



Are there commonalities and differences between Basel III and Solvency II regulations?

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Abstract

In the wake of two financial crises, the regulatory framework for the financial services industry has undergone significant change. The regulatory system for banks was revised in response to the financial crisis and, following adjustments based on Basel I/II, has been in force since 2013 with the Basel III version, although some regulatory points did not have to be implemented until later. For the insurance industry, the Solvency II regulatory framework came into force in the EU in 2016. The aim of the paper is to present a comparison between the regulatory frameworks and the specifications for the two sets of rules. In both frameworks, commonalities can be identified in the 3-pillar approach. The supervisory models are structured in the same way and stand side by side on an equal footing, i.e. they are intended to complement or mesh with each other. Internal procedures for calculating capital requirements may only be used after regular supervisory review and disclosure to the market. The regulatory focus is on a qualitative view. The risk profiles differ; in particular, credit and market risks must be taken into account in the case of financial institutions, while insurance companies focus on underwriting risk. Furthermore, in the case of banks as opposed to insurance companies, additional capital buffers are required due to the economic situation, for example, and leverage and liquidity ratios are also prescribed. There is no regulation for insurance companies in comparison. The Basel III regulations have higher capital requirements. Also the eligibility of the positions of the different capital levels have lower capital quality standards for insurance companies compared to banks.

Keywords: Solvency II; Basel III; regulatory frameworks; insurance; banking

1. Introduction

The global financial crisis in 2007-2009 demonstrated that financial system stability is essential due to the interconnectedness of the world economy. In particular, the macroprudential approach aims to reduce systemic risk and thus the risks for all participants in the financial system. For this reason, the financial system is monitored holistically, and this applies in particular to systemically important banks. To this end, the EU restructured

the European supervisory structure in 2010. Microprudential supervision was introduced, consisting of European Banking Authority (EBA), EIOPA (European Insurance and Occupational Pensions Authority), European Securities and Markets Authority (ESMA) and their joint committee as well as the national supervisory authorities. Its task is to harmonize standards, develop guidelines and monitor the application of EU law. Within the macroprudential perspective, the European Systemic Risk Board (ESRB) has been established. The microprudential and macroprudential committees aim to ensure good financial market stability by exchanging information and intelligence.

In Europe - in addition to the reform of the supervisory structure - the regulatory framework for the financial sector was significantly reformed. In the banking sector, regulation was tightened from Basel II to Basel III. To this end, in 2010 the heads of the central banks and supervisory authorities of 27 countries in the Basel Committee on Banking Supervision (BCBS) adopted new capital and liquidity regulations for banking institutions. Basel III is a global standard. The new capital adequacy rules, also known as Basel III, draw lessons from the financial market crisis and are intended to enable banks to stabilize and save themselves under their own steam in the event of a crisis. In Germany, banking supervision is carried out by the Federal Financial Supervisory Authority (BaFin) and the Deutsche Bundesbank. The legal basis for this is the German Banking Act (KWG).

Similarly, insurance regulators have further developed the risk-based solvency framework Solvency I into Solvency II, which came into force in January 2016. Solvency II is a reform of European insurance supervisory law. In Germany, the directive was implemented nationally by amending the Insurance Supervision Act. Solvency II includes technical standards that apply to all European member states as well as guidelines and recommendations from EIOPA. An overview of the regulatory regime can be seen in figure 1.

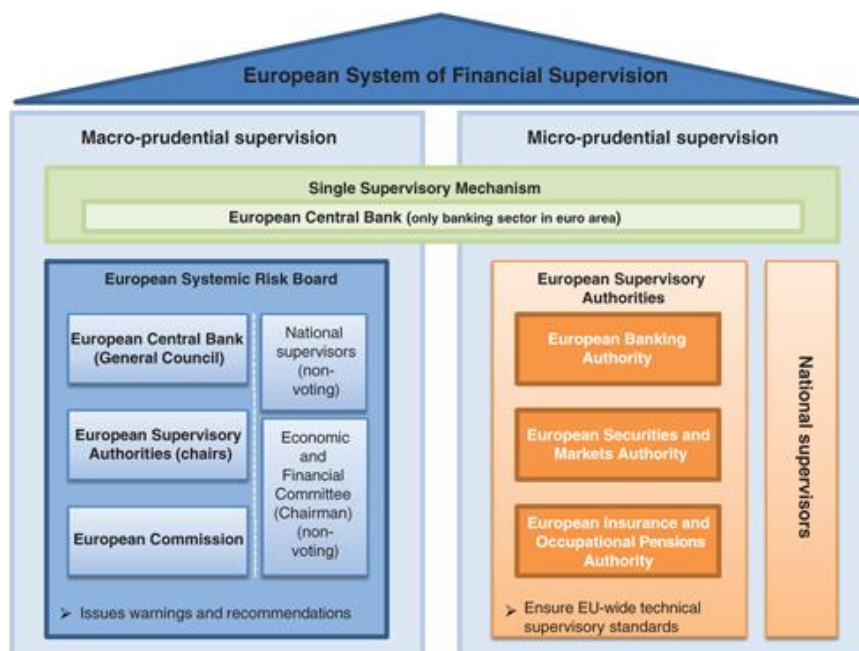


Figure 1: European System of Financial Supervision

Source: ECB (2015)

The aim of the article is, based on literature (Al-Darwish et al. 2011, Gatzert & Wesker 2012, Dina 2019, Kemp 2013, Laas 2016, Lasss & Siegel 2016, O'Shea 2013, Sarialtin 2015, Selimovic & Miokovic 2019) to compare both systems. The article is organized as follows: next chapter shortly summarizes risks in the financial and insurance industry. Third chapter gives a description of regulatory framework Basel III and Solvency II which are further compared in fourth chapter. Conclusion mentions the main points.

2. Risks in the financial and insurance industry

Financial risks can be broken down into financial (Credit and Market risk) and non-financial (Operational and Regulatory) risks. Market risk means that the value of a financial instrument or commodity may fall as a result of changes in market prices, rates, indices or other market factors, causing the bank to incur losses. The relevant market prices affecting banks are market interest rates, bond prices, equity prices and foreign exchange rates. Market risk also includes reinvestment risk on maturing investments, for example, if the bank is able to reinvest funds from maturing investments on the market at worse conditions. Furthermore, currency risks as well as country risks may occur and hedging risks. Credit risks comprise credit default risk, country risk, liquidation risk and concentration risk. Operational risk comprises all operational risks in a bank that can cause damage. Strategic risk is the risk arising from the business strategy that may result in the business model no longer being viable. Further risks may be in the areas legal, political and funding.

In the insurance industry, a distinction is made between investment risk, i.e. the risk arising from capital investment, and underwriting risk. The investment risk includes the market price risk, the credit risk and the liquidity risk and essentially corresponds to the risks described in the previous paragraph. Underwriting risk is one of the main risks of insurance companies. It is the number of claims for a given period and these are higher than the sum of all insurance premiums plus the risk capital. The aim of insurance companies is to reduce fluctuations (volatilities) in claims payments. Possibilities are to balance risks in the insurance portfolio or to design the contract terms accordingly. Insurance companies can limit the underwriting risk by taking out reinsurance. This means that the risks are passed on and they pay premiums to the reinsurers for this.

3. Regulatory framework Basel III and Solvency II

In order to regain market confidence and to create a resilient bank management system, the Basel Committee has implemented post-crisis reforms, grouped under the Basel III framework (Hartmann-Wendels 2013, Mayer 2017, Bunea & Dinu 2019). This framework aims to address the shortcomings of the pre-crisis framework, Basel II, avoid systemic vulnerabilities and improve transparency and market discipline (Gatzert & Wesker 2012). The main improvements introduced by Basel III are the increase in capital requirements, which include the addition of two regulatory liquidity standards (namely the Liquidity Coverage Ratio and the Net Stable Funding Ratio). Further capital requirements will be imposed through additional countercyclical and capital conservation buffers added to the minimum capital requirement. Basel III implementation is expected to be finalised by 2027 (Laforet, 2018).

Basel III consists of a 3-pillar concept (CEBS 2010):

Pillar 1 comprises the quantitative minimum requirements for credit risks and operational risks.

Pillar 2 consists of the qualitative banking supervision process.

Pillar 3 Market discipline through extended transparency rules.

Figure 2 shows the minimum capital requirements since the introduction of Basel III at the respective implementation dates in comparison to Basel II.

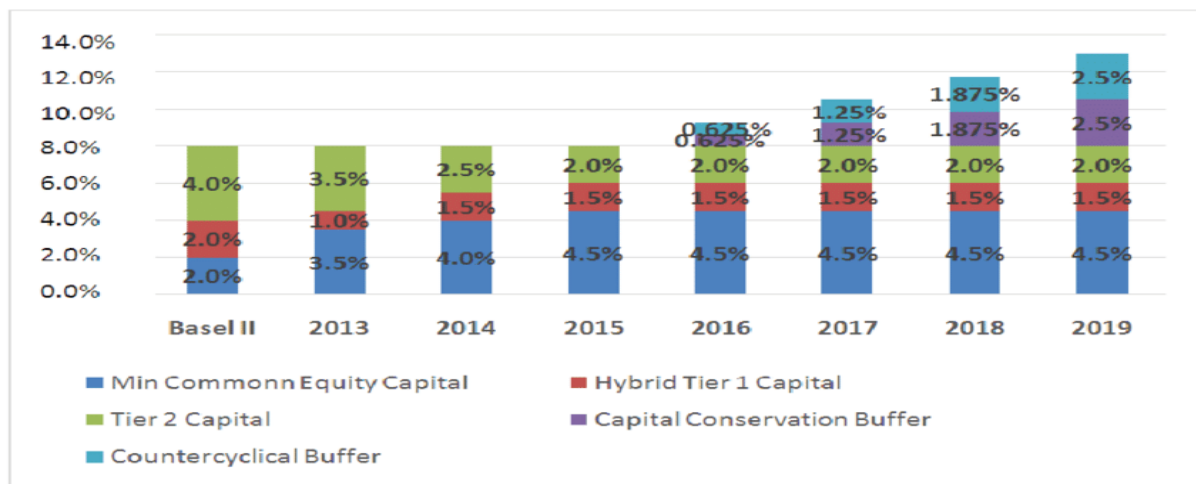


Figure 2: Introduction of new minimum requirements and built-up of capital buffers

Source: Deutsche Bundesbank (2011)

Regulatory Framework Solvency II regulating the European insurance industry came into the effect, after years of preparation, since 1 January 2016. Similar to Basel III, a 3-pillar concept was introduced. It consists of the minimum capital standards (Pillar 1), the Supervisory Review Process (Pillar 2) and market discipline (Pillar 3). The first pillar contains regulations on the market-based valuation of assets and liabilities, in particular on technical provisions and eligible own funds. The Solvency Capital Requirement (SCR) describes the regulatory solvency capital requirement. It can be calculated either using a predefined standard formula or by means of an internal model developed by the respective company (see Scherer & Stahl 2019). The Minimum Capital Requirement (MCR) describes the regulatory lower limit of the solvency capital to be held. It represents the last regulatory intervention threshold before the company's permission is withdrawn.

The second pillar comprises a supervisory review process that sets minimum qualitative requirements for insurers' risk management. Insurers must prove the existence of a business and risk strategy, an appropriate organizational structure and procedures, and an internal management and control system, e.g. through appropriate qualifications of the board members. In addition, an internal audit should be in place. The principle of proportionality is applied, which means that the same requirements and targets apply to all. However, the implementation must be oriented to the individual business model of the company. In practice, this means that some companies receive relief because they are allowed to introduce minimum requirements in a simplified way. For other companies, the principle of proportionality means that some solutions are not possible because they would be disproportionate. Companies must therefore be able to justify that the minimum requirements have been implemented proportionally. Otherwise, the requirements are

deemed not to have been met. The supervisory review process (SRP) must also implement the proportionality principle. In the third pillar, regulations on disclosure to both the public (public disclosure) and the supervisory authority (supervisory reporting) are formulated to promote market discipline. The reporting obligations under Pillar 3 are to be more closely linked to other statutory reporting obligations such as accounting, in particular the IFRS (International Financial Reporting Standards).

Further details about the pillars can be found at Bafin (2016), Basse (2020), Brutyan et al. (2020), CEBS (2010), Creedon (2019), Heinrich & Schreck (2017), Rae et al. (2018), EIOPA (2020), BaFin (2019, 2020a, 2020b). Generally, it can be stated that Solvency II is a risk-based regulatory framework whose main objective is to ensure that insurance companies hold capital in proportion to their risk profile, i.e. the higher the risks in the business, the higher the capital requirements. Under Solvency II, insurance companies are required to maintain a solvency ratio of at least 100%. The solvency ratio is calculated by dividing an insurance company's own funds, i.e. the surplus remaining after deducting liabilities from total assets, by the solvency capital requirement (SCR). This is the economic capital that must be held by insurers to meet obligations to policyholders and beneficiaries, calibrated using a Value-at-Risk (VaR) with a confidence level of 99.5%.

4. Comparison of both regulatory frameworks

Although the portfolio of banks and insurance companies may vary, both subjects invest in the selected asset classes. Therefore the same investment portfolio can be used for the calculation of capital requirements under Basel III. For banks, the calibration of the SBA approach involves the allocation of assets to risk classes and the determination of risk weights and the derivation of correlations ρ and γ . The calibration of the SBA approach includes the allocation of assets to risk classes, the determination of risk weights and the derivation of the ρ and γ correlations. The calibration is based on the Basel Committee's December 2014 consultative paper. The rationale for the approach: A sensitivity-based approach (SBA) as an alternative to cash flow-based calculations for the standardized approach has advantages for banks. The new methodology requires banks to use price and interest rate sensitivities that are most likely to be available in their systems as inputs to the various asset class treatments. The use of sensitivities thus reduces the implementation costs of the revised standardized approach (see CEBS 2010).

The higher amounts of total capital requirements combined with stricter capital quality requirements under Basel III imply that banks must hold significantly more Tier 1 capital than insurance companies. In Lass' example, the amount of Tier 1 capital required for GSIBs (globally systemically important banks) under Basel III (Basel III*) exceeds that under Solvency II by 141% (311%). For non-GSIBs, Tier 1 requirements are 92% and 227% higher for Basel III and Basel III*, respectively (Laas, 2016a). The figure shows the capital requirements for various balance sheet items for both Basel III and Solvency II. The requirements are lower for Solvency II, thus supporting the conclusion that higher capital requirements are necessary for Basel III.

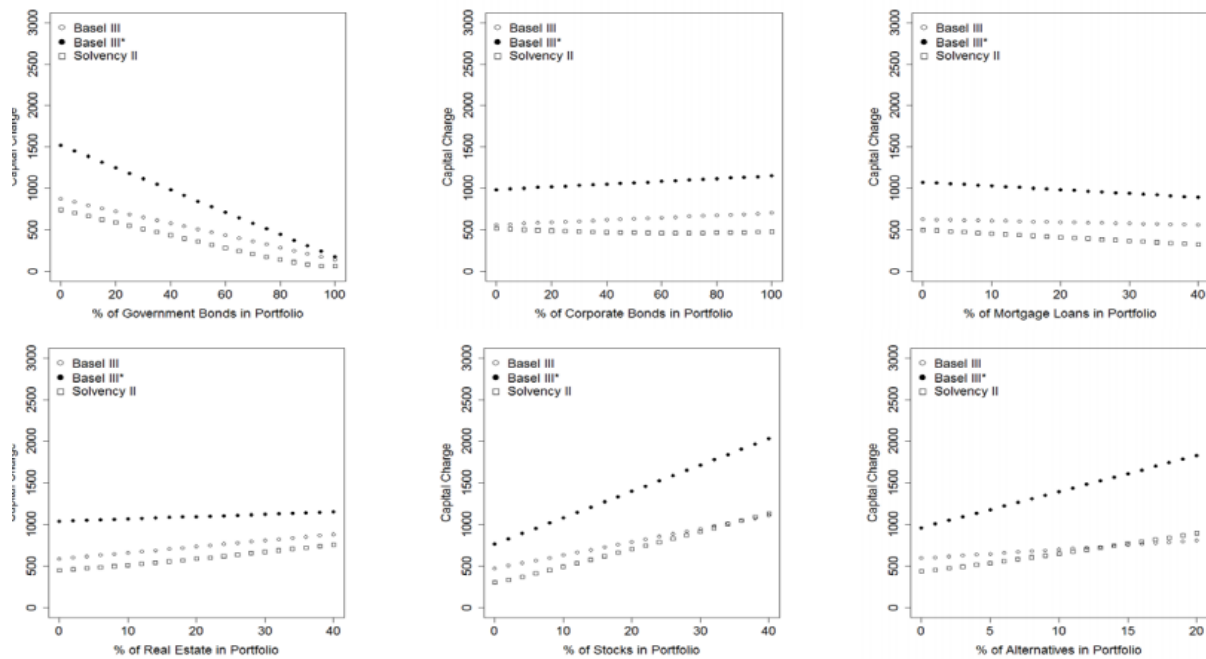


Figure 3: Capital Requirements for Different Portfolio Composition

Source: Laas (2016)

It can be generally concluded (Dina, 2019):

- Both regulatory frameworks contain structural similarities such as 3-pillar approach and focus on a qualitative view (minimum capital requirements, supervisory review process, market discipline and disclosure).
- Both supervisory models are based on risk-based capital adequacy taking into account all material risks of the companies.
- Risk assessment is based on standard approaches as well as internal approaches.
- Own funds are classified into the quality levels Tier 1 - Tier 3 capital.
- In the case of banks, additional capital conservation buffers are applied as well as supplementary capital in the case of Solvency II. For banks, additional buffers such as countercyclical and cyclical buffers. This does not exist for Solvency 2.
- Pillar 2 and 3 qualitative requirements that are similar for both sectors.

5. Conclusion

When comparing Solvency II and Basel III, there are some similarities, such as both frameworks are based on a three-pillar structure, both financial sectors invest partly in the same asset classes and are therefore exposed to market and credit risks. Both frameworks apply a complex methodology to determine capital requirements (standardized approach or own internal model). In addition, the capital is divided into tiers. The detailed evaluation of the two frameworks shows significant differences. The risk profiles of the banking and insurance sectors differ significantly. Systemic risk is more pronounced in the banking sector, especially due to the high degree of interconnectedness with the rest of the financial system. Banks and insurance companies are exposed to different risk categories.

Important differences exist with regard to the time perspective: Solvency II applies a prospective method, while Basel III applies a retrospective method and, in addition, Basel III includes a more frequent recalculation of capital requirements. The two sets of rules are not consistent with each other in terms of capital levels. The positions eligibility of the different capital tiers and the proportion of capital tiers indicate lower capital quality standards for insurance companies compared to banks. Consequently, the financial supervision in the insurance and banking sectors is different, the business models are different, the risks are different and therefore the regulatory frameworks are also different (Laas 2016, Le Courtois et al. 2020). These differences can be mainly attributed to the different characteristics of the two industries and the different supervisory purposes. Basel III focuses on the stability of the financial sector, while Solvency II focuses first on the protection of policyholders and then on the stability of the financial sector.

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