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Dear Mr. Byres,

***Deutsche Bank's response to Basel Committee consultation on the non-internal model method for capitalising counterparty credit risk exposures (NIMM)***

Deutsche Bank (DB) welcomes the opportunity to comment on the Basel Committee on Banking Supervision's (BCBS) consultative document on 'The non-internal model method for capitalising counterparty credit risk exposures' (NIMM). DB has been actively engaged in, and supports, the response to this consultative document prepared by the Joint Associations. This DB-specific response should be seen as a supplement to that response.

DB understands the BCBS's desire to design a more standardised framework for calculating exposures in addition to relying on banks' individual Internal Models (IMs), and a more risk-sensitive and accurate framework than the limited Current Exposure Method (CEM) and Standardised Method (SM). All-in-all, DB is supportive of the work the BCBS has done in this regard and considers the proposed NIMM to be a vast improvement on both CEM and SM. This is particularly evident when looking at the ability of the different standardised models to properly capture the economic benefits of collateral and margin exchanges.

Nonetheless, DB believes there are certain weaknesses with the NIMM. Some are inherent limitations with the very concept of a 'more standardised' exposure measure – for example when compared to a highly sophisticated bespoke IMM, the NIMM will inevitably provide a sub-optimal exposure measure – and some are questions of calibration and open to improvement. It is on the latter that our response will focus.

The key issues that we would urge the BCBS to pay particular attention to when finalising the NIMM for calculating counterparty credit risk exposures, and when considering how the NIMM can be applied in areas such as the exposure measure of the Leverage Ratio, or the Large Exposures regime, are as follows:

- Different parts of the capital framework are targeted at controlling different types of risk. When considering how the NIMM can be used in varying scenarios we believe it will be necessary for the BCBS to prioritise accuracy over, for example, comparability. The NIMM will likely need particular calibration to capture specific risk-types according to the application;
- We believe further granularity within the "foreign exchange" category is imperative. Offsets against other FX positions must be defined, and net FX positions should be determined through "triangulation", so (for example) for comparable value, a position that is EUR/GBP and offset by GBP/USD is reduced to EUR/USD;
- There are numerous areas in the proposed NIMM methodology where we believe the BCBS has chosen arbitrary and excessively conservative floors without any compelling



justifications. Where the tools exist for risk mitigants to accurately reflect the economic benefit they provide, accurately reflecting this should be the aim of an exposure calculation; And

- It is important that the BCBS protect and maintain the incentives for banks to continue to develop and improve risk-management standards. This has been a key consideration of the BCBS over the past ten years and DB firmly believes there have been significant benefits for financial stability as a direct result of this. It would be damaging to the further improvement of risk management in the banking industry if these incentives were to be eroded.

In our responses to the questions asked by the BCBS we go into further detail on the above points and on other areas for improvement more broadly. As ever we remain ready to discuss any point raised in our response.

Yours sincerely,

Andrew Procter  
Global Head of Compliance, Government and Regulatory Affairs



## Deutsche Bank Responses to Specific Questions

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### **Q1. Should the Basel Committee replace the CEM and SM with the NIMM in all areas of the capital framework? What are the benefits and drawbacks of using the NIMM in each of these areas?**

We understand NIMM both as a method and a conceptual framework for measuring exposures. As a conceptual framework we think NIMM is far superior to both CEM and SM in several important respects and therefore should replace CEM and SM in other parts of the capital framework, as already stated in our responses to BCBS 251 (Leverage Ratio) and BCBS 253 (CCPs). As a method for measuring exposures, we see NIMM as a significant improvement over CEM and SM, but are also cognizant of its many limitations. The “method” is represented through the calibration of parameters and the specification of functional forms in the equations that determine (measure) the exposures. The conceptual framework relates to the differentiation between types of exposures, i.e. current and potential future exposures, the reflection of margin agreements, and the recognition of collateral.

The conceptual framework of NIMM encompasses an infinite number of specific methods. The Committee has proposed a particular method for determining exposures in the counterparty credit risk framework. We understand the Committee's constraints in terms of defining an appropriate balance between risk sensitivity and complexity, and also recognize the Committee's thoughts on the relative importance of accuracy versus simplicity, transparency, and comparability as conflicting goals for banks' regulatory capital framework in general<sup>1</sup>. However, different parts of the capital framework are targeted at controlling different types of risk faced by individual banks - concentration risk in the large exposure framework, tail risks in the CCP framework, model risk in the leverage ratio framework – and the overall goal is to ensure a safe and stable banking sector, which includes mitigating systemic risk that arises from contagion and spill-over risks. Given the complexity of these goals, we would be very surprised if a single method could appropriately address and balance all of them. The goals of accuracy, simplicity, transparency, and comparability must be balanced differently depending on the context.

With respect to the counterparty risk framework itself, consider the situation of (i) a commercial bank that uses a few interest rate and foreign exchange derivatives each year to limit risks in its loan book, (ii) a large bank specializing in making markets in a wide range of derivatives contracts, and (iii) a systemically important CCPs for OTC derivatives of a particular asset class. It is unlikely that the same trade-off between accuracy and simplicity for measuring counterparty risk should apply to these three market participants. What type of transparency would be gained if these three market participants had to report risk based on the same method, and what sort of “comparisons” could be made on the basis of this?

We are concerned that by defining any specific method from the overall NIMM framework and declaring it as having universal applicability may reduce incentives to continuously monitor risk and improve risk management standards. We believe that it is critically important to incentivize market participants to develop and use more accurate internal risk models for managing the risks that are material for their particular business model.

With this in mind, we reiterate our view that NIMM represents a significant improvement over CEM and SM as a conceptual framework and should therefore be applied to all areas of the capital framework as a second best option where the use of internal models is not permitted. In our responses to Questions 2-11 we explain some of the issues with NIMM we have identified to date. We are aware that this is not a complete list and expect that the Quantitative Impact Studies (QISs) run by the Committee in parallel to this Consultation will reveal other areas for

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<sup>1</sup> Basel Committee on Banking Supervision, Discussion paper “The regulatory framework: balancing risk sensitivity, simplicity and comparability, Issued for comment by 11 October 2013.



improvement. We recommend that the Committee should conduct additional QISs for testing the implications of applying NIMM in other areas of the capital framework.

### Large Exposure and CCP Regime

The key advantages of NIMM vary with respect to different areas of application. For the large exposure regime and the CCP capitalization requirements, the main advantages are:

- NIMM is significantly better than CEM and SM as a risk sensitive measure of exposures – CEM is not a risk measure, and SM is insufficiently risk sensitive;
- NIMM offers a framework for a differentiated treatment of a wide range of margin agreements with respect to margin thresholds, frequency of margin exchange, and maintenance margin requirements, which are absent in both CEM and SM; And
- NIMM provides a superior concept for recognizing the impact of collateral exchanged between counterparties on the exposures that both counterparties have to each other, compared to the current treatment of collateral under CEM and SM.

The shortcomings of NIMM mostly relate to its inability to reflect a “constant” level of conservativeness across a wide range of potential counterparty exposures. In our example given above:

- The commercial bank is likely to have a small number of trades with a small number of counterparties across a narrow set of products;
- The market maker will have a high number of trades with many counterparties across a broad range of products; And
- The systemically important CCP will have a very high number of trades with a limited number of counterparties across products from a single broad asset class.

For the commercial bank, the counterparty risk from derivatives may not even be material. For the market maker it will be material, but tightly controlled and mostly mitigated by collateral; the market maker’s counterparty risk should be thought of as a broadly diversified portfolio of tail-risks.

The CCP’s counterparty risk is represented by a somewhat lumpy portfolio of extreme tail risks which are driven by contagion and wrong-way risk in a systemic crisis. While any particular calibration of NIMM cannot equally reflect the differences in these risk profiles, we believe that the NIMM framework is sufficiently rich and flexible that it can successfully be adopted to be fit for purpose in different uses.

### Leverage Ratio Regime

With respect to the leverage ratio, the conceptual advantages of NIMM over CEM are critical:

- NIMM allows collateral received to reduce the replacement cost component in the exposure measure. Under CEM, the replacement cost component simply reflects the sum of positive mark-to-market values across all netting sets at a specific point in time. These result from cumulative changes in market parameters over time such as, for example, long term changes in interest rates or foreign exchange rates. Prudent risk management standards imply that banks should manage all their interest rate and foreign exchange risks, in particular those arising from commercial lending and structural risks arising from their business model in the context of cross border operations. Most banks cannot avoid the use of OTC derivatives to do this, and since markets go both up and down, consistently managing risk implies that, over time, some derivative contracts have positive market values and others have negative market value. Since the inclusion of replacement costs in the leverage exposure, in the form required under CEM, would simply reflect *historical* changes in market prices we do not understand why this might be of relevance for any meaningful concept of a bank’s “leverage” today.



- Positive replacement costs do represent a form of credit or counterparty exposure. However, the exchange of collateral –which is mandatory for centrally cleared derivatives today and will soon become mandatory for new bilateral derivatives transactions between *all* financial counterparties according to the recommendations of the Working Group on Margining Requirements of the Basel Committee on Banking Supervision and the International Organization of Securities Commissions (WGMR)<sup>2</sup> – effectively mitigates this exposure. According to the WGMR the exchange of variation margin “is a prudent risk management tool that limits the build-up of systemic risk”<sup>3</sup>. In the introduction to the consultation on the leverage ratio, the Committee states that the leverage ratio is intended to “restrict the build-up of leverage in the banking sector to avoid destabilising deleveraging processes”. However, as we explain in our response to BCBS 251, not recognizing the risk reducing nature of collateral under the leverage ratio increases systemic risks and the probability of destabilizing deleveraging processes.
- NIMM allows collateral to reduce the replacement cost component in the exposure measure and therefore: i) correctly reflects the current counterparty exposure faced by individual banks, ii) avoids a procyclical increase of the leverage ratio times of market stress, and iii) allows for a leverage exposure measure that is independent from current market prices for the banking system overall.<sup>4</sup>
- This problem could easily be avoided by allowing collateral received to reduce positive replacement costs in the CEM framework. However, the Add-on component in CEM, which represents the economic exposure to financial instruments underlying the derivatives contracts, has significant shortcomings from a system-wide perspective as well: the CEM Add-ons are essentially a function of the number of trades in the system, their notionals, asset class composition, and broad maturities. The CEM Add-on component increases in response to increased trading activity in derivatives markets. Consequently, in times of market stress the entire banking sector will appear more leveraged, simply because banks and other market participants have a heightened desire to manage their risks and therefore trade more derivatives.
- The issue is that the use of CEM makes the derivatives component in the leverage ratio difficult to control. NIMM, being more risk sensitive, would recognize whether each new trade is risk reducing or risk increasing at the margin, and thus provide appropriate incentives from the perspective of prudent risk management. Application of NIMM would therefore make the derivatives component in the leverage ratio more controllable for banks: True deleveraging attempts would result in a reduction of leverage, both for an individual bank and the overall banking sector.
- CEM could increase systemic risks in times of market stress through the following channel: Market makers may not be willing or able, as they approach their binding leverage constraint in times of market stress, to provide liquidity when their services are in particularly high demand. This could prevent other banks and market participants from effectively managing their risks through derivatives. These other market participants may therefore resort to first reducing risk in their core activities and then by selling assets. As explained above, NIMM would avoid this problem since it does not automatically increase the leverage ratio of the banking system in times of market stress and therefore does not force the banking system into procyclical behaviour by reducing non-derivatives assets.

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<sup>2</sup> Basel Committee on Banking Supervision Board of the International Organization of Securities Commissions, “Margin requirements for non-centrally cleared derivatives”, September 2013.

<sup>3</sup> Basel Committee on Banking Supervision Board of the International Organization of Securities Commissions, “Margin requirements for non-centrally cleared derivatives”, September 2013, page 6.

<sup>4</sup> Please see the detailed explanation for this potentially unanticipated and probably unintended effect in our response to BCBS 253.



**Q2. Is the proposed approach of retaining the general structure of the CEM with respect to replacement cost and the potential future exposure add-on appropriate? Is the division of the broad asset classes appropriate?**

We note the general comments about the NIMM structure in our response to Question 1 and the response provided by the Joint Associations, and we believe some further adjustments are needed to improve the quality of the calculation. Specifically regarding the retaining of the general structure of distinguishing between current and potential future exposure (PFE), yes we believe this is appropriate.

With respect to dividing the wide range of financial instruments underlying derivative products into broad asset classes, we agree that the proposed asset classes strike an appropriate balance between simplicity and accuracy for most products and market participants. However, we feel that the particularly divergent category of 'Commodities' would benefit from further granularity by subdividing "metals" into "precious metals" and "base metals." As explained in our response to Question 9 we do not think the proposed method for aggregating exposures across different broad asset classes with the same counterparty is appropriate for all market participants and all areas of the capital framework.

**Q3. Are there specific product types that are not adequately captured in the outlined categories?**

We believe currency swaps should be clearly defined within the "foreign exchange" category, with offsets defined against other FX positions, and that net FX positions should be determined as discussed through "triangulation", for example, for comparable value, a position that is EUR/GBP and offset by GBP/USD is reduced to EUR/USD. Taking into account our comments above, we believe the product types are adequately captured.

We also believe it is imperative that option products be assessed using an appropriate market delta, rather than the regulatory factor of  $+.5/-0.5$ . This change is needed both to appropriately reflect product risk, and to avoid incentives for regulatory arbitrage.

**Q4. Does the above approach reflect the replacement cost of margined transactions? Are there any other collateral mechanics that the Basel Committee should consider?**

There can be cases where  $TH+MTA-NICA$  is significantly larger than  $V-C$ ; therefore the replacement cost component for a netting set with margin agreement would be higher than if the same set of trades was not margined. The proposed treatment is extremely conservative, because it implicitly assumes that a bank will only realize the default of its counterparty when the counterparty misses a VM call, which is the exception rather than the rule.

In our view, margined netting sets are generally treated more conservatively under the Committee's proposal. Due to the  $3/2$  multiplier in the function that scales down the supervisory factors for unmargined netting sets into those for margined netting sets with different frequency of margin exchange, the overall treatment for margined netting sets results in a double counting of risks: If a margin call is issued it typically needs to be met the same day, latest the following day. The  $2/3$  multiplier means that for a netting set with daily margining the supervisory factors only reduce to 30% rather than 20%. The difference is an "effective" MPOR of 23 days rather than 10 days. For netting sets consisting of demonstrably liquid products only, an MPOR of less than 10 days should be permissible, not just for centrally cleared OTC derivatives.

If  $TH+MTA$  is included in the replacement cost component our view is that the  $3/2$  multiplier in the calibration of MPORs for margined netting sets should be dropped. Otherwise the  $TH+MTA-NICA$  term should be dropped.

We are also critical of flooring the replacement cost component to zero, which implies that the total counterparty exposure will be represented by the sum of two non-negative numbers.





Economically, the exposure is simply the sum of current exposure and PFE. Consequently, we are also concerned by how collateral is recognized, i.e. one-for-one reduction of current exposure but only partial reduction of PFE:

We recognize that the market risk of the collateral held increases for longer margin periods of risk (MPOR) applicable to a particular netting set. If, however, if the market risk of the collateral over the MPOR is taken into account, we cannot see an economic reason for only partially recognizing excess collateral. The only reason we can think of is to preserve economic incentives for developing an internal model in order to measure both counterparty and collateral risk more accurately. Please also see our responses to Questions 8 and 11 on this point.

**Q5. Of the options under consideration for recognising offset across hedging sets, which treatment is preferred? What number of maturity buckets is appropriate to consider?**

By adding the absolute amounts of the effective notionals in each maturity bucket, Approach 1 implicitly assumes that interest rates always move in directions opposite to the bank's exposure in each maturity bucket, e.g. 50 bps up if the bank is "long" interest rates less than one year, 50 bps down if the bank is "short" interest rates between one and five years, and again 50 bps up if the bank is long interest rates for more than five years. Approach 1 is effectively the same as assuming that there are three hedging sets per currency, contrary to the Committee's statement in paragraph 54 that a hedging set includes all interest rate derivatives in the same currency.

Approach 2 recognizes to an extent that interest rates are more likely to move in the same direction, therefore approach 2 is more appropriate, but too conservative in that more benefit should be given to reflect co-movements of interest rates across maturity buckets in the same currency.

The proposed framework for interest rates is too conservative in that interest rates in different currencies are treated as separate hedging sets. Interest rates in different currencies tend to move in the same direction; therefore a formula as proposed for maturity buckets in approach 2 should be developed in order to describe interest rate exposures across different currencies within a netting set.

Deutsche Bank shares the BCBS' view that three 'buckets' for interest rate derivatives strikes an appropriate balance between simplicity and conservativeness for the majority of market participants. However, we think the maturity adjustments are not appropriate. They should be based on modified duration rather than remaining maturity (for both interest rate and credit derivatives). We recognise the Committee's intent to develop a NON-model based approach. However, we consider that a bank managing interest rate risk on the basis of remaining maturities would find it difficult to comply with basic prudential risk management standards. The standardised approach to market risk allows banks to calculate their own durations, therefore we suggest that it should be at least permissible in the standardised approach to counterparty risk as well.

Without duration-based maturity adjustments and recognition of appropriate correlation benefits across currencies and maturities we anticipate that the proposed NIMM method would produce overly conservative exposure measures for clearing members clearing interest rate products in different currencies through a CCP. For the same reason, we anticipate that the proposed method would result in overly conservative KCCP measures for the CCP.

**Q6. Is the proposed approach of using a different methodology for determining the add-on for each asset class appropriate? Is each proposed add-on methodology for each asset class effective at capturing the main risk driver of that asset class?**

The proposed approach is a significant improvement over CEM. We suggest, however, that the methodology be further refined based on the results from the QIS, particularly focusing on reducing discrepancies with the IMM approach.



**Q7. Are the proposed minimum time risk horizons for each transaction category (unmargined, non-centrally cleared, centrally cleared) appropriate? Should the Basel Committee consider factors other than the IMM for determining the appropriate time risk horizon for the NIMM (e.g. harmonising with other international or national legislation)?**

DB believes that the appropriate time horizons should be derived based upon the QIS results. Without analysing the QIS the time horizon would be arbitrary and quite possibly improperly calibrated. Moreover, the alpha of 1.4, or the level ultimately deemed appropriate by the BCBS, would provide a conservative metric. Additional multipliers or restrictive time horizons seem overly restrictive and beyond the intended purpose of these provisions.

**Q8. Do the suggested formula and 5% floor appropriately recognise the benefits of overcollateralisation?**

DB would appreciate further clarity about the 5% floor. From an economic perspective, we do not see the need for a floor. It would be preferable for the benefits of overcollateralization to be fully recognised in order to offset RC+PFE. The proposed specification of the multiplier function and the floor in particular, implies a real risk of material overestimation of tail risk exposures for derivatives netting sets that are subject to initial margin at the 99% confidence level or higher. Where regulatory approved risk models are used that ensure the counterparty risk is mitigated at least with 99% confidence over a conservative MPOR, as is required for centrally cleared transactions under the PFMI and for uncleared derivatives under the recommendations of the WGMMR, we believe that defining a floor as a percentage of an exposure measure that has no validated confidence level is arbitrary. Since the initial margin itself represents a more accurate risk measure, we believe the capital required for the residual tail risks from these highly collateralized netting sets should be very small. Otherwise there would be an inconsistency with the capital requirements in other areas of the prudential framework.

The only apparent argument in favour of a floor is to maintain incentives for banks to develop internal models and improve their risk management standards.

In the case of CCPs we think the margin multiplier and floor are inappropriate for application to KCCP. For systemically important CCPs we think more effort is required in order to determine a calibration of NIMM that is fit for purpose in order to measure tail risks from highly collateralized netting sets.

**Q9. Is the proposed approach to aggregate across asset classes appropriate?**

No. We find the proposed approach to be excessively conservative, in that it assumed simultaneous adverse movements in all asset classes where such behaviour is not observed in practice. In general we believe an assumption that asset classes are correlated at a level of .5 would be sufficiently conservative. We note that the same correlation level has been used by the European Banking Authority in their consultation paper on Prudent Valuation.<sup>5</sup>

However, we think that the extremely conservative approach of not recognizing any diversification benefits across broad asset classes may be appropriate for calculating the KCCP of systemically important CCPs which operate clearing services for products belonging to different broad asset classes but do not have segregated default funds and waterfalls for each broad asset class.

**Q10. Are there any risk factors that should be included in their own category or accounted for in another manner?**

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<sup>5</sup> European Banking Authority, Consultation Paper, "Draft Regulatory Technical Standards (RTS) On prudent valuation under Article 105(14) of Regulation (EU) 575/2013 (Capital Requirements Regulation - CRR)", 10 July 2013.





We do not see the necessity of additional provisions in this area. The intention of the Committee is to keep the NIMM as simple as possible and we see this as an area where simplicity can be maintained without significant cost to risk-sensitivity. Whilst of course using IMM models would be the optimal way to price in specific risk factors, we believe that the calibration proposed meets the Committee's objective for most market participants.

Systemically important CCPs, should, however, be allowed to include additional risk factors for the purpose of calculating their KCCP more accurately.

**Q11. Is the proposal to introduce the multiplier in order to allow reduction of the PFE add-on in the IMM shortcut method appropriate?**

Yes. However, banks that have IMM approval should be allowed to use a less conservative multiplier function that more effectively reflects the exposure reducing nature of excess collateral. As discussed, once prudent adjustments have been made to capture the potential reduction in market value of collateral held over the margin period of risk, we only see one reason that could justify the recognition of less than the full collateral value from the exposure measure, and that is to maintain incentives for banks to improve their risk management standards through developing internal models. We note that the BCBS refers to the importance of this incentive in its discussion paper on balancing risk sensitivity, simplicity and comparability<sup>6</sup>. In order to maintain these incentives, a less conservative multiplier function would represent an appropriate way of maintaining incentives between NIMM, IMM shortcut, and full IMM methodologies.

With regard to the floor introduced in this formulation, we refer to our comments on the topic in response to Question 8.

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<sup>6</sup> Basel Committee on Banking Supervision, Discussion paper "The regulatory framework: balancing risk sensitivity, simplicity and comparability, Issued for comment by 11 October 2013.