IFRS 9 AND THE INTERACTION WITH BASEL III REGULATION PILLARS

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Abstract: *IFRS 9, standard focusing on the accounting for financial instruments, once implemented, led to significant improvements in the world of accounting. The transition from the old standard (IAS 39) in order to apply IFRS 9 has been a major challenge for the bank system, due the fact that the new standard involves other criteria for classifying and measuring the financial instruments. A novelty brought by this standard and presented in the article refers to the introduction of Expected Credit Loss, another approach for recognizing credit losses. This new approch must be applied by institutions according with the three stages provided by IFRS 9. IFRS 9 has a strong impact on risk management and the banking business model. In addition to IFRS 9, Basel III, also, have a major importance in the activity carried out in the banking sector. Basel framework is applied on a consolidated basis to all internationally active banks, being the best way to preserve the integrity of capital in subsidiary banks by eliminating double-gearing. Basel III was created to strengthen the requirements included in the Basel II standard on minimum capital ratios of banks by increasing bank liquidity and reducing bank leverage. The main objective pursued by the Basel III agreement is to strengthen the security of the banking sector. At the level of the European Union an important role in the application of the new framework is played by the European Banking Authority. The paper aims to present, through a deductive approach, the new Expected Credit Loss modell and to describe the interaction between accounting standards and supervisory expectations, namely the interaction between IFRS 9 and the three pillars of the Basel III regulation: the minimum regulatory capital requirements (Pillar 1), supervisory review and evaluations process (Pillar 2) and market discipline (Pillar 3). The last part of this article is focused on impairment models and financial stability, treated in the light of the new accounting standard.*

Keywords: *IFRS 9; Basel III regulation; pillars of Basel III regulation; Expected Credit Loss; credit risk; financial institutions.*

JEL Classification: *M41; M21.*

1. Introduction

The current environment relies on the accounting and regulatory perspective inter-connections and mutual influence over each other, hence a balance must be achieved to ensure the institution's future profitability and, at the same time, ensure that the capital and liquidity requirements are met.

Even though the two perspectives require different assumptions, throughout the cycle, in the case of the capital requirements and point in time for the accounting regulation the objective are the same: to ensure that the institution is adequately capitalised to withstand the potential losses which could appear. Furthermore, the accounting perspective interacts with the Pillar 2 requirements as the supervisors evaluate banks' risk management systems, economic capital calculations and capital planning and assess the adequacy of the provision coverage and unexpected and expected credit losses regulatory capital.
Following the Basel Committee on Banking Supervision guidance with regard to expected loss adequacy supervisors can guide the level of the provision coverage through the requirements set in the Supervisory review and evaluation process under Pillar 2. Furthermore, the loan loss provisions impact the financial statements disclosure, hence impact the third pillar of bank supervision - "market discipline".

2. Methodology of the research

The research methodology aims a deductive approach which highlights the theoretical perspective regarding the concept of IFRS 9 and it interaction with the three pillars of the Basel III Regulation. As research method can have mentioned the documents analyze which consists in going through the specialized literature in order to identify the relevant works to the examined subject. Were accessed books and articles from the field, European regulations and International Accounting Standards (International Financial Reporting Standard 9 - Financial instruments) and, also, web pages of the Basel Committee on Banking Supervision and European Banking Authority.

3. Literature review

The financial statements present the value of the loans either at fair value or at amortised cost and it is expected to be reflective of the true value of the asset and provide useful information to both investors and supervisors (Benston and Wall, 2005).
Under the IFRS 9 requirements, the expected loss formula can be presented as follows: among the key parameters of the expected credit loss computation is the loss given default (LGD) which represents the loss incurred for a particular financial asset or group of assets, in the event of default. In order to have a more accurate Expected Credit Loss (ECL) computation in the context of the IFRS 9 standard it is important for institutions to set proper loss quantification process.
In essence, for stage 1 the institutions should hold the equivalent of one year expected credit losses while for stages 2 and 3 the institutions should hold the equivalent of Lifetime expected credit losses. Hence, the institution defines ECL as follows:

$$\text{Expected Credit Loss (ECL)} = \sum_{i=1}^{m} \text{mPD}_i \times \text{EAD}_i \times \text{LGD}_i \times \text{d}_i$$

The institution calculates modelled Expected Credit Loss (ECL) as a function of:

- The probability of the exposure defaulting referred to as Probability of Default (PD).
- The proportion of the exposure that will not be repaid in the event of a default as Loss Given Default (LGD).
- The outstanding exposure the obligor has to the bank when the default occurs referred to as Exposure at Default (EAD).
- m denotes the time horizon for the ECL calculation - 12 Months for stage 1 and Lifetime for stage 2. As stage 3 exposures are already in default the PD will always be set to 100%.
- dis discount factor: The discount factor required to discount losses from the point of default in period i back to reporting date. It is obtained from the interest rate taken from source data or provided by the institution's modelling team proxy of the Effective Interest Rate (EIR) at origination.

The modelled ECL should be computed by institutions in accordance with the 3 stages defined by the IFRS 9 Standard :

- Stage 1: Exposures for which no significant increase in credit loss since origination performing loans to which a 12 months ECL is applied and is computed on a gross basis.
- Stage 2: Exposures for which a significant increase in credit loss since origination was identified performing loans to which a Lifetime ECL is applied and is computed on a gross basis.
- Stage 3: Defaulted exposures - defaulted loans to which a Lifetime ECL is applied and is computed on a net basis.

Based on Grünberger(2014) the LGD parameter is considered constant hence the key drivers of the change in the economic value of the loan are the probability of default and the original effective interest rates. Hoogervorst (2014) pointed out that due to the late recognition of defaults and modelling limitations, the loan loss provisions, computed under the incurred loss model, would only be recognised once the PD would be 100 the loan would be in default. Gebhardt and Novotny-Farkas (2011) pointed out that even if there would have been some indication of default it could not have been recognised until the event would have occurred hence. From the multiple estimates of expected losses incurred losses represent the at least the actual losses incurred.

The IFRS 9 standard requires an earlier recognition of a significant increase in credit risk associated with the obligor (Gebhardt, 2016) which is reflected in the loan loss allowance computed for the respective facility.

Barth and Landsman (2010) reflect upon the importance of financial statements as they represent the basis for the computation of the regulatory capital requirements and inform the market participants on the viability of the institution hence also impact the market discipline elements. Depending on the business model, financial institution'sbalance sheets are driven by the loans and advances portfolios values, hence the loan loss provision and charges is the key risk drivers and management estimates in banks' financial statements, hence their value and estimations directly impactsthe institution's earnings and compliance with regulatory capital

requirements. Due to this interdependence, both accounting standard setters and regulators and supervisors are interested in ensuring the impairment estimates are adequate.
Regardless of the model and assumptions used in the computation of loan loss provisions they offer information to both internal and external parties supervisors are interested in ensuring the overall riskiness of the institution is within their risk appetite and properly recognised and capitalised for and reflected in the institution's risk estimates in order to ensure the financial resilience of the financial system. Benston and Wall, 2005 consider that the over-estimation of the loan loss allowance is not a significant concern for the supervisors, as this would reduce the probability of the failure of the institution and ensure the depositors would not be affected. However the market and financial auditors are interested in the true and fair view of the financial statements, hence an over or under-estimation would be of concern.

4. The interaction between IFRS 9 and the three pillars of the Basel III regulation

Developed by the Basel Committee on Banking Supervision as a response to the financial crisis of 2007-2009, the regulatory Basel III framework is based on three pillars:

- Pillar 1 – representing the minimum amount of regulatory capital that an institution should hold - Kim and Santomero (1988) consider it reduces the risk taking incentives of the institutions, as riskier assets would increase the Pillar 1 capital requirement hence the institution strategy should considers the cost of capital when making investments in riskier assets.
- Pillar 2 – supervisory review and evaluations process – enables supervisors to evaluate banks' risk profile by considering the institution's business model, governance, risks to capital and liquidity. From a capital perspective, the supervisors are focused on the assessment of risks not covered or not fully covered by Pillar 1. The additional capital requirements will be translated into additional Pillar 2 capital which the institution is expected to hold in addition to its Pillar 1 capital. In case the institution's provision coverage is deemed by supervisors inadequate additional capital add-on could be placed in order to ensure the coverage is within supervisory risk tolerance limits.
- Pillar 3 – market discipline – requires financial institutions to ensure transparent reporting which would enables capital markets to serve as a complementary force to discipline banks' behaviour.

4.1. IFRS 9 and Pillar I

The main building-block of any model (Basel or IFRS 9) is the use of an adequate definition of default, which is consist and comparable across management practices accounting and regulatory requirements should not be conflicting (EBA/GL/2017/07). Grünberger (2013) has concerns with regard to the appropriateness of the default criteria incorporate in the institution's definition of default the research reflects upon the inclusion of multiple default criteria which would result in the calibration of higher

probability of default (PD) while the loss given default (LGD) associated with the portfolio would decrease given that despite the high the number of defaults the actual loss recorded would be minor or even zero. Therefore, it is of outmost importance that the definition of default is defined in accordance with the current requirements, furthermore when used for modelling purposes institutions should ensure its consistency through time.

The Capital Requirements Regulation (CRR), under article 178, defined the obligor as defaulted if it is more than 90 days past due or if any of the unlikeliness to pay criteria has been met, however the IASB decided to not provide a definition of default in order to ensure consistency with the credit risk management practices of the institutions (Basis for Conclusions paragraph 5.251). IFRS 9 introduces, as a backstop, the rebuttable presumption that default a default can be recognised when a financial asset is more than 90 days past due (paragraph B5.5.37)

In practice large misalignments can be identified within the same institution both across portfolios and between the regulatory and accounting requirements. Furthermore, the treatment across jurisdictions is significantly different.

Under the Basel requirements financial institutions are required to compute the value of the unexpected losses while under the IFRS 9 standard they are required to compute the value of the expected loss. The stage 1 computation of expected credit losses is conceptually more similar to the Basel requirements the losses are computed over a 12 month time-horizon and the key input parameters are the PD and LGD. However the parameters are not fully aligned, under such circumstance entities can use some of the regulatory parameters as a basis for the calculation of expected credit losses only after applying adequate adjustments the exclusion of regulatory floor (Basis for Conclusions paragraph 5.283) in order to ensure their compliance with the IFRS 9 standard (Basis for Conclusions paragraph 5.283).

Under the Basel requirements the banks using an advanced internal rating based approach (A-IRB) compute their own PD and LGD estimates. While the rating philosophy of the PD model can be either point in time (PiT), throughout the cycle (TTC) or hybrid, the calibration is required to be TTC estimates at a grade level. The PiT approach assesses the an obligor's PD considering the current state of the economy and over a relatively short time-horizon hence it's more sensitive to the prevailing economic circumstances, while the TTC approach capture a longer time horizon in order to neutralise the cyclical conditions. Under the hybrid approach the PD ratings are calibrated to the long run average default rates however, the model can reflect current/PiT macro-economic conditions through grade migration.

While there are no requirements on the rating philosophy an institution should use to compute its capital requirements, the CRR expressly states that a calibration to TTC grade level estimates is mandatory.

Under the IFRS 9 requirements the calibration should be forward looking considering all available information and a range of possible economic scenarios (Basis for Conclusions paragraph 5.282), hence the Basel estimates have to be adjusted in order to become IFRS 9 compliant.

With regards to the the LGD component used for regulatory capital calculation purposes, institutions can either consider using pre-defined parameters if it opted for the foundation approach, or can computed its own down-turn LGD estimates. While

the IFRS 9 models require the institution to consider the most recent work-out practices that are reflective of the current and future characteristics of the portfolio.
For the computation of the regulatory parameters the institutions apply a margin of conservative to factor in any methodological and data shortcoming, IFRS 9 requires the removal of such adjustments.
Another difference between the regulatory and IFRS 9 computation is that the capital requirements are that the PD estimates are computed over a 12 months horizon, while the IFRS 9 standard requires a lifetime estimation for the stage 2 and stage 3 expected credit losses.
As mentioned earlier, the value of the loan loss provisions has a direct impact on the capital ratio calculation for both the standardised and IRB institutions.
Banks using a SA approach can include general loan loss provisions in their Tier 2 (T2) capital in the equivalent of up to 1.25% of their risk weighted assets (Article 62c CRR). Collective provisions computed under IFRS 9 are only eligible for inclusion in the T2 capital if they are freely and fully available, and there is no evidence that a loss event has occurred. For the jurisdictions where a minimum level of provisions is defined by the regulator, the difference between the accounting and regulatory provisions is deducted from Tier 1 capital.
Under the IRB approach any shortfall arising from the comparison of supervisory and accounting expected loss has to be deducted from Tier 1 capital (Article 36d CRR) up to 0.6% of the RWA of the excess of eligible accounting loan loss provisions over supervisory expected losses can be included in Tier 2 (Article 62d CRR).

4.2. IFRS 9 and Pillar II

Under the Pillar 2 framework - the supervisory review and evalutions process (SREP) - the supervisors assess whether the institutions have an adequate credit risk process. The interaction with the IFRS 9 models is seen from the perspective that the economic capital models presented in the institution's ICAAP (Internal Capital Adequacy Assessment Process) should also be PiT and reflective of an institution's current and forecasted expected conditions. The economic capital models are expected to address risk not covered or not fully covered by Pillar 1, hence credit concentration as well as migration risk are considered alongside the risk of default.
Consequently the Pillar 2 methodologies address the main limitations of the Pillar 1 methodologies the Internal Ratings-Based (IRB) models assume infinite granularity of the portfolios and are based on a one factor model.
This limitations could be addressed by incorporating:

- Single name concentration– the IRB parameters (PD, LGD, EAD) are adjusted to account for the granularity of the counterparties in the institution's portfolio by treating strongly interconnected borrowers as single counterparties. For the computation of the parameters, a clustering algorithm aggregates counterparties and exposures by treating them as branches and nodes which are interleaved until all connections are identified. The exposures for all accounts in each cluster are aggregated and a weighted average is taken for all risk parameters. The features of the 'clustered' portfolio are accordingly used to produce an estimate of the capital requirement.

- Sectorial and geographical concentration–the IRB parameters (PD, LGD, EAD) are adjusted to account for the exposure concentration across sectors and geographies. Individual sectors and geographies are linked to different sections of the economy and interdependent. Under this approach the default probabilities of individual sector and geographies are correlated. This is determined based on the analysing the historic volatility of the default rate. The historical default rate analysis provides the general economic, geographic, individual sector, inter-sector, and intra-group correlations.
- Migration is incorporated by adjusting the maturity factor in the IRB formula.

Another model that is used by institutions in the ICAAP is the stress testing model, which similar to the IRB, IFRS 9 and economic capital models, is based on the same key parameters (PD, LGD, EAD), however generally the stress testing models are top down and are considering significant shocks applied to the macroeconomic variables integrated in the model.
If the supervisors identity significant deficiencies in the institution's management process or in the loan loss provision allowance a Pillar 2 add-on can be imposed.
BCBS's Guidelines on accounting for expected credit losses as well as the Guidance on the application of the core principles for effective banking supervision (BCBS, 2015a) encourages the collaboration between auditors, enforcer's and supervisors in order to ensure a consistent interpretation of the accounting framework.

4.3. IFRS 9 and Pillar III

The third pillar of the Basel framework is seen as a mechanism through which market participants can monitor and reduce the aggressive risk taking practices of the institutions. Stephanou (2010) considers that one of the key characteristics of market discipline is the availability of reliable information in a timely manner. This is very relevant in the context of benchmarking exercise performed by the EBA on the IRB, IFRS 9 and Stress testing exercise.

5. IFRS 9 - impairment models and financial stability

Market disciple and disclosure are essential for the adequate functioning of market and allows third parties to get access to detailed financial information in order to make informed investing decisions. This leads to financial reporting being an important tool in the context of the interaction with regulatory supervision.
Under the IAS 39 standard it was observed that during boom periods, banks recognise higher interest income than provision charges, which allow the institutions to grow at a faster rate and also to distribute dividends, while during periods with less favourable macroeconomic conditions, the frequency of identifying specific loss events increased.
Furthermore, Bushman and Williams (2015) point out that there is a significant delay in informing the market participants on the level of losses recognised by financial institutions, increasing the downturn conditions. It is expected that IFRS 9 prevents this cliff edge effect by ensuring a timely recognition of default events avoiding another credit crisis. IFRS 9, by recognising 12-month ECL for Stage 1 as well as lifetime ECL for stage 2 assets ensures entities recognise losses earlier and mitigate

excessive losses during downturn conditions and ensure retained earnings are adequately built acting like a buffer reduced dividend distribution. Additionally a more timely recognition promotes market discipline as market participants can take informed actions and reduce pro-cyclicality.
However given the parameters are built on a PiT philosophy, it will reflect the economic cycle's procyclicality hence the ECL estimates will be lower in the boom periods and will increase during the downturn. However the ECL will be built progressively ensuring its timely recognition hence avoiding a cliff edge effect due to the integration of forward looking information.
Grünberger's studies from 2014 showed that by incorporating forward looking information into the PD parameter the procyclicality of the model is reduced however it depends on the accuracy of the estimates use for the forecasted macro-economic values.
Bushman (2016) considers that IFRS 9 allows management a significant discretion in the estimation of the ECL and the main safeguard is to have an adequate external audit carried to certify the true and fair view of the financial statements. In the author's view the discretion can be used to increase retained earnings by delaying the recognition of losses and ensuring a smooth income recognition.
Borio and Tsatsaronis (2005) consider that prudential and accounting regulations could converge, however they will need to continue in different purposes hence should not be fully aligned.
The IAS 39 model was based on an incurred loss model Tardos 2005, hence the asset would be considered impaired once the event would be triggered, while the IFRS 9 model considers future losses even though there are no signs of impairments.
Chawla et al. (2016) consider the following qualitative and quantitative criteria to reflect signed of significant increase in credit risk since initial recognition. Qualitative criteria: day past due, work-out, forbearance and early warning indicators. The quantitative criteria are driven by changes in the rating of the obligor and changes in the PD value.
Novotny-Farkas (2016) analysed the interaction between the IFRS 9 standard and the Basel III prudential rules namely in relation with countercyclical capital buffer as it aims reflect the combined effects of the prudential and accounting rules.
One of the main limitation of the IFRS 9 models is the procyclicality imbedded due to its PiT nature. As the loan loss provisions models aim to reflect the economic conditions, they are directly impacted by the upward and downwards moves of the economy.

6. Conclusions

IFRS 9 is seen as significant improvement in the accounting world as it changed the perspective of losses recognised, them be moved from an incurred loss model as previously depicted by IAS 39 to an expected loss model factoring all available information at the point of the assessment (including forward looking data). The paper shows how different the supervisor's and auditor's perspective is and how the two views despite seeming divergent have the same aim ensuring the stability of the

financial system. This paper outlines the interaction between the accounting standards and supervisory expectations, namely the interaction between IFRS 9 and the three pillars of the Basel III regulation. It highlights where there is deviations between IFRS 9 and supervisory expectations and outlines the justification for the deviation.

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