Discussion paper series on investor impact mechanisms

Mechanism #2: provide flexible capital

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Author: Mickaël Mangot

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Mechanism #2: provide flexible capital

Explaining the mechanism

According to Heeb and Kölbel (2020), providing flexible capital is about "*allocating capital to impactful companies that require flexible financing conditions to grow*".

In a similar vein, IMP explains the impact mechanism in the following way: an investor providing flexible capital "*recognises that certain types of enterprises will require acceptance of lower risk-adjusted return in order to generate certain kinds of impact. For example, creating a new market for previously marginalised populations can require very patient capital that cannot offer a commercial return*".

Subsidizing companies that are deemed beneficial for development by providing them with financing more attractive than that available at market conditions is widely practiced by development finance institutions and other public sector actors and has been shown to enhance corporate investment[1].

Several authors[2] have argued that private impact-motivated investors too can promote sustainable companies by providing them with capital on concessionary terms—that is, with better conditions than these companies would obtain from conventional investors.

Better conditions do not restrict to interest rate (for loan or bond investments) or equity valuation. They also encompass duration and risk transfer, especially for long-term projects with technology risk attached, or may include some forms of conditionality, where terms depend on achievements of sustainability-related targets.

As Heeb and Kolbel point out, "*there are different ways investors can offer beneficial financing. For example, they can accept below-market risk-adjusted returns, take subordinated debt or equity positions, or accept longer terms before exit*".

According to the IMP, investors should classify their investor contribution as "providing flexible capital" only "*if they are accepting a lower financial return than they could obtain in investments with similar risk, liquidity, subordination, size, and other financial characteristics*[3]".

Flexible capital is about being a concessional investor in one way or another, to enable positive impact investments to take place. **Flexible capital helps to correct a specific form of market failures, when expected financial returns of projects lag expected social returns.**

One challenge faced by investors that "provide flexible capital" is the need to ensure that they do not "crowd out" more-commercial investors, for instance by using philanthropic capital simply to undercut commercial investors on price. Another challenge is the difficulty of determining the right "amount" of financial flexibility to offer, so as to avoid squandering resources unnecessarily.

[1] Cravo and Piza (2016)
[2] Brest and Born (2013), Brest et al. (2018), Chowdhry et al. (2019)
[3] IMP (2019)

Examples of products

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

Sustainability/green bonds and loans

Green bonds or loans are fixed-income instruments that raise money specifically earmarked for new or already existing sustainable (i.e., social and/or environmental) projects. They can be issued by private firms, banks or public entities to support environmental and climate-related activities.
Sustainable bonds/loans can be considered as financial instruments applying flexible capital only when the earmarking of proceeds is accompanied with a decrease in interest rate compared to similar conventional bonds. Then, the investor accepts a decreased return in order to obtain the commitment of the financed company to use proceeds in an appropriate and constrained manner.

If this increased risk is not compensated by appropriate additional return, then it may be considered as flexible capital.

Sustainability-linked bonds and loans

Sustainability-linked bonds and loans (respectively SLBs and SLLs) are performance-based debt instruments where the issuer commits to achieve pre-defined sustainability-related objectives within a given timeline, while the proceeds are intended to be used for general purposes[4].The financial terms of a SLB or SLL can vary depending on whether the issuer reaches the pre-defined target for the key performance indicator. Structures involve a step-up, a step-down or a combination of both. For instance, if the issuer fails to achieve its target at the observation date, then it faces an increase in the following coupons to be paid to the bond holders (step-up).

Sustainability-linked schemes can be considered as a form of flexible capital when returns for investors are concessionary in case the investees meet their sustainability targets.

Impact covenants in private equity/debt

One direct approach to influence and control in private markets is what may be called “impact covenants”. Here the investor could tie the realization of certain impact metrics to paying performance bonuses to management (in the case of an equity investment) or to reducing interest rates or waiving certain debt covenants.

An increasing number of investors are indeed embracing impact covenants, which are legally enforceable promises, as a tool for maximizing the positive impact of their investments. In general, covenants are legally enforceable promises to take, or to refrain from taking, a specified action. For example, in loan agreements, borrowers almost always covenant to provide regular financial reporting to lenders.

Impact covenants are therefore a new form of covenants. Typical examples of social impact covenants include:

- Community employment covenant: it requires a percentage of jobs to be created and sustained from target populations (e.g. returning citizens, immigrants and refugees, neighborhood workers, etc.).
- Compensation ratio covenant: it caps the difference in total compensation between the highest paid and lowest paid workers in an enterprise.

[4] Giráldez et al. (2021)

Many impact covenants imply enforcement rules, allowing investors to take legal action against a business's failure to live up to its promise. For example, when a covenant obligates a corporation to pay a baseline wage to its employees, and utilizes a redemption right to enforce this covenant, an investor might take the business to court to have its investment returned if the enterprise fails to pay those baseline wages.

Other impact covenants use an incentive-based approach that enables investors to obtain a financial compensation in case of failure of the invested company to meet its sustainability target.

In the case of investments via funds, impact covenants can be accompanied with conditional compensation for managers of private debt/equity funds[5].

They participate to a form of flexible financing when they are matched with beneficiary financial conditions for the investees (in case of compliance with the impact objectives).

Questioning the impact narrative

Correcting externality-based market failures

As already mentioned in the previous chapter, the existence of externalities undermine the natural provision of capital to positive-impact companies and, consequentially, the provision of positive-impact products by those companies.

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. Oppositely, products that clean the air, help to restore biodiversity or promote social justice, to cite a few, embed positive externalities. Without appropriate regulations, positive externalities are neglected in market prices. This prevents the provision of positive-impact products by companies and degrade collective welfare.

Impact-driven private investors that internalize positive externalities (i.e., that include them in their own utility function) would accept to provide capital at below-market terms as they would get positive non-financial returns to compensate for their lower financial returns. Their specific type of preferences help to correct market failures and contribute to the collective good.

An undisputed relationship between cost-of-capital and investment

It is undisputed among economists that decreasing cost of capital leads to higher investment by companies. The notion that business spending on fixed capital falls when interest rates rise is a theoretically unambiguous relationship that lies at the heart of the transmission mechanism of the monetary policy to the real economy.

Cost of capital is an important driver of investment decisions, including the large investments needed to execute the low-carbon energy transition.

Therefore, providing cheaper capital will logically fuel more investment in those activities that bring positive externalities.

[5] For instance, in the case of MAIF "Dette à Impact" fund, the management fee paid to the asset manager (Eiffel Investment Group) is indexed upwards and downwards depending on whether the impact objectives of the fund are met, while 'impact covenants' will increase or reduce the cost of debt for investee companies.

Box: high upfront costs in renewable energy and energy efficiency

Due to the specific profile of lifecycle costs, renewables are highly exposed to changes in WACC. Renewables are capital-intensive and require significant up-front investment with little OPEX once operational (Steffen 2020). This differs from fossil fuels, where fuel costs generate ongoing OPEX needs. This reduces their sensitivity to changes in the cost of capital, as OPEX can be paid out of operational cash flows and is therefore independent of WACC when assessing the levelized costs of electricity (LCOE), defined as the average price of electricity needed over the life of a project for it to breakeven taking into account all costs.

Upfront costs require financing, and therefore **cost of capital is the single biggest determinate of renewables LCOE** compared to CAPEX, OPEX, and technology learnings rates (Vartiainen et al. 2020).

Overall electricity costs are particularly sensitive to CoC changes as model-based analyses show. In hypothetical developing country contexts, roughly doubling the CoC could lead to an increase of the levelized cost of electricity (LCOE) from solar PV plants of approximately 50%, and from (less capital-intensive) gas-fired plants of roughly 10% (Hirth and Steckel 2016). In developed countries with comparably low financing costs, a doubling of the CoC would still lead to an LCOE rise of roughly 10%–20% for solar PV (Schmidt et al 2019).

Given the importance of upfront financing for energy assets, the capacity of a country to run a rapid energy transition strongly depends on the capability of its financial sector to allocate capital in the appropriate forms to project holders in the energy sector. If there is a shortage of financial capital, then certain energy projects may not be economically viable due to high cost of capital. Besides the general maturity of the financial sector[6], the specific experience of banks and investors with energy investments has an impact, as there are experience effects with respect to financing specific technologies[7]. In addition, the availability of concessional finance, usually in the form of subsidized loans from state investment banks but that can also come from private sources, can directly impact the financing cost of energy assets[8].

The existence of concessional impact investors

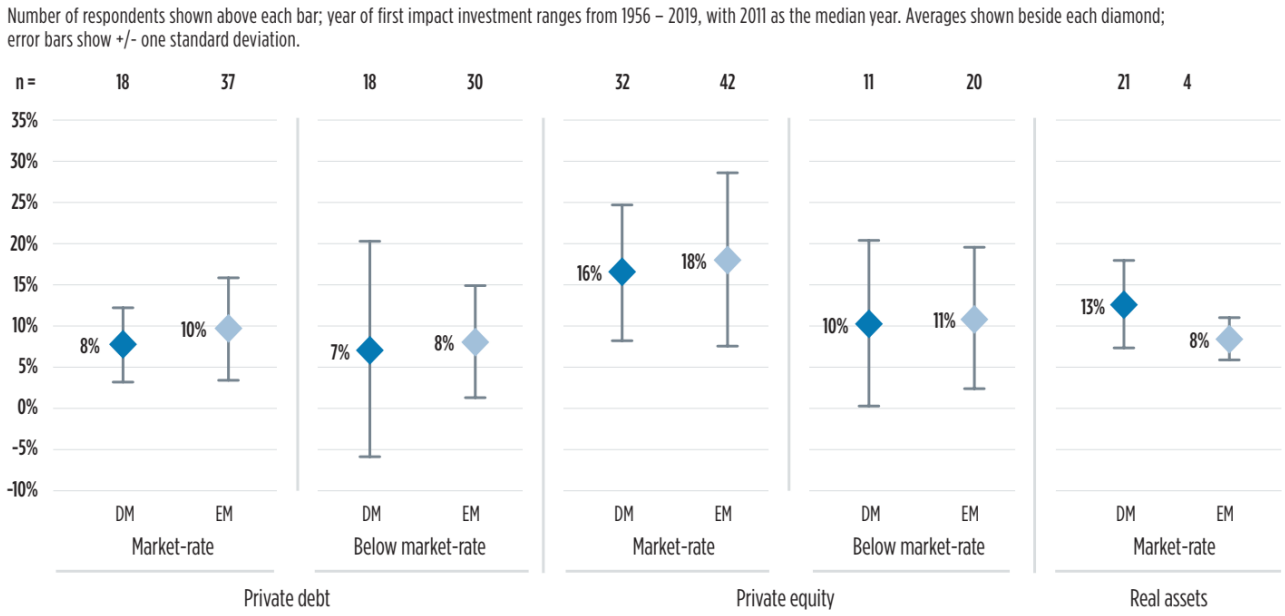
According to several surveys, if a majority of impact investors target market returns, a significant minority accepts to sacrifice a portion of their returns to help growing activities with positive impact.

Barber et al. (2020) document that the ex-post annualized internal rate of return (IRR) on impact funds is 4.7 percentage points (ppts) lower than traditional VC funds, after controlling for industry, vintage year, fund sequence, and geography. They also report that the ex-ante aggregate willingness to pay for impact is between 2.5 percent to 3.7 percent in expected IRR. In his sample, investors in impact funds on average willingly accept a lower return to (plausibly) achieve impact.

In its 2020 Annual Impact Investor Survey, the GIIN asked 233 impact investors about their return objectives and their achieved returns. A third of them targeted below-market returns with a higher proportion in private debt than in private equity (see figure 1).

[6] Kempa et al (2021)
[7] Egli et al. (2018), Đukan and Kitzing (2021)
[8] Angelopoulos et al. (2016), Geddes et al. (2018)

Figure 1: average realized gross returns since inception for impact funds (private markets)



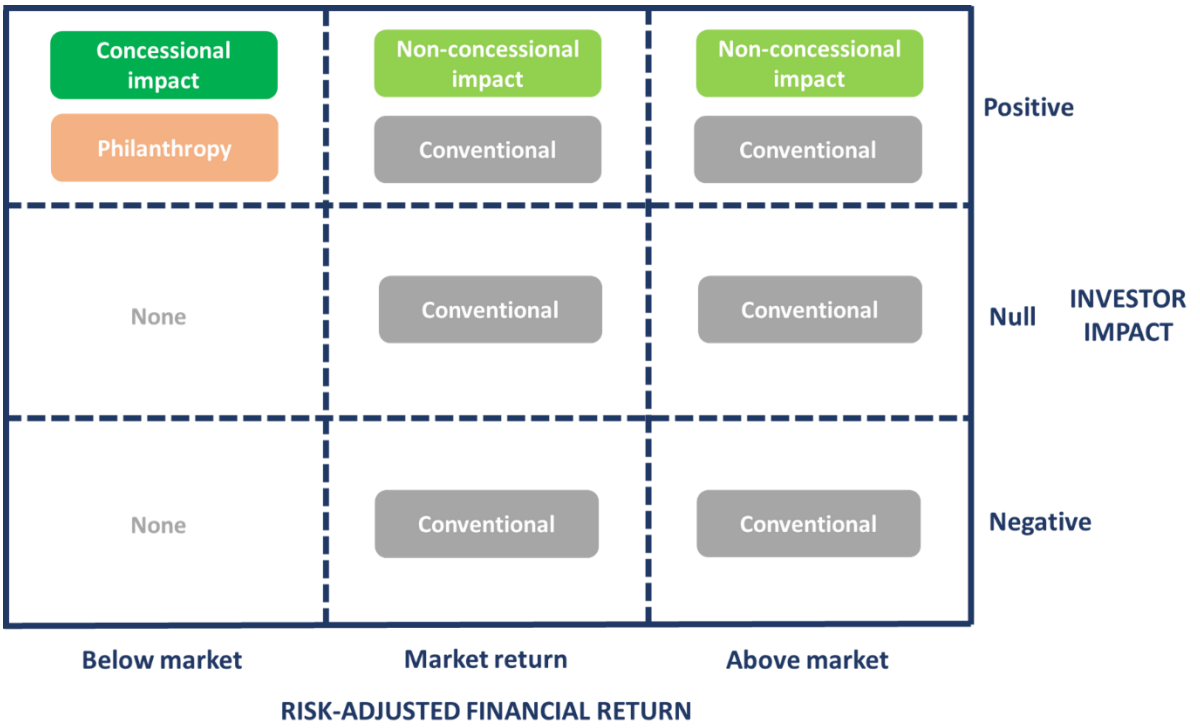
Source: GIIN, 2020 Annual Impact Investor Survey

In the same vein, Mudaliar (2019) obtains that only two thirds of impact investors target market returns. The remaining third is split between those targeting near-market-rate financial returns (19%) and those content with financial returns sufficient to ensure no loss of capital (15%). A survey of individual investors in impact asset management funds found that three-quarters prefer investments aiming to achieve market-rate financial returns while pursuing social or environmental impact[9].

The figure 2 represents the various categories of investors in an impact-return framework. While non-concessional impact investors stand alongside conventional investors in their selection of investment opportunities (and thus may compete with them), concessional impact investors are much different as they accept returns below market rates (but still positive, which draws a line between them and philanthropic donors). In the investing community, concessional impact investors fill a unique habitat.

[9] OECD (2019)

Figure 2: a two-dimensional taxonomy of investor types



The observed outcomes

Even if it sounds straightforward, empirically validating the negative relationship between cost-of-capital and corporate investment is not an easy task as the relationship can be blurred by external factors, especially the economic and financial context. At the macroeconomic level in particular, long-term interest rates (through monetary policy actions) are often lowered when investment spending is weak. And oppositely, during economic booms, due to the endogeneity between monetary policy and macroeconomic conditions, there is often a positive relationship between investment expenditures and the user cost of capital.

Nevertheless, using appropriate controls or quasi-experimental frameworks, evidence shows a clear negative correlation between the cost of (debt or equity) capital and corporate investment (with higher costs associated with lower investment, consistent with theory). For instance, Cummins, Hassett and Hubbard (1994) utilized firm-level variation in investment expenditures within a context of a “natural” experiment, taking benefit of episodes where tax changes are comparatively large and account for nearly all of the variation in the cost of capital. During such episodes, the elasticity of investment demand with respect to the user cost of capital was estimated to be quite high.

Regarding debt, there is clear evidence both at the firm level and the macro-level that corporate investment is negatively correlated with the cost of debt capital[10]. Gilchrist and Zakrajsek (2007) used trades in the secondary bond market to construct a firm-specific measure of the user cost of capital. Their results imply a robust and quantitatively important effect of the user cost of capital on the firm-level investment decisions. According to their estimates, a 1 percentage point increase in the user cost of capital implies a reduction in the investment rate of 50 to 75 basis points and, in the long run, a 1 percent reduction in the stock of capital.
Focusing on bank loans, Guiso, Kashyap, Panetta, and Terlizzese (2002), used a data set covering over 30,000 Italian firms over 10 years to estimate the interest sensitivity of investment. Due to the special attributes of the dataset, the authors were able to determine a marginal financing cost for firms

[10] Gilchrist and Zakrajsek (2007), Murray and Shen (2016), Lin et al. (2018)

and to identify fluctuations in these costs that are supply driven (and hence uncorrelated with investment demand). They exploited this supply induced variation in interest rates to estimate the interest rate sensitivity of investment. Their results show that: i) when ignoring endogeneity problems, the user cost of capital is estimated to have a negative effect on investment decisions but the effect is tiny; ii) once endogeneity is properly accounted for, the estimated effects are about 10 time larger. The elasticity of capital with respect to the user cost of capital is found to be about -1.

Researchers obtain the same results for the implied cost of equity capital (ICC) when inferred from the Gordon-Shapiro model in which it equals dividend yield plus long-term dividend growth[11]. Byoun et al. (2015) show that the ICC has negative effects on investment and equity issuance. Specifically, lower ICC induces additional investment for firms with high equity dependence.

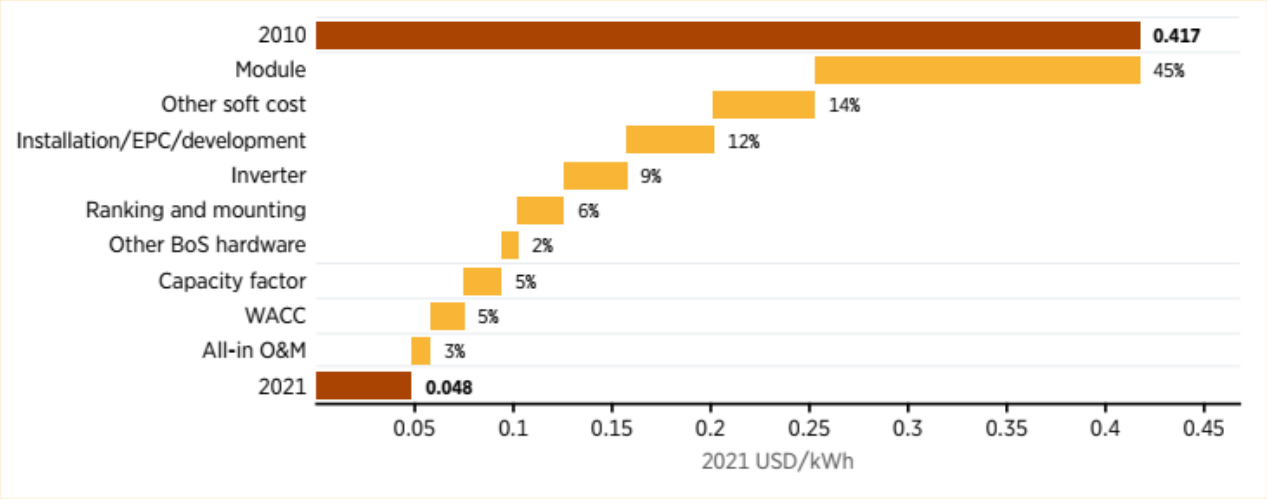
Box: The (marginal) role of cost of capital in the decreasing costs of renewable energy

Over the past decade, renewables have seen dramatic falls in the levelized costs of electricity (LCOE). This fall has been driven by lower upfront capital costs due to technological improvements and lower associated financing costs.

Egli et al. (2018) show that between 2000-2005 and 2017, LCOE for solar PV and onshore wind fell 87% and 45% respectively, with lower financing costs accounting for 41% of this reduction in Solar PV and 40% in onshore wind. These lower financing costs were largely a function of lower up-front CAPEX needs in connection with technological improvements, while falls in interest rates played a secondary role.

The fall in LCOE is confirmed by IRENA. For instance, between 2010 and 2020, the global weighted average LCOE of utility-scale solar panels had declined by 90%, to USD 0.048/kWh. Decrease in the WACC was only responsible of 5% of the fall.

Figure 3: Explaining the fall in levelized costs of electricity

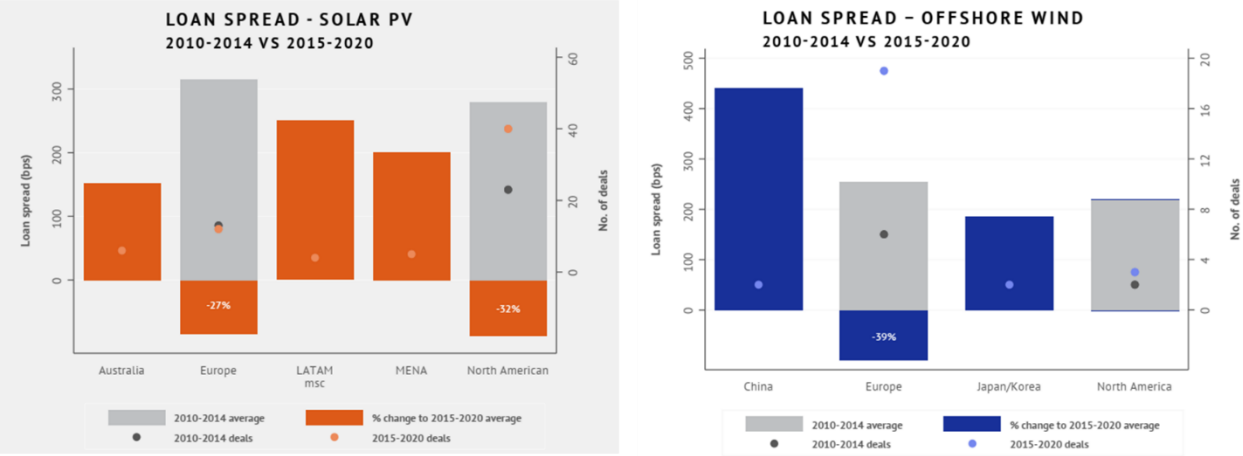


Source: IRENA Renewable Cost Database.

Zhou et al. (2021) show divergence in the trend of cost of capital between renewable and high-carbon energy companies over the last decade. Loan spreads for renewables (solar and wind) have been falling in Europe, while loan spreads for fossil fuels have been rising either marginally in the case of gas, or sharply for coal power.

[11] Murray and Shen (2016), Byoun et al. (2015)

Figure 4: changes in loan spreads for renewable energies (2010-2020)



Source: Zhou et al. (2021)

The moderators

When does flexible capital provision 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:** first, impact depends on the ability to identify projects for which the provision of fresh 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 needs of investees of flexible capital to grow:** due to market failures, some positive-impact projects may prove to be non-viable if financed at market terms. The provision of flexible capital by impact investors in isolation or combined with additional capital by conventional investors may then make them possible. To be impactful, the provision of flexible capital should be a condition for the project implementation and not represent a windfall for the project holder (i.e., when the project is still viable even if financed at market terms).
- **the magnitude of the divergence to market terms:** it mechanically influences the capacity of flexible capital products to influence the growth/transformation pathway of investees. Especially, the difference in rates between debts associated to green/sustainable projects and other debts is keen to affecting the strategic priorities of companies.

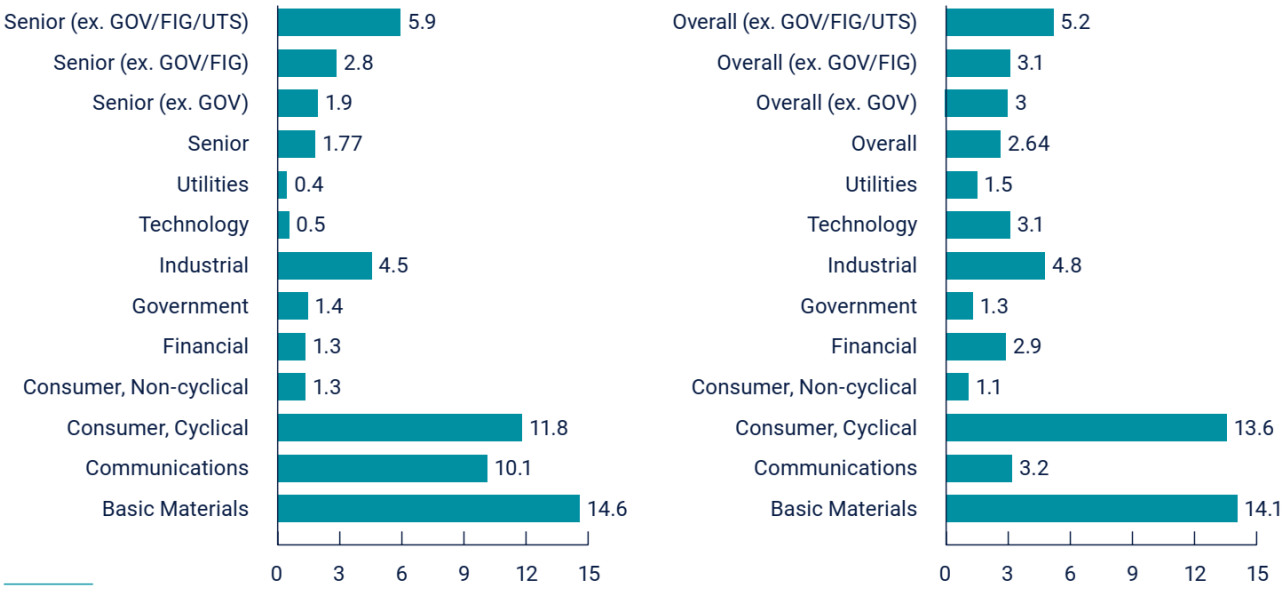
> **Example: the negligible "greenium"**. A lot of empirical work has been done about the greenium attached to green bonds or green loans. They obtain a very small or even negligible greenium (between 0 and 20 bp). The small greenium applies both in the primary and secondary markets and has been found to be larger for certified green bonds compared to self-labelled green bonds[12]. The asset management firm Mirova tracks the greenium of green and social bonds within the Euro-denominated universe. As of March 2022, the average greenium (calculated from 460 pairs of securities) conceded by sustainable investors, was about 2,64 bp, with significant variations across sectors, borrower types and debt seniorities (see figure 5). Even considering the largest estimates, the greenium would still appear too small to affect the volume of green investments or the arbitrage between green and non-green projects by companies.

[12] Gianfrate and Peri (2019), Zerbib (2019), Fatica et al. (2019)

Figure 5: greenium for various types of green bonds (March 2022)

	Average of Greenium	Count of Greenium
Senior (ex. GOV)	1.9	342
Senior (ex. GOV/FIG)	2.8	133
Senior (ex. GOV/FIG*/UTS**)	5.9	65

	Average of Greenium	Count of Greenium
Overall (ex. GOV)	2.9	370
Overall (ex. GOV/FIG)	3.2	148
Overall (ex. GOV/FIG*/UTS**)	4.8	70



*FIG= Financial Institution Group, **UTS= Utilities

Sources: Mirova as of 21/03/22, Bloomberg

- **the design of the incentivization scheme**: some incentivization mechanisms may prove to be poorly designed to motivate companies to change.

  Example: the case of sustainability-linked bonds and loans. Kölbel and Lambillon (2022) show that there is a 'free lunch' for some issuers of sustainability-linked bonds, as the sustainability premium (the lower interest rate compared to conventional bonds with identical features) is higher than the potential penalty in case of missed target, and they have a call option to reduce this penalty[13]. Such a 'free lunch' suggests that SLBs can in some cases be a form of greenwashing, when they are issued purely for financial optimization without a real commitment to carry out sustainability improvements. Similar results have been found for sustainability-linked loans. Using a scoring methodology, Auzepy et al. (2022) demonstrate that the majority of loans fails to meet key requirements that would make them credible instruments for generating effective sustainability incentives. In many cases, the KPIs are often not financially material to the company's industry and very rarely subject to regular external verification. In addition, KPIs are only infrequently developed against a specific benchmark. Furthermore, the failure of meeting KPIs rarely leads to a financial penalty (i.e., an interest rate increase), as a large number of SLLs only entail an interest rate reduction. The poor incentive of many SLLs for achieving substantial sustainability improvements also resonates with the observation by Kim et al. (2021) that the ESG scores of borrowers often deteriorate after the issuance of SLLs.

[13] The yield differential between SLBs and non-sustainable counterfactuals at issue is on average -29.2 bps. SLB Issuers benefit from lower cost of capital, while investors pay for the sustainability improvement. Since the average coupon step-up is lower than the sustainability premium (26.6 bps) and there is a time lag until the coupon step-up applies, issuers also benefit from a lower cost of capital when they fail on their sustainability performance target.

- **the internal rate of return of renewable energy/energy efficiency projects:** the importance of reducing cost of capital is enhanced when the IRR of green projects is located around the WACC. If so, reductions by concessional investors can turn some green projects from non-viable to viable.

Conclusion

The necessity for some economic agents to provide concessional capital in order to give birth to otherwise non-viable positive-impact projects is **well logically and empirically grounded**. Like public funds, impact investors operate as necessary responses to the incapability of markets to price in positive externalities.

For other positive-impact projects that do not require concessional capital, proposing below-market terms might still turn impactful as it can scale things up. In those specific cases, it would nevertheless imply a noticeable impact risk as this could represent a windfall for the project holders with no positive effect on their activity.

An impact and financial due diligence of projects to be financed (that could be complemented with appropriate covenants) appears necessary to ensure the mechanism will deliver up to its promises.

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