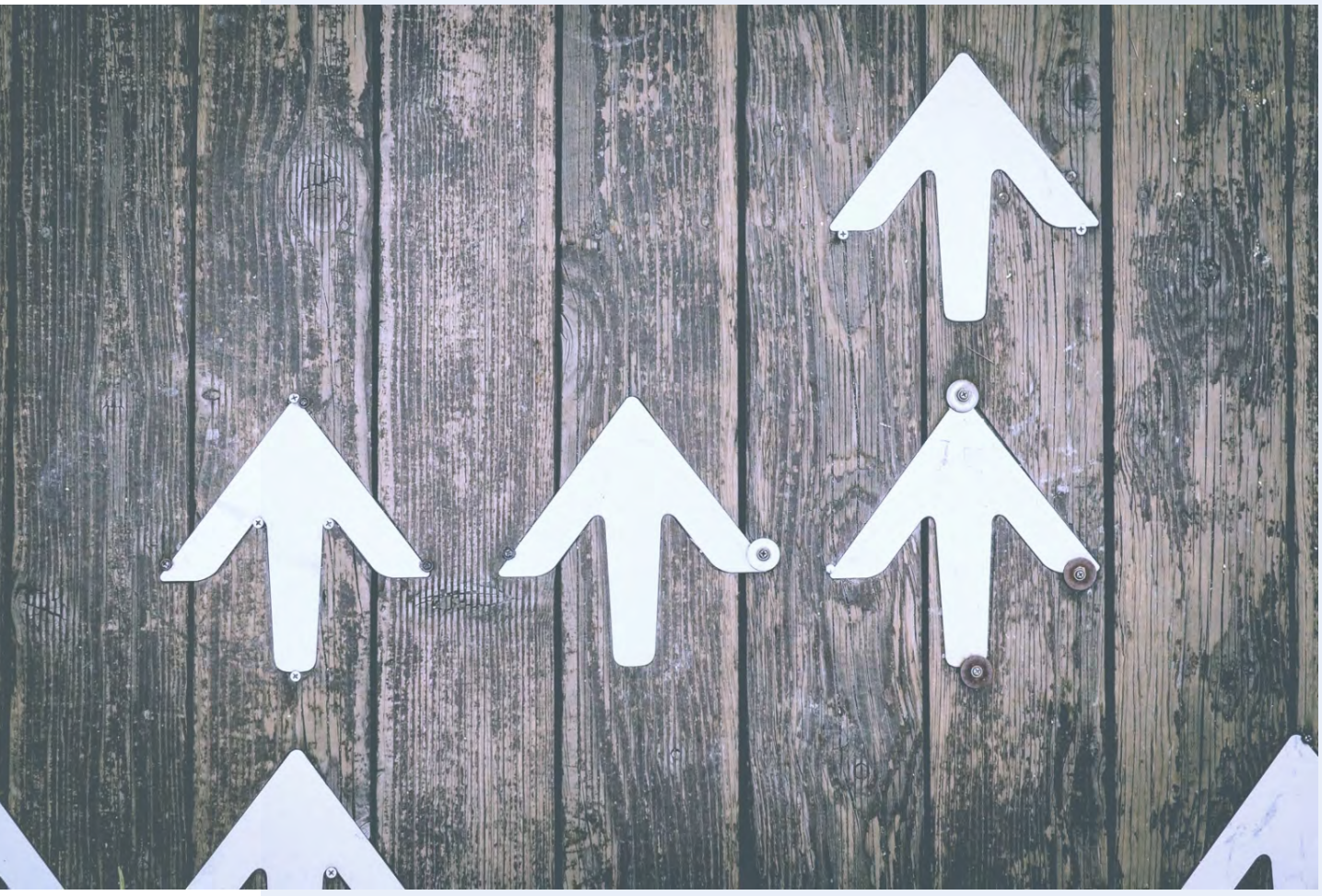
Sustainability Improvement Loans:

a risk-based approach to changing capital requirements in favour of sustainability outcomes



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Abstract

In the context of the EU Action Plan on Sustainable Finance, the European Commission plans to explore the introduction of a Green Supporting Factor (GSF) under capital requirement frameworks, that would incentivize banks to lend to 'green' activities. This takes capital requirement frameworks away from their risk-based origins and this move is widely contested, including by many financial supervisors. This paper suggests an alternative pathway that satisfies both the objective of aligning capital requirements as a way to shift capital towards sustainability, while preserving their core role of supporting risk management in the financial system and avoiding the drawbacks of a GSF. The paper introduces the concept of Sustainability Improvement Loans (SILs) which could merit lower capital charges as they are lower risk. We define SILs and how they could incentivize sustainability practices and reduce risk. The potential pathway to policy application and its estimated effects on banks' capital and profitability is then discussed, as well as the extent to which the policy is aligned with the financial stability prerogative of financial supervisors.

Keywords:

Sustainable Improvement Loan,

Capital requirement,

Green Supporting Factor

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I. Introduction

In the context of the EU Action Plan on Sustainable Finance, the European Commission plans to explore the introduction of a Green Supporting Factor (GSF) under capital requirement frameworks, that would incentivize banks to lend to 'green' activities. This concept was first introduced on the policy agenda by the EC's Vice-President for the Euro and Social Dialogue, also in charge of Financial Stability, Financial Services and Capital Markets Union, Valdis Dombrovskis, who proposed "lowering capital requirements for certain climate-friendly investments, such as energy-efficient mortgages or electric cars" (Dombrovskis, 2017).

The suggestion of adjusting capital requirements for 'green assets' has been met with significant criticism from academia, financial supervisors, and civil society organisations,[1] although a number of banking federations have expressed support as existing and future 'green' assets would benefit.[2] Instead it has been suggested that a Brown Penalty Factor (BPF) should be introduced and this would be aligned with the risk-based nature of capital requirement frameworks and the fact that erroneous adjustments would only increase capital requirements and thus not contribute negatively to financial stability.[3] While a BPF is generally preferred by financial supervisors given that is consistent with broader financial policy issues, a brown penalty approach is likely to be less palatable to policymakers facing more direct pressure from carbon-intensive sectors and banks lobbying against increased capital requirements. Another key criticism of a GSF is the lack of certainty as to its desired impact, given the mixed performance of a similar policy initiative called the SME Supporting Factor[4]. Previous analysis on the potential effects of a GSF suggest that the impact in terms of cost and availability of capital could be similarly muted.[5]

There are two key challenges. The first is that a GSF undermines risk-based capital requirement frameworks and may actually reduce the resilience of the finance system by encouraging riskier lending practices. The second is that even if a GSF was introduced is may have little impact on sustainability outcomes.

This working paper suggests an alternative pathway that satisfies both the objective of using capital requirements for risk reduction and the objective of shifting capital towards improving the sustainability outcomes. The paper first introduces the concept of Sustainability Improvement Loans (SILs) that have been gaining currency in loan markets in the past 18 months. SILs are loans that involve conditionality related to the sustainability performance of the borrower. In these instruments, the borrower receives a lower interest rate if they improve the performance on a sustainability indicator. As we shall see, these aspects of sustainability performance can reduce environment-related risks and thus credit risk, some of which can be passed on to the borrower in lower interest rates.

This paper suggests that supporting factors on SILs could reflect the lower risk of the instrument as a function of reduced environment-related risk (including climate-related risks), while supporting the scaling of these instruments and thus the shifting of capital to sustainability.

The paper is structured as follows. Section II will discuss the mechanism of SILs. Section III will estimate the potential effects of a support factor on profitability associated with these instruments and how the support factor can be structured to be a revenue-neutral support mechanism. Section IV will estimate the potential effects of introducing such a support factor on banks capital, using European banks as a case study. Section V will discuss the effect of introducing this support factor on financial stability. Section VI will provide concluding remarks.

[1] See SUERF Policy Note Issue N° 43 (2018)
[2] See Fédération bancaire française & Associazione Bancaria Italiana [Press release] (2018)
[3] See Sini Matikainen [webpage] (2017)
[4] EBA report on SMEs and SME Supporting Factor - EBA/OP/2016/04 (2016)
[5] See Thomä et al., (2018)

II. What are Sustainability Improvement Loans?

SILs are loans, usually revolving credit facilities, whose interest rate is partially adjusted (a premium or discount is usually applied to the margin) depending on the evolution of the borrower's sustainability performance. This sustainability performance may either be assessed based on external ESG ratings or KPIs, on the reaching of internal sustainability targets measured internally or externally, on the company's listing on a sustainability index, or on several of the above at the same time. The issuer of the loan may either be a single commercial bank, or a consortium of several financial institutions.

The first major loan of this kind was subscribed by Royal Philips, a health technology company, who agreed in April 2017 to a revolving credit facility agreement with a margin linked to the company's sustainability performance improvement, as measured by Sustainalytics' ESG ratings. The agreement was entered into by a consortium of 16 international banks (led by ING, as Sustainability Coordinator) and provides for a commitment of €1 billion. Since then, ING introduced a made-to-measure SI loan, whose interest rate is linked directly to the client's own sustainability targets (see Renewi example in Table 1 below). More recently, in February 2018, Danone subscribed a €2 billion loan, issued by a banking pool coordinated by BNP Paribas, with an adjustment of margins every 12 months based on both (1) the average of ESG scores as measured by Sustainalytics & Vigeo-Eiris, and (2) its transformation to a B-Corp Certified Group.

Table 1 provides examples of Sustainable Improvement Loans and highlights the criteria used as basis for interest rate adjustment.

Regarding sustainability impact, there are a number of advantages associated with this type of product. First, these loans are of interest for both sustainability leaders and laggards, as the financial incentive may be tailor-made, either based on how the company compares to peers, or on the company's progresses, no matter its starting position. The instrument incentivizes sustainability action rather than rewarding past behaviour. Moreover, unlike other green finance instruments such as green bonds, SILs generally (although of course there may be exceptions) do not set a requirement on the use of proceeds. Instead, they generally tend to focus on broader sustainability performance indicators at company level.

The justification of structuring sustainability improvement loans where banks accept lower interest rates may differ across products, themes, and even across the banks structuring these products. They may be driven by the concept of reducing interest rate as a function of 'not having to pay for the sustainability risk', a reward for socially responsible activities as part of a banks' sustainability strategy, a way of winning (and keeping) business, and / or simply a reputational benefit worth the foregone profitability.

Table 1. Examples of major Sustainable Improvement Loans and their characteristics

BORROWER	LOAN TYPE AND AMOUNT	CRITERIA FOR INTEREST RATE ADJUSTMENT			ISSUER
		External ESG ratings /KPIs	Internal Sustainability targets	Listing on a sustainability index	
Royal Philips[6]	Revolving credit facility - 1Bn EUR	Sustainalytics ratings			Consortium led by ING
Danone[7]	Revolving credit facility - 2Bn EUR	Sustainalytics & Vigeo-Eiris ratings	Transformation to a B-Corp Certified Group		Consortium led by BNP Paribas
Unibail-Rodamco[8]	Revolving credit facility - 600M EUR	Three Green KPIs			Consortium led by Lloyd
CapitaLand[9]	Revolving credit facility - 300M EUR	RobecoSAM's ESG indicators		Dow Jones Sustainability World Index	DBS
Renewi[10]	Revolving credit facility - 550M EUR		Env. performance in area such as recycling, carbon avoidance and fleet efficiency		Consortium led by ING
Consumers Energy[11]	Revolving credit facility - 1.4Bn $		Reducing carbon emissions by 80% by 2040, Zero coal used to generate electricity by 2040, etc.		Consortium led by Barclays

III. How could a SI capital adjustment offset the impact of Sustainable Improvement Loans on banks' profitability?

SI loans – all other things being equal – negatively impact banks' profitability in two ways. First, they involve higher due diligence requirement associated with monitoring and enforcing the covenant. Assuming economies of scale and the fact that any covenants are likely easily verifiable in order to avoid costs and ensure enforceability – structuring costs are assumed to be relatively marginal over time. Second, profitability impacts may remain material as a function of foregone revenue associated with lower interest rates. While these can be justified from the perspective of not requiring the borrower to pay for lower risks, they may create barriers to scaling the product.

The actual impact of the sustainability improvement loan condition on profitability is of course a function of both of the interest rate on the loan and the adjustment to that interest rate. Currently, most sustainable improvement loans are predicated on adjusting the interest rate based on a fixed basis point amount. The figure below illustrates the profitability impact under the assumption of a 25 basis points or 50 basis points adjustment for different interest rates. Of course, the profitability analysis here is simplified and considers all other things being equal (excluding by extension costs associated with monitoring sustainability performance, etc.).

[6] See Philips, 2017 [Press release]
[7] See BNP Paribas, 2018 [Press release]
[8] See Recapitalnew.com, 2017 [Press release]
[9] See Buisnesstimes.com, 2018 [Press release]
[10] See ING, 2018 [Press release]
[11] See Environmentalleader.com, 2018 [Press release]

It also doesn't consider the partial offset of profitability losses due to lower default risk and / or new business opportunities that SILs could trigger, thus making them viable at some scale independent of a policy intervention, although the potential may be limited or could be supported by policy. The analysis shows that intuitively, sustainable improvement adjustments only have marginal effects on profitability at higher interest rates but may be more material at lower interest rates. Of course, these adjustments would then be less generous in all likelihood at lower interest rates.

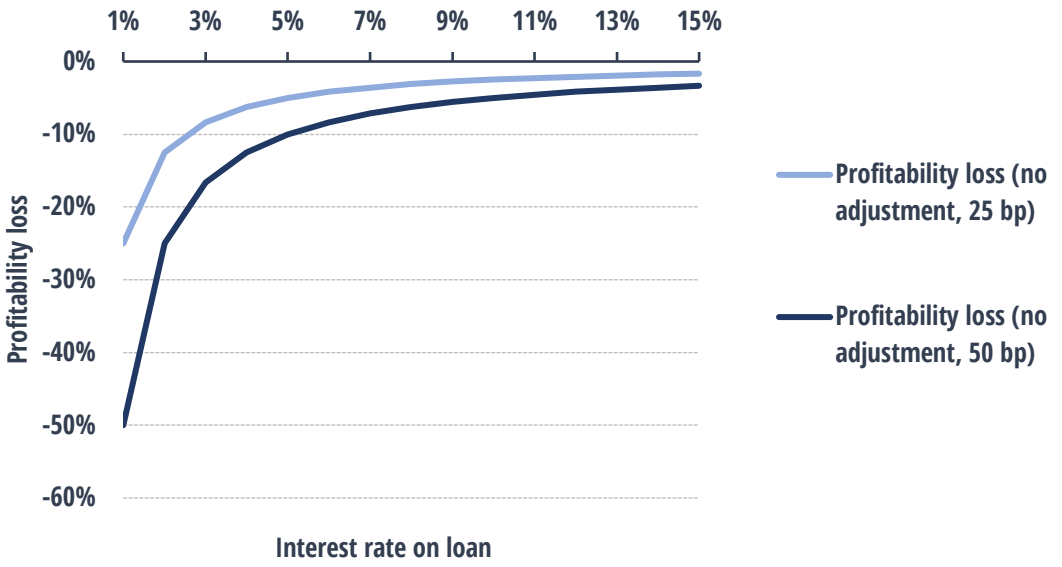

Figure 1. Impact of the sustainable improvement loan condition on profitability depending on the interest rate and assuming zero offsets as a function of lower default rates or related dynamics (Source: Authors)

A SI support factor could help mitigate the negative effect on profitability in a revenue neutral way by reducing capital requirements of the loan. The figures below highlight the required level of the support factor in order to be revenue neutral. They show the profitability of a SI loan relative to the original profitability under various risk-weight assumptions (100% being the original risk-weight). The analysis is done both for a SI loan involving a 25-basis points and a 50-basis points reduction, for loans between 3-15% interest rate. The simulation level is based on the review of existing applications of SILs. While these higher interest rates may not be relevant in the current market, they demonstrate the potential effects in non-EU markets with higher interest rates and the case where interest rates may go up in the future.

The results show that a risk-weight adjustment can have a significant effect on reducing profitability losses. A 20% risk weight adjustment with a 25-basis point SI covenant would imply a reduce profitability of 2% or less at interest rates of 5%-8% and be profitability neutral or even positive at any interest rate above 8%. Even at a 4% interest rate, the risk-weight adjustment of 20% would imply a reduced profitability of only 3.4%. Lower SI covenants or higher risk-weight adjustments obviously amplify the results. Equally, higher SI covenants imply higher reductions in profitability. Thus, a profitability loss of less than 2% with a 20% risk-weight adjustment is only achieved at interest rates of ~10% or more for a SI covenant of 50%.

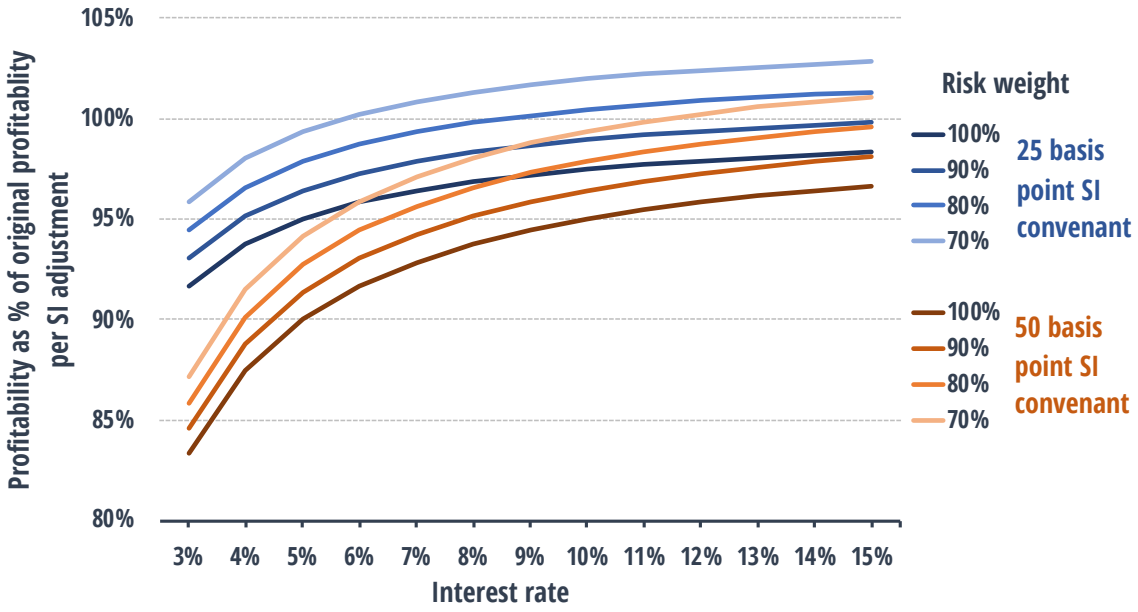

Figure 2. Impact of a SI capital adjustment on profitability at different interest rates, assuming a 25-basis point SI covenant (Source: Authors)

IV. What would be the impact of a SI capital adjustment on banks' capital?

The actual effect of an adjustment of capital requirements for SI loans is obviously a function of the nature of the policy intervention. As highlighted above, a support factor of 10-20% is likely to offset to a significant degree the profitability impact of a SI covenant, assuming the borrower meets the criteria. On the other hand, given the potential to have these covenants with all companies in the loanbook, it is difficult to apply a market sizing approach. Another challenge is considering the application in terms of credit rating and thus baseline risk-weight of the assets affected by the support factor.

A simple approach chosen here estimates the potential effect assuming a 0-40% market penetration of the instrument, using as a case study European banks to which this instrument would be applied in the context of the implementation of the EU Sustainable Finance Action Plan. Moreover, two types of interventions are simulated – a 10% support factor and a 20% support factor. These support factors were selected as a function of support factors evidenced in the Green Supporting Factor discussion and the SME Supporting Factor. The existing risk weight for these loans is assumed to be 100% across the board.

These assumptions can then be applied to the outstanding loans of European banks to large, non-financial companies – €2.5 trillion. The results suggest that the application of a SI support factor could reduce the capital of European banks by €16 billion assuming an extended application (20% adjustment of the risk-weight, 40% market penetration). Of course, lower market penetration would thus imply a lower capital reduction. To put these numbers into context, the SME Supporting Factor reduced banks capital by an estimated €12 billion and the GSF would be estimated to reduce banks capital by €2-8 billion.[12]

[12] See Thomä et al., (2018)

For the purpose of this analysis, it is assumed that SME loans would be excluded from the support factor. Of course, hypothetically, they could also be covered, which would increase the capital effects however significantly. Assuming equal market penetration, capital reduction would be 60% higher relative to just applying the instrument to large, non-financial corporates.

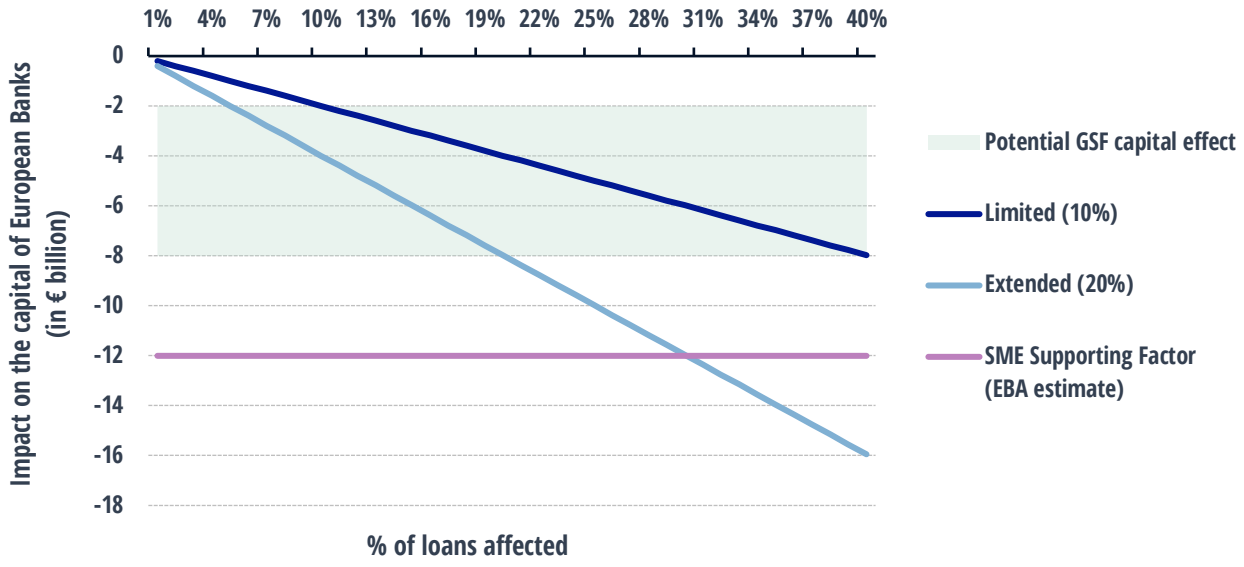

Figure 3. Impact of limited and extended SI capital adjustments on the capital of European banks (Source: Authors, based on ECB, EBA, Thomä et al. 2018, and own calculations)

V. Is a SI capital adjustment justified from a financial stability perspective?

The previous section highlighted the extent to which a limited risk-weight adjustment (10-20%) could offset a significant share of the profitability loss associated with introducing a SI loan, while limiting capital reduction to volumes similar to that of the SME Supporting Factor. Given that the SI loan structures could be considered – depending on the nature of the covenant – to also reduce sustainability risks, the capital reduction could be considered financial stability neutral.

This section discusses the extent to which incentivizing good sustainability risk management practices, as done by a SIL Supporting Factor, instead of defining a finite set of eligible assets, as done by a Green Supporting Factor, may or may not respond to the financial stability caveats raised by financial supervisors around this regulatory intervention.

V.I. Sustainability improvement and risk reduction: A mixed literature

While there is a growing consensus about the positive effect of improving sustainability (as measured by ESG ratings) on financial performance for equity, much less evidence is available for fixed income.[13] Most of the existing literature focuses on corporate bonds, using ESG ratings as a sustainability measurement metric, and has been produced by the financial industry. These industry-led studies identify an inverse relationship between ESG ratings and credit spread for corresponding bonds, as

[13] See World Bank, 2018

well as with defaulting probability.[14] Some academic studies also confirm these results,[15] while others detect no clear correlation between ESG performance, as measured by ESG ratings, and credit risk.[16] As for loans, a recent study assessing the impact of greening lending on credit risk in China suggested that banks with a higher ratio of green lending have a lower NPL ratio.[17]

It therefore seems that highly ESG rated companies tend to have a lower default risk than low-rated ones, implying that a SIL whose incentive is based on ESG ratings would indeed lead to a reduced credit risk. Yet, these conclusions suffer major limitations.

First, these studies focus on ESG ratings as a proxy for sustainability, but even if there is indeed a correlation between high ESG rating and low credit risk, this doesn't necessarily mean that other sustainability proxies are also correlated with creditworthiness. Hence, SI loans that reference specific sustainability performance indicators may not reveal superior financial performance.

Second, causality between high sustainability and low risk isn't properly established in the literature. Indeed, companies with higher ESG performance tend to have higher credit ratings[18] - this relation is particularly pronounced for companies with high social & governance scores.[19] Whether this is because ESG performance in considered by CRAs, or because sustainable companies also happen to be financially healthy ones is hard to establish. In that latter case, the above-mentioned results (i.e. sustainable companies have a lower probability of default) wouldn't be caused by the sustainability factor itself. By extension, SI loans would simply codify lower risk that is already captured by the existing risk management practice.

Finally, even if higher ratings are caused by higher sustainability, this means that ESG factors are already -at least partially- taken into account by the market. Some studies have indeed shown that a premium is already applied on debt cost for companies with high carbon emissions/social responsibility concerns[20] - although findings are inconclusive in other studies.[21]

Hence, considering the current literature on the subject, it is not possible to clearly establish causality across all economic sectors between a given sustainability criteria and credit risk, let alone to quantify this risk reduction. This is not the least the case given that for many types of sustainability criteria or risks – e.g. the transition to a low-carbon economy – evidence for financial performance would not necessarily be expected in historical data.

Thus, a policy intervention that has defined its standard conclusive evidence on risk differentials cannot function. Financial supervisors or policymakers requiring conclusive evidence will be disappointed. However, a policy intervention may also be based on considering these loans not from the perspective of empirically revealed risk differentials, but rather as a way to incentivize risk management. In this case, the "criteria" itself may potentially be considered to be sufficient evidence of risk management.

V.II. Rewarding good risk management practices rather than empirically revealed historical risk differentials

Contrary to a Green Supporting Factor, which would require a taxonomy for "green assets" to be built, as well as evidences that these assets are indeed related to a lower credit risk, the strength of a supporting factor for SILs is to incentivize a process – a tailored risk management procedure, rather than an empirically revealed historical risk differential. The key assumption is that banks would only

[14] See Fidelity, 2018; Allianz, 2017; Barclays, 2016
[15] See Hsu and Cheng, 2015; Oikonomou et al., 2014
[16] See Amiraslani et al., 2017; Cantino et al., 2017
[17] See Cui et al., 2018
[18] See Cubas-diaz et al., 2018
[19] See Attig et al., 2013; Devalle et al., 2017
[20] See Kleimeier & Viehs, 2016; Goss & Roberts, 2011; Bauer & Hann, 2010
[21] See Hoepner et al., 2016

decrease a loan's interest rate if they believe that its probability of default is lower than loans with a higher interest rate, and therefore only offer SILs which have been designed to incentivize a reduction in sustainability risks which are material to the borrowing company – Although, as highlighted above, the impact of a lower interest rate on banks' profitability might not be entirely offset by the lower default risk. This allows for a much more tailored risk mitigation process than building a top-down taxonomy of eligible assets.

Yet, in order not to leave this risk management process entirely up to the bank and to ensure that the policy doesn't threaten financial stability, a minimum set of sustainability criteria could be set. This would be simple good supervisory practice and consistent with avoiding 'riskwashing'. These minimum standards for criteria could be relatively broad however and simply require a consideration of 'materiality' of the criteria. For example, a science-based target related to climate outcomes could be financially material for companies in high-carbon sectors, but is unlikely to be financially material for a clothing company.

In that vein, banks that can evidence sustainability risks associated with a criterion could also submit their criteria for consideration, with an independent group or the supervisor directly validating these on a continuous basis. In applying this concept, this would also make it easier to more quickly scale the sustainability agenda across a broader range of sustainability issues beyond climate, thus responding to one of the key criticisms currently levied against the EU Sustainable Finance Action Plan.[22]

VI. Conclusion

As discussed prior, adjustments of capital requirements on SI loans have a number of advantages relative to the current policy initiatives – notably the Green Supporting Factor under discussion.

First, the instrument directly incentivizes sustainability action. When sustainability improves, interest rate goes down. It thus avoids a policy incentive that simply rewards past behaviour. Second, by incentivizing banks to develop tailored sustainability risk management procedures, as well as focusing on a discrete set of criteria that can be scoped to reflect sustainability risks, the instrument directly rewards reduced risk with lower capital requirements. In theory and principle, it thus keeps overall financial stability risk in the market constant. Thirdly, it can be calibrated as an incentive that directly responds to the profitability gap the SI loan creates, thus creating the opportunity to be finely calibrated, without creating a revenue strain on financial policymakers. Fourth, the mechanisms ensure that when there isn't compliance (e.g. the sustainability covenant is broken), the support isn't triggered and thus neither would the support factor. Fourth, SILs could help green bonds graduate to ensuring a more broader transition path for green bond issuers[23]. Finally, the policy initiative is likely to be a lot more palatable to key stakeholders (financial supervisors, NGOs) worried about greenwashing and financial risk, without necessarily creating the same kind of policy barriers associated with a 'brown penalty' – not the least of the negative effect a brown penalty may have on overall lending volume.

While all of these elements speak for the instrument, of course it only works if the right set of criteria are defined and the scope of application is constrained. Given these however, it portends significant promise.

[22] See Better Europe, Public affairs (2018)
[23] 2°Investing Initiative (2018)

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