COMMENTS BY BANCO DE LA REPUBLICA (CENTRAL BANK OF COLOMBIA) TO THE CONSULTATIVE DOCUMENT - GLOBAL SYSTEMICALLY IMPORTANT BANKS: ASSESSMENT METHODOLOGY AND THE ADDITIONAL LOSS ABSORBENCY REQUIREMENT (JULY 2011).

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- As suggested by IMF/BIS/FSB in their 2009 document, a qualitative framework could be used to integrate the different components of the assessment of systemic importance and to help arrive at judgments relative to the systemic importance of financial institutions, where a high degree of judgment founded in a detailed knowledge of the functioning of the financial system is required.

  Somewhat divergent from the IMF/BIS/FSB recommendations the consultative document by the BCBS-BIS (2011) suggests an equal and fixed weighting approach (i.e. five key indicators, each one assigned a 20% weight). Despite the weighting approach is straightforward, it may turn oversimplifying for two main reasons:

  - It is unclear that all criteria are equally important for all financial markets, at all times; it may be inappropriate to assign a fixed weight for markets with different products, services, participants, regulatory frameworks, etc., which may also evolve overtime. As envisaged by the IMF/BIS/FSB's 2009 recommendations, it is key that the model is able to use capture financial authorities' judgment and detailed knowledge of the functioning of the financial system under analysis.

    Therefore, because it is valuable to have a unified base model for financial authorities (e.g. for international comparisons) we suggest (i) considering this weighting approach as a "standard model", and (ii) allowing financial authorities to develop "advanced models" able to capture such particularities and incorporate other metrics or methodologies. This is advantageous since it replicates common practice by BIS (e.g. for risk modeling) and will encourage new developments by financial authorities.

  - Using the weighted sum approach may ignore that accumulating key indicators results in a non-linear systemic importance build up; this is,

there may be a more than proportional increase of systemic importance that is unnoticed by simply adding each weighted key indicator.

It is intuitive that the systemic importance arising from merging two financial institutions is different (i.e. expectedly higher) than the mere sum of their systemic importance; using a weighted sum does not capture this intuition.

In this sense aggregating systemic importance key indicators is the inverse of aggregating volatility in Portfolio Theory. When adding new assets to a portfolio the volatility does not result from the weighted sum of volatilities, but tends to decrease because of diversification effects. Akin to portfolio theory, it is counterintuitive to simply use a weighted sum of the key indicators since it is expected that accumulating systemic importance key factors within a single institution results in an increasing systemic importance; there may be a "concentration" of systemic importance taking place.

Therefore, when using a weighted sum approach it would be advisable to include some kind of penalty or charge resulting from the build up of different systemic importance key indicators within an institution. As envisaged by IMF/BIS/FSB's 2009 document, this is where qualitative (expert judgment) may be required in order to avoid the limits of purely quantitative approaches.

- Using a fixed weighted sum approach, where weights remain constant across different combinations of key indicators, may ignore that some key indicators may be extremely relevant (unimportant) in presence (absence) of other key indicators. This may be the case of substitutability: it is intuitive that the higher a financial institution's interconnectedness (i.e. contribution to the payment system, the interbank borrowing), the higher the relevance of its degree of substitutability for the financial network. As envisaged by IMF/BIS/FSB's 2009 document, this is where qualitative (expert judgment) may be required in order to avoid the limits of purely quantitative approaches.

- Contrary to a growing quantity of literature that calls for non institution-centric methods and metrics for assessing systemic risk, the BCBS-BIS (2011) proposal addresses interconnectedness and substitutability based on standard aggregated balance sheet data that ignore the way that participants relate to each other. As briefly discussed next, we suggest analyzing methods that allow for a true macro-prudential approach to systemic risk, where the financial system is analyzed as a whole and not just as the sum of its parts, where the role of the banks and the way they relate to each other within the system becomes truly relevant.

    - The interconnectedness is gauged via wholesale funding ratio and intra-financial system assets and liabilities, which are –according to literature- broad measures for how active is the institution in the financial market, but are not entirely able to differentiate between an institution with many counterparties or just a few. Methods from network theory, which have been mentioned or discussed by the European Central Bank and the

IMF, among many others, are more appropriate for assessing interconnectedness. This is the case of centrality measures, whose simplest case consist of calculating the number of counterparties, and weighting each counterparty by the value of the transactions; this could be done based on disaggregated (i.e. per counterparty) balance sheet data or with large-value payment systems' information.

- The substitutability is gauged via assets under custody, values of underwritten transactions in debt and equity markets or payments cleared and settled through payments systems. Those are broad measures of how big the bank is within the payments system or the asset management industry (i.e. IMF and other authors use those indicators as metrics for size), and may be insufficient to address the key question: how easy is to find an institution which performs the same tasks? Again, methods from network theory are more appropriate for assessing substitutability; this is the case of betweenness centrality, which measures the "brokerage" role of a certain participant within a system. This type of network theory approach may be applied to disaggregated (i.e. per counterparty) balance sheet data or with large-value payment systems' information.

- The proposed measures of substitutability (i.e. assets under custody, payments cleared and settled through payments systems) are related to services provided by financial utilities. It is unclear whether or not the provision of such non-banking services by banks should be included in this bank-related assessment, or it should be included when measuring financial utilities' systemic importance.

- Banks performing custody, clearing and settlement may be typical of payment systems where only banks have direct participation (indirect or tiered participation payment systems). In systems where direct participation is broader, such as the Colombian large-value payment system and many others among which it would be worth mentioning the continental European payment systems, banks do not provide this type of services and it would be therefore unpractical to use such key indicators.

- Despite being straightforward, the bucketing approach may cause abrupt changes in minimum additional loss absorbency (common equity as a percentage of risk-weighted assets). Additionally, according to the closeness to the thresholds, bucketing could result in considering significantly different scores as pertaining to the same bucket, and non-significantly different scores as pertaining to different buckets.