date, the outcome of the project is assessed by an external verifier;
4) And finally, if the outcome matches or exceeds the pre-agreed terms, then the commissioner that benefits from the underlying project repays the investors with pre-agreed interests. In case of failure to meet the target, the repayment is reduced.

Investors in SIBs and EIBs bear the project risk. The scheme has the potential to help the (often public) commissioners to save money in case of failure. It also fortifies service providers with large amounts of funding upfront (that they might not get otherwise) and gives them the flexibility to run their interventions according to what will achieve the best outcomes, allowing them to experiment and innovate.

For investors, EIBs (alongside SIBs and Development Impact Bonds) represent new investment opportunities with returns uncorrelated to traditional asset classes.

Green crowdfunding/peer-to-peer lending

Crowdfunding platforms cluster a large number of investors to finance businesses through digital platforms that connect the supply and demand of capital. Broadly speaking, crowdfunding appears in two forms: donation-based crowdfunding (referring to funding driven by donations and rewards, excluding financial return expectations), and investment crowdfunding (including both debt and equity financing).

Crowdfunding platforms are more and more used as an alternative funding options in different sectors, including the energy industry. They are particularly well-adapted to bridge the early-stage financing gaps of investments that do not require large ticket sizes and complex due diligence processes, and that may lack collaterals to get debt financing from banks or VC/PE. In addition, crowdfunding also may open doors for further venture capital investments.

Numerous platforms focusing on green projects have emerged in Europe in the last ten years. We have identified more than thirty green platforms in the continent.

Questioning the impact narrative

The existence of underserved markets

A series of empirical studies show that small firms and young firms as well as firms operating in less mature financial markets with weak institutions are more likely to be restricted in terms of their growth by the cost of external financing[2].

Bank lending is the most common source of external finance for many SMEs and entrepreneurs, which are often heavily reliant on straight debt to fulfil their start-up, cash flow and investment needs[3]. SMEs, however, typically find themselves at a disadvantage with respect to large firms in accessing debt finance. Asymmetric information and agency problems, including high transaction costs, and SMEs' opacity limit access to credit by small businesses and start-ups, in particular, which are often under-collateralised, have limited credit history and, and may lack the expertise and skills needed to produce sophisticated financial statements. Access to debt finance is also more difficult for firms with a higher risk-return profile, such as innovative and growth-oriented enterprises, whose business model may rely on intangibles and whose profit patterns are often difficult to forecast[4].

In middle- and low-income countries, funding gaps are often even more pronounced and among the main barriers to small business formalization. In developing countries, many small- and medium-sized companies lack any access to external financing[5].

The finding that many small firms are restricted by the cost of capital or even access to capital is consistent with the finding that most small companies use retained earnings, insider finance, and trade

[2] Beck et al. (2008), Bloom et al. (2010)
[3] OECD (2018)
[4] Ibid
[5] Beck and Demirguc-Kunt (2006)

credit to finance their investments[6]. Financing constraints seem to have a particularly strong inhibiting effect on entrepreneurial activities.

SMEs form only one example of an underserved market. A more comprehensive list of segments of the economy that are typically undersupplied in their capacities to finance their projects especially would include:

- households (especially when they are deprived, young, or with no stable job position),
- SMEs and early-stage companies,
- Small municipalities,
- Social businesses and charities.

Explaining market failures

How to explain such a market failure in which important fragments of the economy do not have access to appropriate financing means?

Market failure, in economics, is a situation defined by an inefficient distribution of goods and services in the free market. When markets fail, the individual incentives for rational behavior do not lead to rational outcomes for the group. In other words, each individual makes the correct decision for themselves, but those prove to be the wrong decisions for the group as a whole.

There are two major types of market failure. Complete market failure occurs when the market does not supply any products at all, which results in a missing market. Partial market failure happens when the market does not supply products in the correct quantity or at the correct price. The purpose of markets should be to allocate productive resources efficiently through prices that account for marginal social costs and positive valuations[7].

There are many types of imbalances that can affect the (price and quantity) equilibrium of the markets, driving it away from a socially optimal equilibrium. Let's consider two common causes of market failures, that would undermine the provision of positive-impact products: externalities and information failure.

Externalities occur when the consumption of a good or service benefits or harms a third party while it is not priced in. Pollution resulting from the production of certain goods is an example of a negative externality that can hurt individuals and communities. Without appropriate regulations, positive externalities are neglected in market prices. This prevents the provision of positive-impact products by companies.

When there is insufficient information available to certain participants in the market, this can also be the source of market failure. If the buyer or seller in a (potential) transaction lacks access to the information on which the price is based, they may be willing to overpay or undercharge for a good or service, or even refuse the transaction, disrupting the market's equilibrium. In an investment context, it can occur when investors are reluctant to invest in a project because they overestimate risk or underestimate return, due to a lack of technical competency or asymmetrical information.

Specificities of investors also contribute to foster failures of financial markets. Indeed, many types of investors are constrained by their mandate or the profile of their liabilities to adopt **a short-term investment horizon** that can oppose the longer horizon of projects to be financed. Investors also occupy **a specific preferred habitat[8]** in terms of geographic zone, industry, duration or asset class. They do not easily cross boundaries to propose innovative solutions when needed.

The need for specific investors and solutions

[6] Carpenter and Petersen (2002)
[7] Blunden (2021)
[8] Modigliani and Stutch (1966)

Informational asymmetries legitimate the role of investors with a sector-specific expertise. Researchers[9] have viewed the “raison d’être” of venture capitalists as their ability to reduce the cost of informational asymmetries. Venture capitalists operate in environments where their relative efficiency in selecting and monitoring investments gives them a comparative advantage over other investors. Empirical data shows, accordingly, that venture capitalists are prominent in high-tech industries where informational concerns are important (such as biotech, cleantech, fintech, etc.), rather than in “routine” start-ups such as restaurants, retail outlets, etc. The latter are risky, in that returns show high variance, but they are relatively easy to monitor by conventional financial intermediaries.

Those investors with superior private information are more prone than generic commercial banks to propose original financing solutions tailored to match the specific needs of the project holders that would depend on their industry sector and stage of development among others.

Table 2: suitability of alternative financing instruments for different firm profiles and stages

	Type of financing instrument		Profile and stage of firm
Low risk/ return	**Asset-Based Finance** • *Asset-based lending* • *Factoring* • *Purchase order finance* • *Warehouse receipts* • *Leasing*		• Start-ups • Firms with limited credit history and lack of collateral • Fast growing and cash-strapped firms • Firms with solid base of customers but high investments in intangibles • High-risk and informationally non-transparent firms • Firms changing their capital assets frequently • Producers and traders of commodities
Low risk/ return	**Alternative Debt** • *Corporate bonds* • *Securitised debt* • *Covered bonds* • *Venture debt* • *Private placements* • *Crowdfunding (debt)*		• Large to mid-size firms with stable earnings and relatively low cash flow volatility • Firms responding to reporting requirements linked to issuance • Firms undertaking investment or seizing growth opportunities • Firms that do not wish dilution of ownership and control • Smaller companies with limited visibility in public markets (*private placements*) • Firms lacking collateral or credit history (*debt crowdfunding*)
Medium risk/ return	**“Hybrid” Instruments** • *Subordinated loans/ bonds* • *Silent participations* • *Participating loans* • *Profit participation rights* • *Convertible bonds* • *Bonds with warrants* • *Mezzanine finance*		• Young high-growth firms seeking cheaper expansion capital than VC and less dilution of control • Established firms with emerging growth opportunities • Firms undergoing transition and restructuring • Firms seeking to strengthen capital structure Firms with well-established and stable earning power and market position
	Equity Instruments		
High risk/ return	**Private equity**	*Business angel investments* *Crowdfunding (equity)*	• Firms in their seed and early investment stage • Innovative ventures requiring investment and business-building skills
		Venture capital	• Firms in their seed, early and late investment stage • High-growth-potential firms, with capacity for high returns in a short time frame
		Other private equity	• Mature businesses undertaking restructuring or ownership change • Distressed businesses with potential for rescue
	Public equity • *Specialised platforms for public listing of SMEs*		• Young, innovative and high-risk small firms • Firms with highly structured governance and management systems, and extensive disclosure

Source: OECD (2018)

The challenge a growing new markets

Growing new or undersupplied markets imposes to go against the crowd of conventional investors and explore new investment tracks. It leaves impact investors accepting it to a challenge: identify "good" investment opportunities that others have overlooked while avoiding "bad" investment opportunities that others have rightly rejected.

The challenge is complicated by the need to define "good" and "bad“ investment opportunities not only in terms of their expected financial performance, but also their expected social and environmental impact.

[9] Amit et al. (1998)

Investors searching to have such a contribution would base their decisions on a high level of confidence in their dual capability to identify projects through which they can deliver positive impact while achieving market-rate returns or above.

Box: project risks and long duration of investments in renewable energy and energy efficiency

Risk (or risk perception) is an important driver in the cost of capital. As low-carbon technologies require more upfront investment than high-carbon technologies and an especially long payback, the capability to decrease the risk of projects can be a strong driver for accelerating the deployment of clean energy technologies (Schinko and Komendantova, 2016).

As a consequence, one feature will be particularly relevant for financial products aimed at financing the energy transition: the transfer of project risks to the investor. Indeed, energy efficiency and renewable energy investments usually imply significant risks (Polzin, 2017) in multiple forms (especially technology and political) that may be difficult for companies, public agencies or private individuals to bear by themselves. In particular, companies whose core business is not related to renewable energy and energy efficiency might not wish to increase the risk level of their balance sheet through investments in uncertain green projects. Transferring the specific project risk to counterparts that have the required skills and resources to deal with those hurdles may consequently help remove a significant barrier to investment for project holders.
Another important issue is the duration of renewable energy and energy efficiency projects that can overcome typical funding schemes. The ability to issue longer-term debt via bonds is crucial for many green projects, as it reduced the maturity mismatch between project development timelines and borrowing timelines. Some lenders, especially commercial banks, rely on short-term sources of financing and lending for long term green infrastructure projects would create a maturity mismatch between assets and liabilities[10]. The maturity mismatch also gives rise to longevity risk, which refers to a mismatch between the long-term capital commitments that clean energy projects require and the relatively short-term nature of regulations or tax and subsidy rules. Investment horizons and/or capital commitment periods can reach up to 50 years, to be compared with much shorter political mandates.

The observed outcomes

Here, we present empirical observations of the (positive) effects of alternative sources of financing on SMEs' economic growth to substantiate the idea that positive impact SMEs would most probably increase their impact if helped by impact investors to overcome their funding gaps. We focus on two specific types of alternative funding: venture capital/private equity and crowdfunding.

The effectiveness of venture capital and private equity

Research demonstrates that venture capital and private equity tend to contribute to an acceleration in growth of SMEs, fueling the idea that they help SMEs to overcome detrimental financing barriers.

For instance, Paglia et al. (2014) studied the effects private equity (PE) and venture capital (VC) financing have on small and mid-sized single entity business establishments. This study revealed that PE and VC financing have positive impacts on single entity business establishments' net sales and employment growth. The impact of PE financing on establishments' growth is slower and smaller than VC financing. However, they found that the benefit of PE financing lasts longer than VC financing.

In the same vein, Colombo and Murtinu (2016) used a European Commission-sponsored longitudinal dataset—the VICO dataset—to assess the impact of venture capital investments on the economic performance of European high-tech entrepreneurial firms. After controlling for potential sources of

[10] Yoshino and Taghizadeh-Hesary (2018)

endogeneity and selection bias, their results indicate that VC investments boost portfolio firms' economic performance. These effects are mostly due to an increase in real sales value.

The effectiveness of crowdfunding

While there is a lack of studies in the area of crowdfunding and SME growth, it can be argued that crowdfunding supports SME growth by i) reducing the cost of financing and ii) providing knowledge from external backers[11].

Several studies suggest a positive effect of crowdfunding on SMEs' growth. Eldridge et al. (2021) obtain that crowdfunding does have an impact on the growth opportunity of small firms, with a strong positive correlation.
Using an inductive qualitative research design, based on multiple case studies of Italian SMEs, Troise et al. (2022), showed that equity-based crowdfunding (ECF) and reward-based crowdfunding (RCF) models help SMEs in acquiring the financial resources needed to internationalize and, at the same time, offer significant added value to their internationalization. Their findings support the idea that ECF and RCF play a key role in helping companies to overcome their resource limitations in regard to internationalization, not only in terms of the provision of financial resources but also by compensating for any lack of knowledge on aspects relevant to the internationalization process.

So far, as it is still a recent phenomenon, only a few studies have assessed the effects of crowdfunding on ex-post company performance. Even if they suggest a positive effect, more data is needed as well as methodologies to disentangle between the effects of funding and of acquisition of knowledge.

The moderators

When does the growing of new markets lead to the expected impact? We propose below a list of success moderators:

- **The direct financing:** the impact mechanism implies the precondition that capital goes to the direct financing of project holders through bank lending or investments in newly issued securities (i.e., through primary markets vs secondary markets).
- **The impact potential of investments:** impact depends on the ability to identify projects for which the provision of fresh and innovative capital will lead to a positive impact through the bolstering of growth. It requires the ability to select projects with (existing or future) positive impact.
- **The financial needs of investees:** impact depends on the ability to identify project holders that lack access to traditional financing or for which traditional financing does not match the specific needs. As said before, some segments of the economy are more likely to be affected by external financing conditions while others are less likely. Indeed, firms, particularly large ones, can use internal finance (retained earnings) to finance projects with little or no exposure to external funding costs. Listed firms generally have enough cashflow and cash reserves to be largely self-financing if required, such that the cost and conditions of (external) capital matters less to them[12].
- **The innovativeness of the financial solution:** impact depends on how much the terms (duration, risk transfer, etc.) of the financial solution proposed diverge from existing solutions. The magnitude of the divergence to market terms affects the capacity of innovative products to influence the growth/transformation pathway of investees vs a scenario in which they would rely on conventional sources of financing.
- **The tailoring of the financial solution:** finally, impact depends on how much the solution proposed is adapted to the specific needs of the project to be financed.

[11] Paschen (2017)
[12] Kay (2015)

Conclusion

The “grow new/undersupplied markets” mechanism is logically and empirically well grounded.

To be fully exploited, it requires to operate away from financial markets that typically address economic agents (e.g., large companies and governments) that already have access to a large variety of adapted financial instruments which are provided by conventional investors or financial institutions.

The mechanism is clearly more relevant in private markets. But there too, the rule of additionality applies. Not every private financing transaction will provide additional funding to the funded. High-profile private companies in fancy sectors may have no difficulty to attract funders or investors. For those specific cases, the net impact of impact-motivated funders would be zero as they would replace (return-motivated) conventional funders.

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