

Santander response to:**BCBS CP on Interest Rate Risk in the Banking Book (IRRBB), September 2015**

Santander appreciates the opportunity to respond to the BCBS Consultation Paper (CP) on Interest Rate Risk in the Banking Book (IRRBB) issued on the 8th June. Santander broadly supports the comments of the IIF, AFME, AEB and EBF/IBFed in which responses Santander has participated.

However, in this individual response we would like to emphasize certain aspects that are especially relevant to us and make some additional comments on the BCBS proposals on IRRBB.

We support the BCBS's efforts to enhance the regulatory framework capturing interest rate risk in the banking book, however:

- We think that **due to the heterogeneity in the nature of IRRBB** across jurisdictions caused by customer behavioural and product characteristics, a **tailored approach will be necessary** at both jurisdictional and entity level to ensure that capital requirements are **reflective of risk levels**.
- A **standardised Pillar 1 approach** fails to take into account these significant differences in size, balance sheet structure and market practice across different jurisdictions and risks **introducing systemic risks and procyclicality** for the sake of an easily comparable IRRBB metric, but in fact it is a **false sense of comparability**. We do **not** believe that there is a **“one size fits all” approach** for IRRBB.
- It is our belief that **IRRBB is very different conceptually from Pillar 1 risks**, as typical measurement approaches, including those outlined in the CP, model a reduction in profits from changes in interest rates rather than losses. The profit reductions in IRRBB do not necessarily reduce the CET1 capital base of a bank to threaten solvency over the 1 year capital horizon, unlike the losses which form the basis of Pillar 1 Risk Weighted Assets (Credit, Market and Operational risks). IRRBB is therefore **very different in nature from the approaches used for current Pillar 1 risk types** and thereby **IRRBB should not be treated in Pillar 1** alongside these risks.
- **Any capital requirement for IRRBB should consider potential loss of capital, not variability risk**. The CP is primarily focused on variability risk, not loss risk and it would effectively capitalize opportunity costs, rather than actual losses.

Due to the reasons outlined above, we consider that the capital treatment for IRRBB should remain in Pillar 2 and that the ICAAP and the SREP processes under the Pillar 2 framework are best equipped for banks and regulators to appropriately assess any capital requirements for IRRBB. The Pillar 2 framework allows for the bank's own

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assessment of IRRBB using internal models and a spectrum of risk metrics aligned with the bank's business as usual risk management practices.

There is no “one-size fits all” approach to IRRBB

As a bank with a low risk profile, with a retail business model and a global footprint, the Santander Group operates across countries globally with very different economic environments. This diversified business model requires an in-depth knowledge and understanding of jurisdiction specific characteristics (including product types and customer behavior in response to interest rate moves) in order to appropriately assess the Group's consolidated IRRBB risk exposure. We are concerned that the proposed highly standardized approach to capital requirements for IRRBB, with constrained representation of certain aspects of risk exposure, could have adverse consequences – in particular that risk levels are likely to be misrepresented and inappropriate actions incentivised.

We appreciate that there is an aspiration to adopt a globally harmonized approach to IRRBB capital requirements. However, an overly standardized and prescriptive approach will not be able to appropriately reflect risk exposures and we fear that such an approach will provide a false sense of harmonisation.

We do not believe that there is a ‘one size fits all’ approach to IRRBB in particular. A standardized approach across banks can be used for interest rate risk in the trading book where positions are typically contractual by nature i.e. there are no assumptions required around when or how much of the position that will expire. In contrast, the majority of banking book transactions is not contractual in their behaviour and as a result assumptions are required to determine factors such as the maturity date and price sensitivity. An overly standardized and prescriptive approach to capital requirements will not be able to reflect these behavioural features and capital requirements will consequently not be representative of the risk levels. Divergence will occur between the regulatory capital treatment and the economic view of risks, and also between banks' risk management practices and risk appetite and the level of capital requirements. Under such a situation, **drivers of capital requirements will potentially be opaque** and generate significant confusion to senior management. **A highly standardized framework for IRRBB such as that proposed in the CP might in fact miss real risks in the banking book and artificially create others** as outlined later in this response.

Regulatory Concerns – Loss risk vs Variability risk

We understand that the main concerns of the regulators as outlined in the CP are the following:

- 1) Potential losses to banks caused by changes to the prevailing level of interest rates, especially in the current low rate environment.
- 2) Arbitrage opportunities between the banking book and the trading book but also between banking books with different accounting and capital treatment.

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Firstly, we note that the BCBS is concerned about losses to banks due to changes in interest rates; however the CP is primarily focused on variability risk (i.e. reductions in future profits) and not loss risk. Pillar 1 risks under the current capital framework cause immediate losses which directly erode the CET1 capital base over the 1 year capital time horizon threatening a bank's solvency, whereas by contrast IRRBB 'risk' under the CP proposals does not have an immediate adverse CET1 impact over the capital horizon.

It is important to highlight key differences between profit and loss recognition in the trading book and the banking book. In contrast to the treatment in the trading book where any profit (or loss) is taken up front at inception of the transaction, the banking book income is typically accrued over time. In the trading book, any change or variability mark to market will immediately feed through to profit and loss. However, in the banking book, variability of the income, if still positive, will not cause a loss but rather an opportunity cost (i.e. a loss in trading book terms is not necessarily a loss in banking book terms as shown in the example below);

As an illustration of variability risk, consider the following example: if a bank has a structural hedge of 0% rate insensitive non maturing deposits at a rate of 3% and there is an increase in market rates to 4%, the mark to market of the hedge would indicate that there is a negative impact, however there will not be a loss as the interest rate paid on the non maturing deposits is unchanged at 0% and the interest received on the hedge is still 3% (i.e. there is still a profit). However the income is lower than if the bank had hedged after the rate increase (i.e. there is an opportunity cost or variability risk). We do not believe that this variability risk should require a capital charge, since the income is still positive and will increase (and not deplete) the CET1 capital base, for opposite rate movement, this principal also holds. Imagine the same example, but we are now assuming that there is a fall in market rates to 2%. This change would result in a positive mark to market of the hedge, however, again the income has not increased assuming that the funding is still unchanged at 0%, and there should be no change in the capital supply.

We do agree that capital should be held against real losses in the banking book however the CP's proposed approaches require capitalization of opportunity costs rather than actual losses. A capital charge for IRRBB should accurately reflect the levels of risk exposure for the bank, indeed both regulators and banks should be concerned about any losses which would cause threats to banks solvency. **We believe that IRRBB risk measurement, reflecting effectively opportunity costs, is conceptually very different from current Pillar 1 risk types, and therefore should not be treated as an additional Pillar 1 risk type.**

Secondly, it is important to emphasise that any **regulatory framework should be designed to work under all economic cycles and interest rate risk environments**. The CP proposals seem to be focused on risks to banks from rising rates. We believe

that there is a **real danger in developing and implementing a regulatory framework that is targeted at addressing particular risks in the current rate environment** and which is likely to inappropriately reflect risks specific to decreasing rate environments.

Risk of unintended consequences from a highly standardized framework

We believe that it is important that any standardization for IRRBB capital requirements is limited to areas such as stress scenario construct and calibration, governance framework and reporting templates. **Assumptions for IRRBB capital requirement assessment should not be standardized or significantly constrained.** For example, the proposed currency aggregation approach is inconsistent with the scenario design and the methodology only allows limited recognition of diversification benefits across currencies:

- The scenario design applies the same type of scenario to all currencies (implicitly assuming perfect correlation) however the formula for aggregating sensitivities limits to 25% the offsetting of negative with positive sensitivities for the different currencies.
- The proposed metric assumes perfect correlation between losses, but only a small correlation between losses and gains.

We think that this proposal could jeopardise the level playing field and disincentive financial institutions to diversify their risk. The proposal has not been supported by empirical evidence and penalizes banks like Santander with global footprint and with significant diversified portfolios across currencies. In fact, the approach means that the proposed regulatory metric will overestimate the capital requirements for IRRBB on aggregate terms. In contrast, this will be a minor issue for those financial entities whose main exposure is limited to 1 or 2 currencies (for detailed justifications please see Appendix). Therefore, we suggest that the current treatment for dealing with exposures in different currencies should be retained

In addition the CP proposal includes standardized assumptions such as stability caps and pass-through floors and a six years maximum term for non maturing deposits. This forces 40% of current account balances to be treated as repricing overnight in a response to any change of policy rate which seems unrealistic for general application across jurisdictions. There is a lack clear rationale, evidence based foundation for these assumptions and the treatment will likely lead to unintended consequences. This approach will also penalize banks that apply a structural hedging programme of non maturing deposits to reduce earnings volatility as part of risk management activities to reduce solvency risk of the bank. Further, an overly prescriptive standardised (cap/floor) approach to Non Maturing Deposits does not allow appropriate product or geographic behaviour to be correctly assigned to different money transmission propositions.

Furthermore we believe that the proposed approach would lead to less diversification among banks business models due to potential adverse capital requirements impacts. Banks will review their product offerings in view of the capital requirements from the proposals and some products are likely going to become

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economically unviable, particularly long dated credit (both fixed and variable rate) and high margin products **as banks are disincentivised to hold longer dated assets as part of structural hedging programmes.**

As a consequence end-users will likely be impacted as banks will have a further barrier to undertaking their maturity transformation and risk management functions protecting customers from changes in the level of interest rates. Instead, interest rate risk will likely be transferred back to customers. Shadow banking entities may also increasingly become suppliers of the products that banks are disadvantaged through these capital requirements from providing, even though such products economically (and in reality) are of low risk to the banks.

Shock scenario design causing procyclicality of capital requirements

The proposed design of the stress scenarios will increase procyclicality of capital requirements and hence the instability of capital metrics. Basel outlines that the rate shock should reflect a “*stressful rate environment*”. However the stress scenario design has the direct outcome that the higher the level on interest rates, the higher the shock and consequently the higher the capital requirement, although as outlined in the consultative document caps and floors do apply to the size of the shocks:

Caps and floors

The proposed interest rate shock calibration can, in some circumstances, lead to unrealistically low interest rate shocks for some currencies and to unrealistically high interest rate shocks for others. To address this concern, a floor of 100 basis points is applied to all local interest rate changes as a result of the interest rate shock scenarios in order to ensure a minimum level of prudence and a level playing field. Likewise, interest rate shock scenarios are capped based on the observed average volatility. Variable caps are proposed to be 500 basis points for the short-term shock, 400 basis points for the parallel shock and 300 basis points for the long-term interest rate shock scenario. (page 17 in the CP)

In low interest rate environment a zero percent floor is applied and we note that this has the result that for non-parallel scenarios the floor of a 100bp shock size will produce similar curves to the parallel shocks (with the floor) i.e. all the six proposed shock scenarios will be very similar. Further, the CP stress scenarios are calibrated to a six month holding period which in our opinion is very long, if we assume that the holding period should correspond to the longest period needed for an orderly hedge the portfolio.

The main weakness of the proposed methodology is that it does not take into account local volatility but the mixing-up of all different current curves in different currencies to arrive at a set of standardized global shock parameters. As a result the scenarios do not reflect the relative levels of volatility in the different currencies and this leads to divergence to internal risk management practices and distorts the outcome. The CP

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does mention that local volatility shock parameters have been discussed by the BCBS but was dismissed due to possible shortcomings of using historical data to predict future volatility and the practical difficulties to maintain local volatility factors in the global standard. As a result the approach will over- or understate the interest rate shock where the local volatility is relatively lower or higher than the average global volatility.

The specification of the shock scenarios as proportional to the current level of interest rates means that the capital measure will inherit fixed income markets volatility, leading a potentially very unstable metric. Furthermore, the way the stress scenarios are combined in the proposed capital measures will be in general inconsistent with the underlying correlation structure, both between currencies, and among tenors for a given currency. As a consequence the capital metrics will be unstable, since it depends of the level of interest market rates (through the scenarios), and not only of the structure balance sheets.

We believe that **a better option would be to prescribe the stress scenario construction for a given currency and let the banks themselves do the calculations, subject to approval by the supervisors.**

Treatment of equity, additional Tier 1 and Tier 2

Banks typically manage IRRBB on a 'going concern' basis but we notice that the proposals seem to take a 'gone concern' approach to IRRBB by excluding equity as well as treating additional Tier 1 and Tier 2 capital as excluded. The modelling of additional Tier 1 and Tier 2 as having no duration does not reflect the actual repricing feature of these instruments in each interest rate scenario.

Further, the capital framework needs to allow for appropriate reflection of risk mitigation activity undertaken by the bank such as structural hedging. The use of such prudent risk management techniques should fundamentally be encouraged – and not penalized - by the capital framework.

We believe that **it should be a Board decision of the individual firm to decide whether to apply duration to equity or not, explicitly or implicitly, for the purposes of its structural hedging programme.** Regardless of the assumption applied, as part of the banks governance framework, there should be solid documentation of the rationale for the chosen equity treatment. This should address the regulatory concern of capital advantages being sought from regular changes of assumptions.

Concluding remark

In view of the potentially very significant impacts to the global banking industry (given the core maturity transformation function) of revisions to the regulatory framework for IRRBB, it is **vital that the design and calibration of the proposals for determining capital requirements are performed carefully and risk exposure is reflected.**

The **approach will need to be flexible to ensure that jurisdictional features and bank's idiosyncratic features are taken into account** for the measurement of risks, which are appropriately reflected in capital requirements. There should be a role for banks' internal models in this assessment, given the particular nature of IRRBB risk. **Highly standardized and prescriptive treatments will not be sufficiently risk sensitive.**

Suitable timeframes for the development of the BCBS approach and associated QIS exercises need to be set – these realistically would span over a number of years for complete consideration of the complexity of the topic and potential consequences of the chosen approach.

Given the major differences in the nature of IRRBB risk (profit variability) and current Pillar 1 risks (losses impacting solvency over capital horizon), **we do not believe that a Pillar 1 treatment is appropriate for IRRBB, and that it should be retained within Pillar 2.**

Appendix: Limited recognition of diversification benefits across currencies

In this appendix we are discussing the Basel approach to aggregation of interest rate risk in more detail.

We would like to highlight some weaknesses of the rules outlined in the consultative document for aggregating the minimum capital requirements (MCR) across currencies. The CP presents 4 alternative options to do this aggregations, but here we examine only option 1, as the other 3 apply similar ideas but with additional NII contributions and mitigating factors.

In option 1, for each scenario type one accumulates the contributions of those currencies for which the change in EVE is positive, and partly compensates it with the contribution for which the change is negative¹. This is done for all the 6 types of scenarios, and the largest positive change in EVE is selected. In formulas:

$$MRC_1 = \max_{i \in \{1,2,\dots,6\}} \left\{ \max \left(0; \sum_{c \in \Delta MVE_{i,c} > 0} \Delta MVE_{i,c} + w \cdot \sum_{c \in \Delta MVE_{i,c} < 0} \Delta MVE_{i,c} \right) \right\} \quad (1)$$

In the expression above, w is a parameter that will eventually be set by the regulators at some value somewhere between 0 and 0.5. For the time being the consultative document establishes a value of 0.25. This parameter determines how much of the EVE gains in some of the currencies are allowed to compensate the losses in the other currencies.

The main shortcoming of the above metric derives from the fact that it is based on a biased and incomplete sampling of the space of potential rate scenarios, as it applies the same type of scenario to all currencies, ignoring the rest of all possible combinations.

For example, if one has only 2 currencies, there are 36 possible combinations of different scenarios. This is illustrated in the following figure, where the diagonal 6 squares represent the only 6 scenarios that the measure considers, while the 30 off-diagonal possibilities are altogether ignored.

		Currency B					
Currency A		Parallel Up	Parallel Down	Steepnr	Flattener	Short Up	Short Down
	Parallel Up						
	Parallel Down						
	Steepnr						
	Flattener						
	Short Up						
	Short Down						

This bias will be more relevant when there are significant banking book positions in currencies that are normally poorly correlated, such as European and Latin-American currencies.

To illustrate this, let first simplify the discussion considering the case in which only parallel-up and parallel-down scenarios are allowed – which in fact are the only

¹ As discussed earlier in the main text, the sign convention of the EVE measure is such that a loss in economic values translates in positive changes in the EVE measure as defined in the paper, just like one does with metrics such as VaR or Economic Capital.

possibilities for the NII measures. Furthermore, assume that there are only 2 uncorrelated currencies in the balance sheet. In this case, two alternative balance sheet structures may arise, depending on whether one has a net asset or liability sensitivity in either of the 2 currencies²:

- Net asset sensitivity in both currencies. In this case, the total minimum capital requirement will simply be the loss under the parallel up scenarios, which will inflict losses in both currencies and these losses will simply sum up. No compensating effects in this case.

Net asset sensitivity in one currency, net liability sensitivity in the other. In this case, the parallel-up scenarios will produce losses in one currency and gains in the other. The roles will be exchanged for parallel-down scenarios. Thus, for both parallel-up and parallel-down scenarios, there will be a contribution of the compensating term in equation.

The above example shows that **the measure as defined in the consultative document will tend to give diversification benefits to certain types of balances sheet structures, while denying it to others that nonetheless may bear a similar amount of risk.**

As our example shows, it will be advantageous for banks to alternate net asset and net liabilities positions among the different currencies in order to lower their regulatory capital charge. However, the measure will fail to capture the risk associated with balance sheet structures where the worst loss is suffered when rates go up in one currency, but down in the other.

² By a balance sheet with a “net asset sensitivity” we understand one in which assets are longer term than liabilities, and thus the exposure is to rising rates. By the same token, when the bank has “net liability sensitivity” the exposure is to falling rates.