

Financial Regulation and Risk Management in DBs

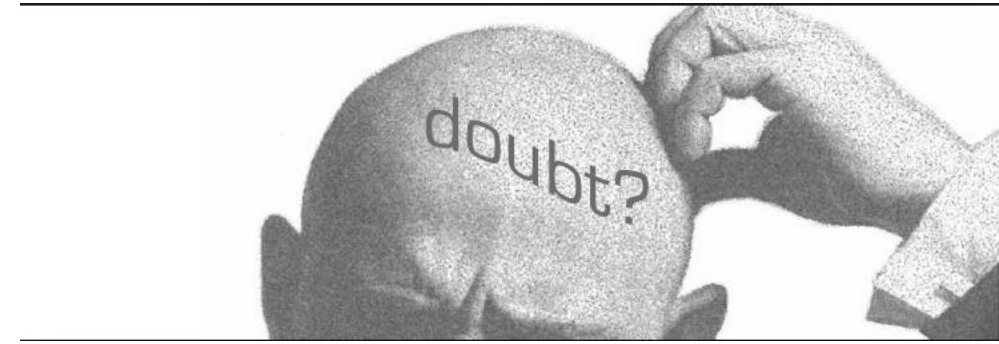
Lavinia Barros de Castro

BNDES – Research and Planning Department

IBMEC – Adjunct Professor

* The opinions expressed in this paper do not necessarily represent the views of the BNDES.

Questions:



Q.1 - From a theoretical point of view, should Development Banks (hereinafter, DBs) be controlled by prudential regulation?

Q.2 - Is the Basel Accord a suitable framework for DBs?;

Q.3 - With regard to risk management, do DBs have different characteristics from private banks?;

Q.4 - What are the challenges brought by Basel III?



Usual answers:

- 1) DBs should not be regulated, because, as they do not, in general, receive cash deposits, they do not constitute sources of systemic risk;
- 2) Basel is an inadequate framework for DB regulation because its enforcement conflicts with the objectives of funding development;
- 3) DBs bear greater risks than private institutions, precisely because they operate in areas avoided by the private sector, due to their greater risk and/or longer term;
- 4) Basel III aggravates the situation for DBs due to its tougher requirements.

Q.1) THE THEORETICAL JUSTIFICATION: SHOULD DEVELOPMENT BANKS BE REGULATED?

Three types of financial regulation, which are not mutually exclusive:

a) **Prudential Regulation** - imposition of rules and their monitoring, helping prevent financial crises.

b) **Allocative Regulation** - intends to increase the allocative efficiency of capital (providing credit to micro and small businesses, agricultural loans etc.).

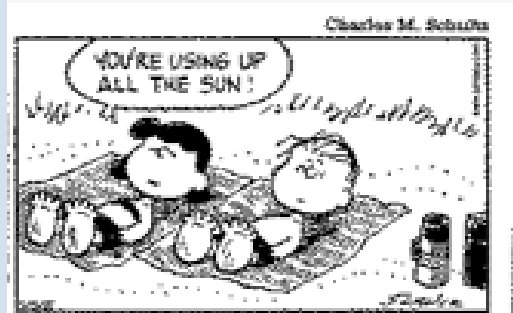
c) **Consumer Protection Regulation** - aims to protect the rights of savers and investors, i.e., guarantee the deposits, investments etc.



a) Market Failures – Breaking 1PTB assumptions



Externalities
(Complete
Markets)



Public
Goods
(Complete
Markets)



Asymmetric
Information
(Complete
Markets)

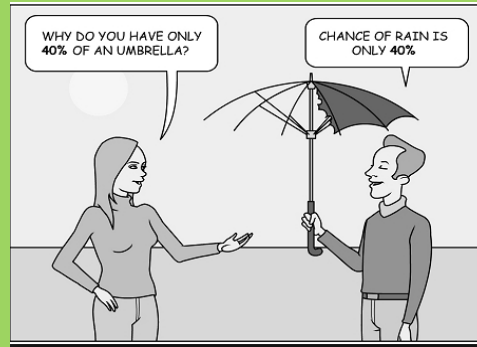


Monopoly
(Agents are
price takers)

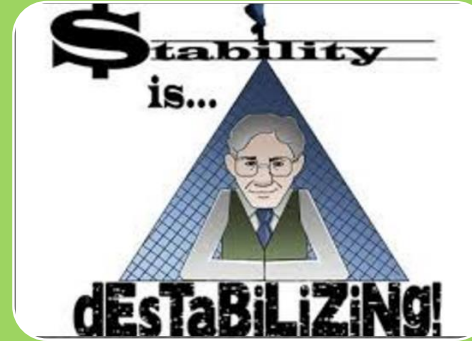
b) Keynesian / Minskyan / Shumpeterian



Liquidity is an essential attribute of financial assets. The financial system plays a crucial role in economic growth, as it provides short-term (finance) and long-term (funding) resources.



Many economic decisions involve uncertainty. Decisions are irreversible and path-dependent.

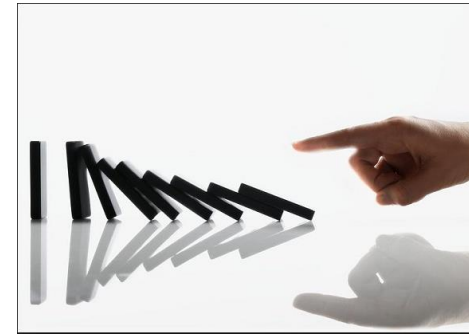


Financial instability is a structural feature of monetary economies; Government intervention is able to avoid the deepening of recessions



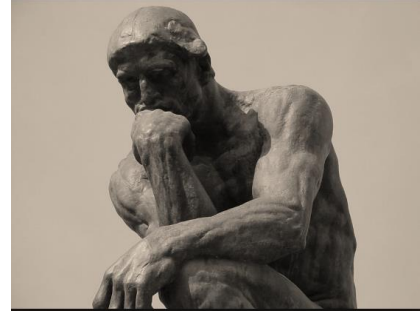
Banks advance resources that are otherwise not available and thus not only trigger growth processes through funding Innovation, but also during the diffusion phase of new techniques and technologies.

Systemic Risk, BDs and Regulation



- In the Keynesian / Minskyan/ Schumpeterian approach, prudential regulation is supported by the recognition of the cyclical nature of capitalism, but also by the possibility of systemic risk.
- For a bankruptcy event to become systemic, it must: 1) generate contagion effects on other financial institutions; 2) affect, at some point, the payment system of an economy.
- So BDs that collect cash deposits are source of systemic risk and should be regulated. What about the others?
- Even though there is some theoretical possibility that the illiquidity or, ultimately, the bankruptcy of a DB (that does not collect cash deposits) can indirectly generate systemic risk, this possibility seems remote, from a practical point of view.
- However, the negligent or reckless behavior of a DB (through excessive leverage or poor risk management) **could cause potential fiscal damage**, in this case, in that a Government may need to provide resources **(ultimately, an inflationary risk)**; or, **more importantly, risk of a credit crunch**. It would probably not be “systemic” since the means of payment would not be affected, at least at first, **but is still quite relevant**.

Q. 1) From a theoretical point of view, should Development Banks be controlled by prudential regulation?



As sources of fiscal (ultimately, inflationary) and credit risk there is a justification for DBs to be regulated and supervised by the monetary authorities (regardless that the literature does not consider these issues).

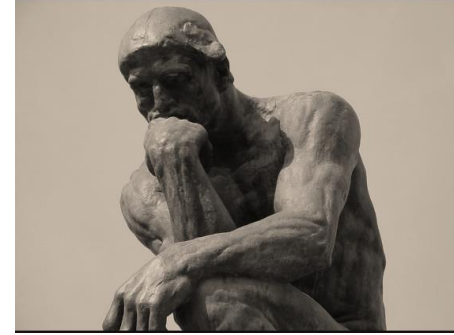
In addition to the macroeconomic costs, DBs that recurrently require additional capital injections, due to losses, are often questioned by society.

Regulation, however, should not hinder DBs in the fulfillment of their mission. The question, therefore, becomes whether it makes sense to regulate them, in the way prudential regulation is conceived today?

Q.2 - Is the Basel Accord a suitable framework for DBs?;

- National public DBs are subject, in general, to specific national rules, and may or may not operate under the aegis of a Central Bank. Thus, during Basel I, several DBs were not covered by the international framework: KfW, JBIC, Korea-Exim ... BNDES (the Brazilian DB), on the other hand, was. The adherence of DBs to Basel II, however, was much higher, whether imposed or voluntary: CDB, KfW, KDB and others voluntarily joined the framework, as well as other Latin American institutions.
- Why did this happen?
 1. By presenting itself as a set of risk management best practices (and not emphasizing systemic risk - bank runs), Basel became potentially applicable to any organization, including DBs.
 2. There was, in fact, an increase in the risks undertaken by the DBs – which needed to be managed to ensure financial sustainability (see next slide).
 3. Basel II became a “quality seal”, used even to attract market resources for DBs that need to supplement their resources.
 4. The DBs saw potential opportunities in saving regulatory capital by the development of internal models, particularly in credit risk models, given the low historical default rates and the high recovery rates (low losses given default - LGD) due to the existence of good quality guarantees, frequently sovereign.

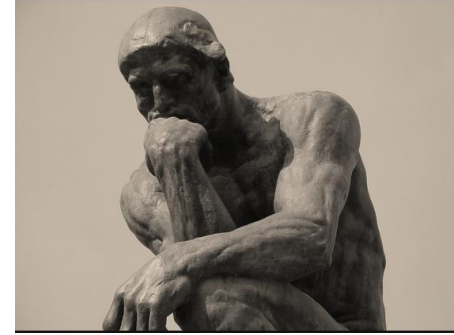
Q2) Is the Basel Accord a suitable framework for DBs? No ... but ...



- The voluntary acceptance of Basel II reveals something important: the Basel requirements were not perceived by many DBs as a hindrance for the exercise of their mission.
- Why was that?
 - In part, because several of their measures were simply good practices, bringing some important advances, as discussed.
 - Also, contrary to what is generally thought of DBs, in spite of acting in higher-risk credit segments, BDs also rely on risk management instruments that the market does not have access to. If on the one hand there are more risks, there are also tools to manage them.

Managing risk is not the same as avoiding risk.

Q2) Is the Basel Accord a suitable framework for DBs? No ... but ...



- Finally, it should be added here that, according to (informal) reports by risk managers in DBs, adherence to the Basel II framework led, *per se*, to some improvements in risk management:
- Creation of integrated risk management systems, which enabled improvements in management and, above all, improvements in the quality of databases.
- Improvements in the corporate governance of risk management, given the imposition of formulating risk management policies, setting limits, segregating functions, greater accountability, etc.

Does this mean that Basel II was an ideal framework for DBs management? Far from it! But it does not seem wholly incompatible with DBs, in the sense of hindering the fulfillment of their mission.

Q.3 - With regard to risk management, do DBs have different characteristics from private banks?;

- Considering DBs that are national and does not collect cash deposits.
- 1) lower liquidity risks, due to a smaller amount of short-term liabilities;
- 2) the longer terms of DB loans are not imperatively related to higher credit risks for BD's. By capturing long-term funds, BD's have greater freedom to renegotiate debts without hurting their financial health;
- 3) supporting exports to high-risk countries: sovereign payments are easier and more feasible to enforce among governments; there are specific support mechanisms such as access to public funds and government guarantees;
- 4) smaller exposure to market risk in the trading portfolio because these involve, vis-à-vis the private sector, smaller amounts and less complex instruments, such as derivatives.
 - The same cannot be said, however, regarding mismatches on indexes (different inflation indices on assets and liabilities, different interest rates or currencies), which remain a major source of potential market risk for DBs;

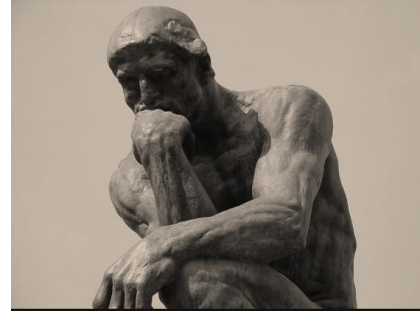
Q.3 - Do DBs have different characteristics from private banks?;

- 5) the fact that DBs are controlled by the government allows them to renegotiate more easily terms of debt (crossed asset and liabilities between the Treasury), offering future higher share of dividends etc. (but, of course, the government can, for example, ask for advanced dividends payments for fiscal reasons).
- 6) the fact they act with higher-risk sectors (small businesses, Innovations etc.), once more, does not necessarily imply greater losses.
 - In the case of small businesses, if the activity is performed as a second-tier operation, the risk is assumed by the financial agent.
 - If these are direct operations (first tier), large portfolios tend to offset losses, and good management tends to guarantee solvency.
 - As for funding innovation, if done with non-reimbursable funds, risk does not even enter the equation. If done through a fund, capital requirements will look at the sustainability of the fund - not each individual operation – thus enabling activity.

Q.3 - With regard to risk management, do DBs have different characteristics from private banks?;

- The vast majority of Basel requirements for market risks are in the trading portfolio, using VaR or maturity ladder methods (might not be accepted anymore in the near future). VaR – Expected Shortfall
- The most significant market risks tend to be: currency risk (in case they support exports or fundraising at the international market), interest rate risk on banking book; and, if the DB acts fostering capital markets, the risk on dividends flows, since the shares remain in the portfolios for long periods. However, the latter does not require capital buffers.
- In relation to mismatched terms on balance sheets, also, it is likely that DBs have risk management advantages since the duration of the liability is (in spite of the broader loan terms) greater than that of the asset.

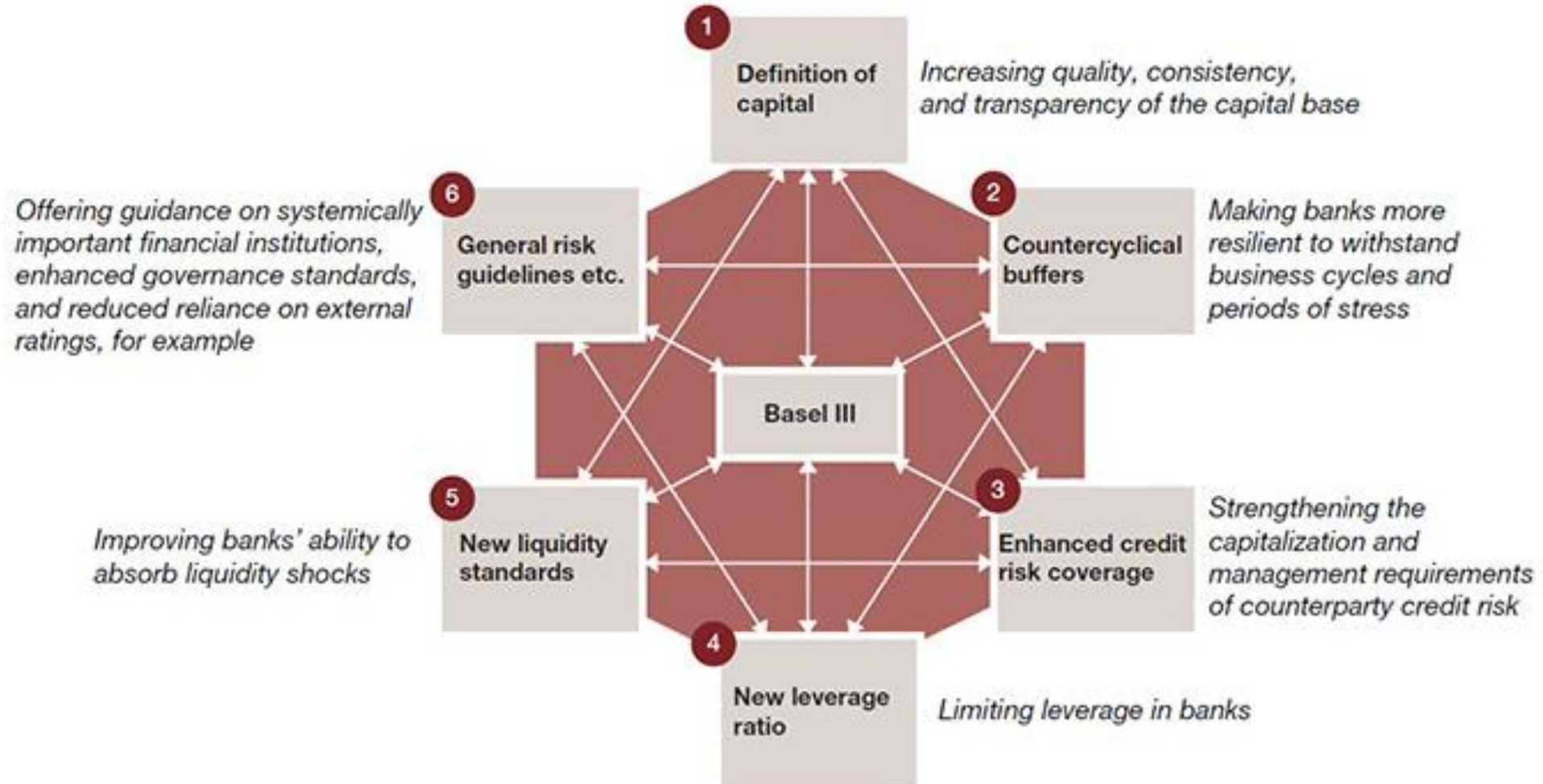
Q.3 - With regard to risk management, do DBs have different characteristics from private banks?;



- In our opinion, in Basel II there were three points of great concern pertaining their inadequacy for developmental objectives:
 - a) maturity adjustment in credit risk models;
 - b) the treatment of concentration risk;
 - c) the treatment of operational risk.

These points remain, or are worsened, in Basel III - as will be discussed

Q.4 - What are the challenges brought by Basel III?



Some of the new requirements are not so relevant to DBs (or less than for other banks)

- Requirements for liquidity risk:
- LCR: Adequate level of liquid assets in a scenario of severe stress - one-month horizon (irrelevant)
- NSFR: Aims to ensure that banks avoid severe term mismatches under normal (no stress) conditions considering the one-year horizon. It is expected, therefore, that DBs would have no difficulty in meeting these new requirements (core business of DBs risk management).
 - However, the NSFR may increase the short-term bias of the market. Thus, potentially, the need for medium/long-term assets from DBs may increase due to the reduction of their supply on the market (Barros, 2016).
- Leverage ratio: Does not seem to be equally problematic, in general, although some institutions could have problems.
- Derivatives: Tend to have smaller consequences relatively, for DBs, due to their lower use. The most common products used in DBs are interest rates, credit derivatives, and foreign currencies.
- However, securitization, an increase in capital may be more significant. The disincentive for the use of OTC derivatives may also have some effect. This is because DBs have incentives to create optionalities and OTC derivatives (taylor-made operations tend to be more common).

Some of the new requirements are not so relevant to DBs (or less than for other banks)

- Back-testing and more robust stress testing and considerations regarding further integration of market and credit risk correlations are, in principle, salutary for risk management.
- Stress-Var requirements raises capital requirements for all institutions, including DBs.
- Incentives Agenda in Basel III also does not seem to be of great impact, once these institutions no longer have the objective of profit maximization.
- Reputational risk, it is still unclear how its treatment will proceed, given the acknowledged difficulties in measurement. There are likewise merely general guidelines for Pillars II and III.

But some of the new requirements are!

- Core Capital: DBs may have difficulties, depending on each individual case. Compliance with new requirements will depend on the existence of prior capital clearances and fiscal constraints specific to each country.
- Countercyclical cushions: If it is assumed that DBs act anti-cyclically, (and there is strong evidence that they do, see Brei and Schlarek, 2017, as well as Griffith-Jones, et al 2017, both in this book; Luna Martinez and Vicente, 2012), does it make sense to apply the cushions to these institutions when they are performing to compensate the market? It should be recognized, however, that DBs may sometimes act pro-cyclically (and not anti-cyclically), responding to demands for funding the economy.
- Major requirements for systemically important global banks, meanwhile, focus more on banks, which operate as commercial banks, because of their global systemic implications. This does not mean that DBs, which intend to carry out international operations will not be included in the framework in the future.
- The new rules seem to be, however, more relevant for DBs which are domestically systemic banks (BIS 2012). To determine whether an institution is domestically systemic, the criteria are: size, interconnectedness, the existence of substitutes, and complexity. Thus the concept of being systemic was used in its broadest sense, considering their size relative to the GDP. So larger DBs may carry additional requirements under Basel III, depending on the judgment of the national monetary authority - which may prove to be problematic in the future.

But some of the new requirements are!

- Basel III (or IV?), diminish the incentives for the development of internal models (and is moving towards the defense of adjusted standard models), which reduces the flexibility of the framework.
- In other words, it decreases the possibility that an institution (which has idiosyncratic risk management characteristics, and furthermore, contributes to development and, it must be emphasized, reduces financial fragility, develop more suitable metrics.
- The recent agenda makes it more difficult, in principle, to argument for exceptionalities - which, in our view, are important for DBs, such as in the case of adjusting for maturity as presented.
- It is worth adding that the treatment of the interest rate risk in the banking portfolio (which tends to be relevant for DBs), where the BIS allowed flexibility in Basel II, is also being reformulated. Recently, (BIS, 2016) a standard method of treatment that can be adopted as a requirement by the national regulator, or placed as an option was released.

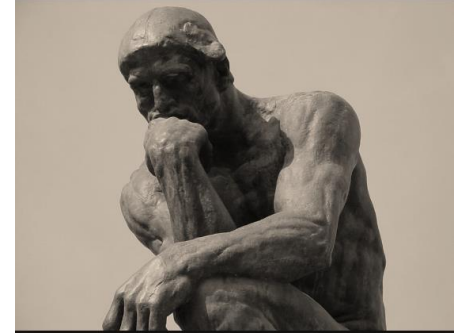
But some of the new requirements are!

- Concentration risk: It has been systematically revised in the direction of greater severity (BIS 2011, 2012b and 2014). As of 2019 there will be a default limit for large exposures, of 25% of Tier 1 - and, for “global systemically important banks (G-SIBs)”, of 15% of Tier 1 capital.
- The issue becomes more serious when one considers that there is a large gap in global infrastructure, where DBs are seen as a key instrument to overcome it. This means that Basel III, by demanding higher capital requirements, will be working against the global infrastructure agenda.
- Even if one considers funding instruments for *Project Finance*, the issue is not resolved. In fact, when a Project Finance begins its operations, they can be considered as segregated risk – so the 25% limit will probably be not binding. (Barros, 2016)
- If *Project Finance* structures, on the one hand, allow sharing guarantees and facilitate investment by reducing performance risks, on the other hand it also introduces new challenges, because the guarantee is the project in itself - which is far more difficult to liquidate.
- This may be another important point where a dialogue should be maintained with the regulator to enable DBs (and other banks involved in infrastructure financing), some flexibility in relation to the new requirements in the future.

But some of the new requirements are!

- Finally, there are also ongoing changes in the treatment of operational risk. In 2011, a document was released providing some guidance; in 2014 a consultative paper; and recently, in 2016 (BIS, 2016b) a document proposing a new approach: the Standardized Measurement Approach (SMA), which aims to replace the three then-existing methods. Again, simplicity, comparability and sensitivity to risk is sought, eliminating the possibility of using internal models (AMA).
- The most relevant issue is that the new DBs agendas emphasize funding for infrastructure, and financing sustainability - segments where the risk of regulatory changes is high. That is, it is possible that in the future, operational risks will grow, once this includes legal risk. In this sense, again, the tendency to use standard metrics could prove not appropriate
- It is worth noting that if these projects involve funds in other currencies (co-funding between DBs or between DBs and private entities), this will raise market risk (fluctuation of currencies) and add greater risks of interest rate fluctuation in the banking book (associated with the longer-term operations and the interest fluctuations in different currencies).

Q.4 - What are the challenges brought by Basel III?



- It was argued that some of the new requirements in Basel III do not seem to be (in principle) problematic for DBs, such as the treatment of liquidity risk, of derivatives, amongst others.
- Some new requirements, however, seem particularly worrisome. This is certainly the case with the new requirements regarding concentration risk, especially in view of the infrastructure agenda that many DBs pursue.
- The second point is the tendency to the abandonment of internal models and towards more standardized approaches, -which reduces the flexibility in the framework – which is especially relevant in the case of credit risk for DBs.
- With regard to operational risk, in the same vein, the adoption of a single standardized rule may turn out to be quite problematic. This will occur, especially, if the magnitude of legal risk associated with changes in the regulatory structure is equated, which may grow as environmental and infrastructure agendas increase in relevance.

*Thank
you* 

With these analytical considerations, we hope to have contributed with this article to go beyond the usual answers given to the four questions above.