

Basel Committee on Banking Supervision – Discussion Paper

The regulatory framework: balancing risk sensitivity, simplicity and comparability

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Risk Dynamics is very thankful to the BCBS for proceeding with a consultation on the important question of striking a right balance between risk sensitivity, simplicity and comparability to improve the regulatory framework.

Let us first remind that risk measures are also used for other purposes (than purely regulatory) implying different requirements and thus other modelling objectives.

On simplicity versus complexity

Recognising explicitly simplicity as an objective in modelling practices as put forward in the BCBS consultative paper is an idea that we actively support and it is part of the dimensions we take into consideration when we validate clients' Pillar 1 regulatory models.

We indeed agree that pursuing more simplicity in banks' RWA calculations performed in a regulatory context would improve the transparency around these calculations and enhance comparability across the industry. This would in turn help the regulators and the market better monitor the risks accumulated in the financial system.

However, we would like to highlight that pursuing simplicity as an explicit objective when developing a model for internal risk management purposes of individual banks may jeopardize the benefits of Basel II implementation. Banks have invested significant money and effort over the last years in developing IT systems, methodologies, tools and processes to meet Basel II requirements. With the aim of coming up with more accurate and more precise risk measures, banks have tried to *integrate the complexity* of their operations (i.e., products, services, portfolio dynamics, exposure to systemic risk, etc.) in their risk models. They have also tried, as the regulators explicitly demanded, to tailor their models to their *own 'idiosyncratic' risk profiles*. And thanks to these developments carried out under the Basel II framework, banks have gained improved insight into their own specific risks.

Paradoxically, however, while increased complexity through the development of tailored models provided more transparency to individual banks about their own risks, it made the risk profile of the whole system more opaque, from an external and systemic perspective.

The way out of this conundrum is indeed proposed in the sixth potential idea in the consultative paper (i.e., *reconsidering the linkage between internal and regulatory models*). The solution is not to promote model '*simplicity*' as an isolated objective whatever its use. We believe that the approach should be different for internal and regulatory models. To some extent, internal models should be dis-associated from regulatory models. Simplicity in models may be a valid objective for the regulators, which are responsible for monitoring and ensuring the health of the whole financial system. However, imposing simplicity in internal models would just make the banks blind to their own risk profiles. It should be acknowledged that higher levels of accuracy and precision are required in internal models as they are used for decision making purposes within risk management and business contexts. Achieving an acceptable level of accuracy and precision is generally very difficult if not impossible via overly simple measures (e.g. ratios); a reasonable dose of complexity is needed.

All in all, we believe that the objective for internal models for an individual bank should not be to simply seek '*simplicity*'; it should rather be to target the '*required*' or '*desired*' level of complexity (in other words, to avoid '*undue or uncontrolled complexity*'). Complexity is not the main issue in itself, lack of transparency and lack of controls, generally speaking, around complexity is the real problem.

As we have explained above, pursuit of simplicity (for the sake of simplicity) in internal models may lead to deterioration in risk measurement / management activities of the banks. This would in turn harm the stability of the financial system as a whole, which is precisely what Basel II framework is trying to prevent.

On comparability and disclosure

The BCBS identifies the complexity resulting from the pursuit of risk sensitivity, as the main driver for the lack of comparability. And it is true that market participants, shareholders and supervisors, struggle to understand the models outcome, and how they have been calculated by banks.

As evidenced by the outcome of the BCBS regulatory consistency assessment program, about three quarters of the differences in risk weighted assets for credit risk can be explained by differences in assets mix and risk profile. This is somewhat encouraging and demonstrates the soundness of the IRBA approach. On the other hand, there is clearly room for improvement to achieve a better comparability, recognising though that models are approximations of the reality, and that in the world of "*asymptotia*", all models are wrong, by definition.

Whilst simplification of Pillar 1 regulatory models can improve comparability, the situation is often more problematic, as explained earlier in this article, when these models are also used for internal purpose. What is important therefore is to identify the sources of these differences and to disclose the information appropriately.

Let us focus on how comparability can be improved.

Firstly, a number of definitions that are at the core of the regulatory capital framework, such as for example, the concept of “unlikelihood to pay”, calculation of average probabilities of default, LGD, etc. should be clarified and harmonized.

Secondly, we believe that more disclosure requirements should be introduced at various levels.

Regarding individual models, more transparency is needed around the way parameters estimates have been derived and validated. It is critical that robustness of the model outcome be assessed and disclosed, for example, sensitivity of the outcomes to small changes in assumptions, data samples, mathematical formula, expert judgments, estimation techniques, etc. Similarly, one would expect that the circumstances under which a model is likely to mis-estimate the risk be disclosed.

Similarly, at the level of the asset classes and aggregated risk weights, more disclosure is needed on how models are ranked regarding their risk materiality, their volatility over time, their sensitivity to the business cycle, and how arbitrary changes in the parameters estimates affect the capital requirements.

Lastly, in our opinion, the existing regulatory framework fails to adequately address two substantive questions.

The use test is the first one: the existing framework should recognise more explicitly that different risk measures are required for different uses (for e.g. PIT risk measures for pricing and provisioning, TTC risk measures for minimum capital requirements) and that models can be compared only if they serve the same use.

Another important issue is that differences in risk management practices (such as credit risk mitigation) and business strategy are not explicitly taken into account by the regulators in their comparison programmes. We would recommend that these elements are explicitly tackled in model documentation and subject to appropriate validation. Without effectively capturing internal bank behaviour, hypothetical portfolio exercises (HPE) and their possible use for benchmarking purpose should be cautiously considered. Let’s remember, we want to improve comparability; not distort it!

On the Use Test

As argued in the first section of this article, banks’ internal risk management models differ in their objectives from those used to calculate regulatory capital. These internal models can vary substantially as they are developed and calibrated to serve one or more purposes, such as:

- Economic Solvency: assess the amount of (economic) capital needed to protect debt holders considering the bank’ target rating;
- Portfolio and Risk Appetite Management: assess the volatility of earnings and of capital or liquidity buffers for different time horizons and scenarios;
- Performance management: allocate capital and assess the total or stand-alone business performance adjusted for risk in order to maximize value creation; and
- Pricing and risk monitoring: assess and monitor the “point-in-time” risk-adjusted value of a financial instrument.

Moreover, banks' assess potential losses not only based on historical information, but also based on forward-looking scenarios, considering the economic and market environment.

All these risk models have to be based on different methodologies and to be calibrated differently. Hence, they give different outputs. As a result, use test cannot be considered as unique: models have to differ depending on their usage, even if they use the same underlying data sources. A reconciliation framework is however required to ensure consistency between risk measures.

Nevertheless, whilst regulatory and economic models differ in purpose, they have some aspects in common. As an example, when the purpose is to assess solvency from a regulatory perspective in a broader market stability context, internal models (economic capital models) and regulatory capital models should be consistent with each other.

One way to achieve such consistency is indeed to broaden up the range of indicators, as proposed under the title "Using additional metrics" in the consultation paper, beyond the RWA indicator. These additional indicators would have to focus on capital (risk), be standardised, complementary to each other and sufficiently resilient (i.e. providing a long term stable view on the metric being measured).

Another solution might also be to complement the RWA indicator with a model risk indicator that measures the model output uncertainty for a specific use, to assess the model quality beyond its pure regulatory compliance. Such a metric would help qualify the intrinsic quality of individual risk models and could be used to quantify the additional capital that would be needed to address this uncertainty (model risk).

We hope that the above will help in the debate around complexity of models and remain at your disposal for any further clarifications if needed.