

Consultation by the Financial Stability Board (FSB)
July 18 - August 22, 2018
*Evaluation of the effects of financial regulatory reforms
on Infrastructure Finance*

Response by Paris EUROPLACE
Working Group on Infrastructure Finance

Paris EUROPLACE is the organization in charge of developing and promoting the Paris financial marketplace and the French financial industry internationally. Paris EUROPLACE brings together all financial industry stakeholders; its 400+ members include issuers, investors, banks and financial intermediaries, attorneys and accountants, consulting firms, etc., as well as the Paris financial markets authorities.

Acknowledging the essential importance of infrastructures for long term economic growth and the specific expertise of French players in Infrastructure Finance (IF) as well as long history of proven success of the Paris financial centre in IF thanks to the presence of some of the most prominent international sponsors, top-ranking banking groups, leading infrastructure funds, and a strong community of legal and financial services, Paris EUROPLACE established three years ago a specific working group on IF in order to contribute to the reflexions on the evolutions of IF. Members include banks, institutional investors and specialised funds, corporates, public sector entities, law firms and consulting firms, etc., covering all main areas and aspects of Infrastructure Finance. This working group has drafted the comments below on the consultative document of the Financial Stability Board.

Paris EUROPLACE strongly welcomes the opportunity to comment on the FSB's consultation on the Evaluation of the effects of financial regulatory reforms on infrastructure finance.

However, in the short time frame (from the 18th of July to the 22nd of August i.e. a period covering the summer break for most of our members) which has been allocated to review this very interesting consultative document, our working group has not been in a position to formally answer all 17 questions of the consultation document. We have chosen to concentrate on a specific comment on the evolution of the banking regulation and on a few general thoughts trying to address the main findings of the document.

THE IMPACT OF THE BANKING REGULATION

We would like first to outline the importance of project finance in the volumes of infrastructure financing, with \$318 bn financed in 2017 (source: Infrastructure Journal). This is a market still heavily dominated by banks, both in terms of structuring expertise and amounts financed, although investors (institutional investors as well as infrastructure funds) have gradually increased their appetite, providing a significant welcome secondary source of funding.

The FSB study provides a very thorough picture of recent evolutions and current state of Infrastructure Finance, as well as various quite useful comments on the impact of past financial regulatory reforms on IF.

The analysis, however, although concentrating on G20 reforms, does not fully address the question raised by the G20 on the consequences of the post-crisis financial regulatory program, since it does not incorporate the most recent steps of the banking regulation. This makes it delicate to endorse the general appraisal of an absence of material negative effects of the reforms on IF and only a second order effect of regulation relative to other factors. Actually, financial regulation can have a major impact on IF, and should have in the current state of the banking regulation, which has been decided at international level, although not enforced yet.

The FSB study did not focus on the impacts of the revised Basel III regulation (published in December 2017), which, we believe, will have a dramatic impact on infrastructure financing. Notably, the future impact of Loss Given Default (LGD) input floors does not seem to have been considered by the FSB study, since it is based on a market analysis done shortly after the revised regulation was published and long before it comes into effect. Additionally, the LGD input floors which are introduced by the revised Basel III regulation were not envisaged during the consultation for Project Finance (and generally for other Specialized Lending) and were not tested on this asset class.

The intrinsic strengths of project finance are not taken into account under this regulation, which will have the effect of massively increasing the capital required from banks to lend to project finance transactions. This increase to a level of Risk Weight (RW) equivalent those of unsecured corporate loans is not justified, as demonstrated by very long-term default studies regularly updated by rating agencies, exhibiting much lower rates of losses on project finance transactions than on unsecured corporate loans (average LGD of 23%¹ to be compared to an expected unsecured corporate LGD of 40%).

Project finance will thus be required roughly the same proportion of regulatory capital as corporate unsecured loans, despite being much less risky. Moreover, the same risk weights will be applied to the less risky project finance loans and for more risky loans, which should consequently highly incentivize banks to choose the riskiest transactions.

We thus draw the FSB's attention on this unintended consequence of the revised Basel III framework, in particular as regards the LGD input floors, which were not designed for project finance (nor for the other Specialized Lending asset classes) and negates the possibility of truly discriminating risks with internal models, with the likely effect of an increase in risks in banks' balance sheets instead of reinforcing financial stability.

The result of the revised Basel III regulation should be a **significant and quick reduction of banks volumes of infrastructure project finance** as well as a **significant social negative**

¹ Source: S&P Capital IQ study 2015

impact through a strong increase of margins, to be finally paid for by the end users of infrastructures.

Insurers won't be able to sufficiently take over banks financing of infrastructure, as banks' ability to structure bespoke financings will still be needed, notably their expertise in financing the infrastructures construction period (period for which insurers generally don't have much appetite as it requires multiples drawings)

We therefore urge the FSB to ask the BCBS to reconsider the calibration of these input floors and to define a more granular and adequately calibrated "Slotting approach" in regards of the low risk observed, for project finance and for the other specialized lending loans as well.

1. Infrastructure project finance characteristics

Infrastructure Project Finance consists in the financing of infrastructure assets generating sustainable cash flows over the long run. Assets financed comprise large transportation, social, energy (notably renewable power plants), telecommunication infrastructures, natural resources plants or storage facilities, which are essential for the functioning of the real economy.

Project finance is a sound way of financing infrastructure, for which the banks have the structuring expertise.

- Infrastructures are not standard assets. Due to the diversity of assets, construction characteristics, political and legal environment, counterparts, infrastructure assets require bespoke financings which banks have adequately provided until now. The project finance structure enables to mitigate the different risks taken, also analysed in depth by the due diligence done by banks.
- Project finance lenders benefit from comprehensive security packages (security on the assets and shares of the borrower, assignment of contracts, insurances, etc.), with limitations of indebtedness and of investment notably, enabling them to control the cash flows and finally the risk taken.
- Assets financed deliver essential services and generate sustainable cash flows over their long life, which enables to solve default situations generally through restructuring of loans over the residual assets life. Project finance strength lies in the cash flows generated over the long run rather than on a "collateral value" that could be sold quickly.
- Lenders are protected by cash flows higher than debt service, as well as by additional cash flows generated by the asset over its residual life after maturity. This enables to re-profile the loan over longer maturities with limited losses in case of lower than anticipated cash flows. The emergence of default is generally solved through restructuring of the loan, and in exceptional cases by the sale of the project company itself.

Project finance asset class is therefore a low average loss-rate asset class, with 0.35% observed loss rate vs 0.72 % for unsecured corporate loans, i.e. twice less risky.

Observed Default Frequency	LGD	Loss Rate
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Project finance	1,50% ²	23%	0,35%
Unsecured corporate loan	1,80% ³	40%	0,72%

The bespoke and complex characteristics of project finance are best considered through internal LGD models and ratings in order to derive realistic economic and regulatory capital calculations for the fund providers. Most project finance transactions are structured on similar principles but are applied to widely varying types of assets and contracts, leading to very different potential volatility of cash-flows. This is dealt with by adapting the proportion of debt available (and thus of equity brought by the sponsors for the rest of the financing of the asset) to each project, but also by assessing the level of risk of this debt.

2. The regulation has not penalized infrastructure project finance so far, but the revised Basel III regulation is going to strongly and negatively impact this type of financing

Since Basel II was introduced over 10 years ago, project banks have had the possibility to implement the Internal Ratings Based Approach to calculate the regulatory capital requirements associated with some or all their transactions. This has created favourable conditions for infrastructure project finance and has somewhat reduced the negative consequences of the financial crisis in the amount of commitments that the banking sector was able to offer. Not only were banks able to take full benefit of the low level of risk of many projects by reducing the amount of regulatory capital necessary for these projects, but they were also powerfully incentivized to continue to reduce debt risk levels on new projects to achieve better capital treatment.

Infrastructure project finance was largely beneficiary of this virtuous circle because, for example, a large proportion (but not all) of infrastructure projects derive their income from “availability-based” payments (i.e. not subject to volume or price risk) from highly-rated Government entities, and as such can be categorized in the lowest-risk buckets of internal models: banks are thus able to lower their capital requirements, increasing the amount of funding available for these projects and also reducing the cost of these financings for the project sponsors, the Government entities, and ultimately the users.

This state of affairs was not modified by the introduction of the original Basel III rules after 2010. These rules did increase across the board the amount of regulatory capital that banks must hold, and introduced other constraints as well, such as liquidity and leverage ratios. But the original Basel III rules did not penalize project finance relative to other bank activities and did not question the use of internal models to estimate credit risk and regulatory capital.

This situation is about to change profoundly with the very significant amendments to the Basel III rules introduced in the text published by the Basel Committee in December 2017: internal models will become severely constrained in general and the specific dispositions applicable to project finance de facto negates the effect of internal models and are particularly punitive and unsuitable.

² and ³ source: S&P “Annual Global Project Finance Default and Recovery Study, December 2015”

3. Project finance is overly penalized by revised Basel III regulation as it is considered as unsecured corporate regarding the LGD input floor

The Basel Committee text published in December 2017 and entitled “Basel III: Finalising post-crisis reforms” greatly reduced the scope authorized for internal models for credit risk. The possibility to use internal models to estimate the LGD factor for most corporate exposures was removed. This factor is, however, particularly important to consider the value of collateral and security package attached to an exposure.

The text allows the continued use of internal LGD models for the category of corporate exposures called “Specialized Lending”, which includes project finance, but introduces LGD input floors which were not envisaged for SL nor tested during the consultation process.

The conditions attached to collaterals are not relevant for project finance, and there remains a very important question mark over the interpretation of the text. It seems highly likely that a 25% LGD floor would apply to all project finance, since project finance assets do not meet the conditions defined for recognition of assets collaterals and would therefore be treated as “unsecured”.

The text, regarding collaterals, is not really applicable to project finance, as the conditions of eligibility of other physical collateral (article 295 of December 2017 text, d424) are irrelevant for project finance: they include conditions of liquidity of markets for disposal of collateral in an expeditious manner and publicly available market prices which are not adequate conditions for project finance. Although project companies have indeed an intrinsic value (as it generates substantial cash flows over the asset life) and could be valued, they are not really “liquid” and there are no publicly available market prices.

The strength of project finance lies in its financial structure with loans shorter than the asset life, thus enabling to restructure with a postponement of maturity with almost no loss and in the security package which enables lenders to control the future cash flows to be generated over the whole asset life. Therefore, low LGD in project finance is not explained by assets that can be sold quickly on liquid markets, but by the typical project finance structure which enables to restructure the loan with limited losses, with recoveries being the future cash flows to be generated by the asset on its whole life rather than being an asset sale value.

Given these eligibility conditions, and although project finance lenders benefit from comprehensive security package, these loans will have to bear the unsecured corporate floors, i.e. 25% although roughly twice less risky than unsecured corporate loans⁴ and although data would support much lower input floors as low as 10%, with more than half of defaulted loans showing historical LGD lower than 10%.⁵

With such input floor, project finance is treated like unsecured corporate loans in IRB, as illustrated in the table hereunder:

Type of loan	Revised SA	RW IRBA with floors	Slotting Approach
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⁴ 23% LGD (source : S&P “Annual Global Project Finance Default and Recovery Study, December 2015”) vs 40% expected LGD for unsecured corporate loans under the revised Basel III text

⁵ Source S&P capital IQ

BBB– to BB+ corporate, unsecured loan, 2.5 years	100%	50% to 80% RW	
BBB- to BB+ project finance, 5 years WAL.	100% in operational phase, 130% in pre-operational phase.	50% to 70% RW	Slotting approach: 70% to 250% 90% to 115% for a “standard loan”

The internal model results become irrelevant (as LGD is increased to the LGD input floor of 25%) for most infrastructure exposures. The LGD floor of 25% is overly punitive in view of project finance observed LGD (with more than half of observed LGD on defaulted loans below 10%).⁶

Finally, it is also worth mentioning that infrastructure project finance could also be negatively affected by the revised Standardized Approach which applies 130%-100% RW to projects, which is generally higher than similarly-rated unsecured loans RW and much higher than what the historical loss rates would imply as project Finance is roughly twice less risky than unsecured corporate.

4. The consequences of the revised Basel III regulation on infrastructure project finance

a. Massive increase in RW (Risk Weight) and capital and very limited discrimination between levels of risk in project finance

In the table hereunder, we see that for most project finance transactions, the RW of the transaction - and consequently the amount of capital required - will be massively increased and will end up at a similar level, whatever the specific risk of the transaction. Lowest-risk transactions will be the most impacted with increase in RW as high as +150 % for a project with a 10 % LGD and will bear the same RW as more risky transaction like 25% LGD ones, which means that the introduction of the LGD input floors cancels the granularity of risk assessment soundly provided by internal models.

LGD	current RW	RW revised Basel III	Increase in RW
10%	19%	47%	150%
25%	47%	47%	0%

b. Unintended consequences of revised Basel III of incentivizing banks to take more risks

This will have the unintended effect of strongly incentivizing banks to choose the riskiest transactions which will be the only ones with sufficient margins to generate acceptable return. The virtuous circle of banks seeking to reduce project risks to obtain better capital treatment will be broken. With most projects at more or less the same capital level, the incentive will be on improving margins even if that entails taking on more risk.

⁶ Source S&P Capital IQ

While the revised Basel III regulation was designed to reinforce financial stability, for specialized lending and infrastructure project finance, it should increase the risks in banks' balance sheets.

We would also like to underline that this impact was largely ignored in the quantitative impact studies (QIS) that took place before the finalization of the Basel III text. LGD input floors to be applied to Specialized Lending and the inapplicability of the specific conditions for project finance only appeared in the final text. Therefore, it seems that the BCBS may have not anticipated the impact of such regulation.

c. Revised Basel III regulation regarding specialized lending (including project finance) is mainly impacting European banks and infrastructure in Europe.

The top 10 of infrastructure project MLA (Mandated Lead Arranger) banks do not include any US bank. As a result, the revised Basel III regulation will mainly impact European banks and consequently the financing of infrastructure in Europe as it is largely financed by banks while capital markets solutions are more largely available in the US.

The impact of the revised Basel III is so strong that the banks' management is likely to quickly take decisions of reducing the activity on these types of financing.

d. Insurers won't sufficiently take over banks financing of infrastructure, and banks' ability to structure bespoke financings will still be needed

Lenders of infrastructure financing have mainly been banks, but the market is now evolving with insurers being increasingly active in it, often with the intermediation of banks at some point and mostly on the refinancing of existing assets. It is hard to see how insurers could be able to compensate a big decrease in banks' participation in this market. In our view, in the most favourable scenario, the increase in commitments by insurers will be progressive and take a long time.

Insurers won't be able to fully take over these financings as banks still play an important role in structuring these deals, e.g. insurers would not necessarily finance the construction period of projects which banks do. Banks are also able to take into account the sponsors' needs with various maturities while insurers prefer very long transactions, or with early repayments possibilities which insurers don't favour.

The needs in infrastructure finance are huge, and reducing the banks financing will make it even more challenging. The impact of the revised Basel III regulation will be an abrupt and important reduction of volumes of infrastructure financing.

e. Significant social negative impact of revised Basel III regulation

Revised Basel III will imply a very important increase in margins to bear the increased LGD. This will imply an increase in prices for end users, like electricity prices for example. While the first part of BIII had a limited impact notably due to a context of lower interest rates, the possible increase of interest rates coupled with the increase in margins will have a notable impact.

Additionally, the lower appetite of some commercial banks from project finance should make the financing of projects for corporates more complex, lengthy and consequently costly; this could entail a need for additional financial human resources in the sponsors’ financial teams, which only major groups will be able to afford. This may bring increased concentration of companies involved in project finance, as well as a rise in the size of operations eligible to a project finance approach (estimated by IFC at a minimum level of \$40 M) and a decline in smaller size projects to be initiated by Medium Sized Companies.

5. Need to review the Basel III framework for project finance and other specialized lending assets.

Given the above, we urge the FSB to push for a more granular RW framework, adequately calibrated, considering the low losses observed in average and to ask the BCBS to:

- Review the prudential treatment of project finance in particular, and more generally of specialized lending, with the need of a specific calibration of more granular LGD input floors, which for project finance should begin at 10%, in light of the observed data⁷.
- Review the Slotting approach and define a more granular table of RW, adequately calibrated in order to incentivize banks to structure and chose the best transactions in terms of risks.
- Also review the treatment of other specialized lending asset classes⁸ such as aircraft finance which would also be strongly negatively impacted by the LGD input floors and collateral fixed haircuts, despite low loss rates as shown by GCD (Global Credit Data) pooled data⁹.

	ODF	LGD	Loss Rate
Aircraft finance	1,96%	16%	0,31%
Shipping finance	3,13%	13%	0,41%
Commodities finance	0,89%	13,3%	0,12%

In its study on aircraft finance, the Aviation Working Group¹⁰ shows an average LGD of 8% on senior loans, whereas GCD also includes junior ones and caps recoveries.

The 15% LGD input floor can only be reached after applying a 40% haircut to the value of the assets financed (paragraph 86), irrespective of the volatility/risk of the assets financed, which is one of the main factors assessed by internal models. Model results become irrelevant for all assets where a haircut lower than 40% can be justified. In practice, this means that all transactions where debt exceeds 60% of the value of the assets are subject to an LGD floor higher than 15%.

⁷ 52% of defaulted loans show an LGD lower than 10% (S&P Capital IQ project finance default and recovery study 2015).

⁸ For a description of SL asset classes please see the AFME discussion papers: <https://www.afme.eu/en/divisions-and-committees/regulation/about-specialised-lending/>

⁹ GCD data: Risk free discounting rate. We very conservatively added +5% in order to have an equivalent of discount at loan rate, i.e. on aircraft finance the observed LGD discounted at risk free by GCD on senior and junior loans is of 11%

¹⁰ AWG study on aircraft LGD: <http://www.awg.aero/assets/docs/Basel--AWG-study-on-aircraft-backed-loans-14-October-2016.pdf>

These floors were not designed for Specialized Lending asset classes and are much too high when we compare them to the observed LGD and as for project finance, will penalize most of the transactions and will incentivize banks to choose the riskiest transactions.

ADDITIONAL GENERAL COMMENTS ON THE FINDINGS OF THE CONSULTATIVE DOCUMENT

- **finding of the consultative document: IF provided by Financial Institutions (FIs) is only of 5 to 10 % of the total of infrastructure financings**

This is probably true so far but there is general consensus (UNO, G20, OECD ...) on the fact that going forward the need for long term financing in order to bridge the infrastructure gap and enable a sustainable and inclusive growth (serving the fulfilment of the SDGs) will increase and Public Financings will not be sufficient to meet these IF needs. Accordingly, a higher involvement of FIs will be necessary (and the tendency among MDBs and NDBs is to develop de-risking products to enable this FIs involvement)

- **finding of the consultative document: this measurement of FIs' IF covers both project finance (hence limited recourse) and Corporate finance to the benefit of companies engaged into IF and the share of this second category tends to increase**

This finding tends to show that Corporate are taking on their balance sheets growing amounts of project finance related exposure hence risk, which is not necessarily good for financial stability (see the recent bankruptcy of an important British Corporate)

- **finding of the consultative document: The maturities of these financings tends to decrease**

This is understandably considered as good news (and as a “non unintended” effect) on a strict financial analysis point of view, but if we take a broader perspective we have to bear in mind that an excessive mismatch between the maturity of the financing and the payback period of the project financed (e g with the development of mini-perms) expose the project hence all its partners – in particular the FIs - to a refinancing risk all the more serious that we are probably heading towards a period of rise in interest rates.

- **finding of the consultative document: The spreads have not gone back to where they stood before the financial crisis and in particular they have stayed at their peak level on EMDEs**

Whilst we agree that the spreads before the crisis were too low and that a reasonable increase was and still is needed, there is a balance to be found between a fair reward of the risks taken by FIs (and the related costs of liquidity and capital charges) and the affordability of the financial costs for the beneficiaries: an excessive financial cost can lead to either the impossibility to do the project, or the insolvency of the project company entailing significant risks and problems for all the partners, FIs included (it is to be noted that the total financial costs is the sum of the margins and fees of the loans and the costs of the IRS which is very often a technical requirement of this sort of financing structures). One should also keep in

mind that the problem of affordability of the financing costs is particularly sensitive for EMDEs where the needs for IF is the most pressing.

Of course, the level of spreads do not depend on the cost of liquidity of capital charge only, but very largely to the intrinsic level of project risk (technical and economic relevance, financial and legal structure, quality of stakeholders, country, ...). Adequate preparation tools, such as the SOURCE infrastructure project preparation and data management platform established by a group of MDBs, may help assessing and controlling the level of risk.

- **finding of the consultative document: market share between EU, US, and Asia shows a decrease of the EU:**

This evolution – which seems to show that once again there is no level playing field between FIs located in the EU and those acting in other geographies – cannot be considered as good news, neither for the European FIs nor for the beneficiary countries.

- **finding of the consultative document: the balance between IF provided by banks and by institutional investors tends to shift towards the second category of FIs:**

This tendency is good per se as institutional investors are “natural” long term investors but we think that it should not lead to the elimination of banks from this activity of project finance: one of the main drivers of the growing role of institutional investors in IF has been the very low level of interest rates on sovereign bonds; should these rates increase - a hypothesis which does not seem unlikely - the interest of the institutional investors for this activity (which is extremely demanding in term of skills, time and commitment) might decrease, therefore we think that FIs IF should “walk on its two feet” i.e. be provided by both banks and institutional investors.

Banks and institutional investors all have an essential, specific part to play in project finance. Banks are comfortable with the initial period (construction and ramp up risk and drawings calendar), while capital markets may be particularly useful for a refinancing (although uncertainties on the refinancing costs may weigh on the validity of the business case), but both type of FIs must remain involved to have a chance to face the infrastructure gap.

Infrastructure projects are normally financed predominantly by debt, which in the past has been provided mainly by the banking sector. However, there is a growing opportunity for institutional investors to access this area of the market due to the post-crisis retrenchment of the banking sector, especially in European banks that were global players, while the overall interest rate environment encourages them to search for yield.

There is often assumption that an infrastructure financing keeps the same risk profile throughout the life of the project. It is not the case: construction (greenfield) and operating (brownfield) phases’ risks are very different. Banks are better placed to finance construction risk when insurers and pension funds are the most natural holders of long term liabilities. Indeed, preparation and construction phase typically require technical expertise and time horizons to put money at work which may not be compatible with institutional investors asset allocation constraints, while the less risky and very long-term financing of the operating phase may be better suited for a broad range of institutional investors, however it may not be available to them. Actually, there is a lack of solutions to transfer risks (from banks to institutional investors) at portfolio level.

Banks play a specific role in the early stage of infrastructure financing. Even if insurers and pension funds are the most natural holders of long term liabilities, banks are better placed to finance construction risk. They usually have dedicated project finance teams in charge of advising and arranging such financings, which also requires a specific monitoring during the drawing period (several drawdowns, waivers, etc.). Given the complexity embedded in the financing of greenfield projects, this is mainly a bank market for the time being, although institutional investors are more and more keen on participating in their refinancing post completion (e.g. current examples in the market with bank and longer-term institutional tranche).

Regulation should encourage the sharing of roles between banks and long-term investors. While project preparation and construction phase typically require technical expertise and time horizons which may not be compatible with institutional investors asset allocation constraints, the less risky and very long-term financing of the operating phase may be better suited for a broad range of institutional investors.

To cope with the banks long term constraints, one alternative is to build partnerships between banks and insurance companies/institutional investors according to which banks would finance the project until completion, and investors could partially replace the banks post completion (or even fully refinance banks for the least risky projects) when cash flows are generated by the operations of the infrastructure. This remains to be fine-tuned but a condition precedent to such arrangement being implemented would be that investors are committed from day one to participate to the financing after completion (or banks can be sufficiently comfortable about the possibility to refinance with investors post-completion).

For this to work, regulation must foster banks and insurance companies/investors role sharing. However, there is a lack of solutions to transfer risks (from banks to institutional investors) at portfolio level, in particular in Europe given the lack of workable treatment of securitization on both issuer and investor side.

Overall, whilst in all financial activities a reasonable balance has to be found between strengthening the financial system - to avoid future crisis - and preserving its ability to finance the economy at an affordable cost, this is particularly true and sensitive in the case of Infrastructure financing as this activity is essential to enabling a sustainable and inclusive economic development which is in fact a prerequisite to financial stability.