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Basel IV
Revisions to the securitisation framework

We give you an overview of the latest Basel proposals.

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Preface

As part of its revisions to the existing Basel III framework the Basel committee of Banking Supervision (BCBS) has issued several publication and intends to completely redesign the famework for the treatment of securitization positions. The new framework mainly consists of new approaches to RWA calculation and the introduction of a new type of "Simple, Transparent and Comparable" securitization positions.

These changes were introduced by the publication of the "Revisions to the securitisation framework (BCBS303)" from December 2014 and the "Criteria for identifying simple, transparent and comparable securitisations (BCBS343)" from July 2015. Other papers targeting a combination of both concepts followed until in July 2016 the final paper "Revisions to the securitisation framework (BCBS374)" was published. While the RWA impact of this new regulatory agenda can be expected to be felt by all banks, regardless of size or business model, the Basel IV securitization framework will also incentivize banks to reassess its securitisation business and address and embed the results into its business model and business strategy.

The reasons for this once again major changes to the securitisation framework is derived not predominantly from the financial crises itself but also from experiences with the regulation targeting securitisation implemented in its aftermath. Some of the reasons are in line with those stated for other changes, some are specific to the securitization framework. Overall the BCBS states that it considers it inevitable to contribute to strengthen the capital standards for originators, sponsors and investors into securitisations in the banking book.

The major weaknesses identified within the existing securitisation regime were a mechanistic reliance on external ratings when determining capital requirements, insufficient risk-sensitivity due to the negligence of certain risk drivers and the existence of cliff-effects with pro-cyclical impact. So the goal was to enhance risk sensitivity, recalibrate risks in a more prudent way, improve consistency with the underlying credit risk framework and enhance simplicity. All adjustments made in the final framework, including the criteria for simple, transparent and comparable securitisations can be mapped to these goals.

The BCBS has announced that the new securitization framework will enter into force as of the beginning of 2018.

PwC is constantly developing solution sets, tools and supporting material to inform and prepare our clients on the upcoming regulatory changes.

This brochure is designed to provide you with an overview of the individual topics in the context of Basel IV. For further information on single topics, separate documents have been prepared and will be updated regularly.

Kind regards,

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Motivation and Context

To address weaknesses such as mechanistic reliance on external ratings, lack of risk sensitivity, cliff effects and insufficient capital for certain exposures, the BCBS finalised the securitisation framework in July 2016, which will come into effect in January 2018.

The Committee also incorporated the criteria for “Simple, Transparent and Comparable” (STC) securitisations and their capital treatment into the revised framework. Compliance with the expanded set of STC criteria provides additional confidence in the performance of the transactions and a reduction in the capital charges for such securitisations is suggested.

Fig. 1 Areas of revision by the BCBS

Capital requirements	Credit risk	Securitisation	Counterparty credit risk	Market risk	Operational risk	CVA risk	Interest rate risk	Other topics
Capital floors (BCBS 306)	SA (BCBS 307) (BCBS 347) IRBA (BCBS 362)	Revisions to the securitisation framework (BCBS 303)	SA counterparty credit risk (BCBS 279)	Minimum capital requirements for market risk (BCBS 305) (BCBS 352)	Standardised Measurement Approach for operational risk (BCBS 291) (BCBS 355)	Review of the CVA risk framework (BCBS 325) (BCBS 362)	Interest rate risk in the banking book (BCBS 319) (BCBS 368)	Large exposures (BCBS 283) Disclosure (BCBS 309) Step-in risk (BCBS 349)

Revisions to the securitisation framework

Objectives and Improvements

Fig. 2 Overview of Objectives and Improvements

Objectives

1. Reduce mechanistic reliance on external ratings
2. Enhanced risk sensitivity
3. Reduction of existing cliff effects
4. Increase risk weight for highly-rated sec. exposure
5. Reduce risk weights for low rated senior sec. exposure

Improvements

- Implementation of three new approaches (SEC-IRBA, SEC-ERBA, SEC-SA)
- Revised hierarchy of the proposed approaches
- A new capital framework for „Simple, Transparent, Comparable (STC)" – securitisations
- Introduction of a 15% risk-weight floor for securitisations, 10% for STC securitisations and 100% for resecuritisations
- Consideration of further risk drivers such as tranche maturity and thickness
- For resecuritisations the only approach applicable is the revised standard approach
- No explicit consideration of granularity when using external ratings

New Hierarchy of Approaches

Fig. 3 Overview: Hierarchy of Approaches

SEC-Internal Ratings Based Approach (SEC-IRBA)

SEC-External Ratings Based Approach (SEC-ERBA)

SEC-Standardised Approach (SEC-SA)

RW 1250%

Internal Ratings-Based Approach (SEC-IRBA)

Fig. 4 SEC-IRBA: Key Points

SEC-Internal Ratings Based Approach (SEC-IRBA)

- Implementation of the Simplified Supervisory Formula Approach (SSFA)
- A key input factor is the IRB capital charge of the underlying pool (K_{IRB})
- Consideration of tranche maturity (M_T) and thickness ($T = D - A$)
- Introduction of the supervisory parameter (p)
- Input parameter should be available for at least 95% of the securitised exposures

$$\underbrace{\mathrm{K_{IRB}} \leq A}_{RW = \mathrm{K}_{SSFA(K_{IRB})} \cdot 12{,}5} \quad \underbrace{< \mathrm{K_{IRB}} <}_{} \quad \underbrace{D \leq \mathrm{K_{IRB}}}_{RW = 1{,}250\ \%}$$

$$u = D - \mathrm{K_{IRB}}$$

$$a = -(1/(p \cdot \mathrm{K_{IRB}}))$$

$$l = \max(A - \mathrm{K_{IRB}}; 0)$$

$$RW = \left[\left(\frac{K_{IRB} - A}{D - A}\right) \cdot 12{,}5\right] + \left[\left(\frac{D - K_{IRB}}{D - A}\right) \cdot 12{,}5 \cdot K_{SSFA(K_{IRB})}\right]$$

$$p = \max[0{,}3; (\mathrm{A} + \mathrm{B} \cdot (1/N) + \mathrm{C} \cdot K_{IRB} + \mathrm{D} \cdot LGD + \mathrm{E} \cdot M_T) * \mathrm{x}] \quad \begin{cases} x = 0.5 \ for\ STC\ securitizations \\ x = 1\ for\ non-STC\ securitizations \end{cases}$$

$$K_{SSFA(K_{IRB})} = (e^{a \cdot u} - e^{a \cdot l})/a(u - l)$$

A, B, C, D, E: Technical Parameters for calibration of p (dependent on granularity of portfolio)

External Ratings-Based Approach (SEC-ERBA)

Fig. 5 SEC-ERBA: Key Points

SEC-External Ratings Based Approach

- As long as external ratings are permitted in the respective jurisdiction
- Consideration of tranche maturity (M_T), seniority and thickness (T)
- Granularity is not considered explicitly any more, since external ratings already reflect it
- Risk weights are determined based on a look-up table
- Separate mapping tables for short-term and long-term positions

$$\underbrace{1}_{RW_{Tranche} = \text{RW for } M_T=1} \quad \leq \quad \underbrace{M_T}_{RW_{Tranche} = RW_{Tranche\ MT\ 1\ /\ MT\ 5} \text{ after adjusment of maturities} >1 \text{ and } <5 \text{ years through linear interpolation}} \quad \leq \quad \underbrace{5}_{RW_{Tranche} = \text{RW for } M_T=5}$$

For senior tranches: $RW = RW_{Tranche}$

For non-senior tranches: $RW = [RW_{Tranche} * (1 - min(T; 50\%)]$

Securitisation Standardised Approach (SEC-SA)

Fig. 6 SEC-SA: Key Points

SEC-Standardised Approach

- Implementation of the Simplified Supervisory Formula Approach (SSFA)
- The only approach permitted for resecuritisations
- Consideration of tranche maturity (M_T)
- p=1 for non-STC securitisations, p=1,5 for resecuritisations, p=0,5 for STC securitisations
- Input parameter should be available for at least 95% of the securitised exposures

$$\mathrm{K_A} \underbrace{\leq}_{\mathrm{RW} = \mathrm{K}_{\mathrm{SSFA}(\mathrm{K_A})} \cdot 12{,}5} A \underbrace{< \mathrm{K_A} <}_{} D \underbrace{\leq}_{\mathrm{RW} = 1{,}250\ \%} \mathrm{K_A}$$

$$\mathrm{u} = D - \mathrm{K_A}$$

$$\mathrm{a} = -(1/(\mathrm{p} \cdot \mathrm{K_A}))$$

$$\mathrm{l} = \max(A - \mathrm{K_A}; 0)$$

$$W = delinquency\ ratio$$

$$RW = \left[\left(\frac{K_A - A}{D - A}\right) \cdot 12{,}5\right] + \left[\left(\frac{D - K_A}{D - A}\right) \cdot 12{,}5 \cdot K_{SSFA(K_A)}\right]$$

$$K_{SSFA(K_A)} = (\mathrm{e}^{a \cdot u} - e^{a \cdot l})/a(u - l)$$

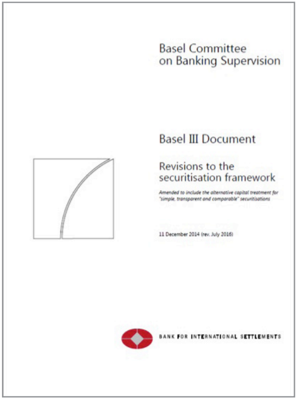
$$K_A = (1 - W) \cdot K_{SA} + W \cdot 0{,}5$$

A, B, C, D, E: Technical Parameters for calibration of p(dependent on granularity of portfolio)

Simple, transparent and comparable (STC) securitisations

Objectives of STC Securitisations

Completion of securitization framework by adding specific own funds requirements for STC securitisations


Basel Committee
on Banking Supervision

Basel III Document

Revisions to the
securitisation framework

Amended to include the alternative capital treatment for "simple, transparent and comparable" securitisations

11 December 2014 (rev. July 2016)

BANK FOR INTERNATIONAL SETTLEMENTS

1. Help all parties to a securitization in evaluating ist risks & returns by comparing different products within an asset class
2. Foster simplicity by setting incentives to use STC-securitisations (although RWA expected to rise for STC as well)
3. Assist investors in undertaking due diligences without replacing the performance of due diligences
4. Protect investors from risks arising from inadequate "Originate-to-distribute"-business models
5. Strike an an appropriate balance between risk sensitivity, simplicity and comparability

Criteria for STC Securitisations

Fig. 7 Overview of STC-Criteria

STC Criteria		
Simple	**Transparent**	**Comparable**
• Legal Enforceability of asset sale • No other encumbrance • Clear availability criteria • No active portfolio management • Homogeneity • No resecuritization • No defaulted positions • At least on payment took place • Cash-flows do not substantially depend on sale of securities • Positions originated by the originator	• Access to statistical/historical data especially regarding defaults and price development • External verificiation of the sample • Liability-cashflow-model before and after pricing (ongoing) • Joint compliance of Originator, Sponsor, SSPE with transparency requirements (disclosure)	• Risk retention • Mitigation of non-credit risk (i.e. currency and interest rate risk) • At-arm´s length interest rates • No retention of substantial currency amounts in SPV • Prepayment events in revolving structures • Definitions, remedies and actions relating to delinquency • Rules for conflict settlement

Capital Treatment for STC Securitisations

Fig. 8 Overview of Changes to RWA calculation

SEC-Internal Ratings Based Approach

The supervisory parameter p depends on factor x which is fixed at 0,5

$$p = \max[0{,}3; (A + B * \left(\frac{1}{N}\right) + C * K_{IRB} + D * LGD + E * M_T) * \mathbf{x}]$$

SEC-External Ratings Based Approach

10% floor for risk weights for senior exposures and in general lower risk weights compared to the consultation phase

SEC-Standardised Approach

The supervisory parameter p fixed at 0.5

Challenges & Impacts

Conclusion

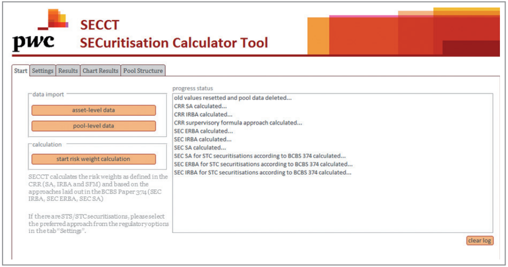
Significant increase of risk weights and capital requirements through the establishment of the new approaches

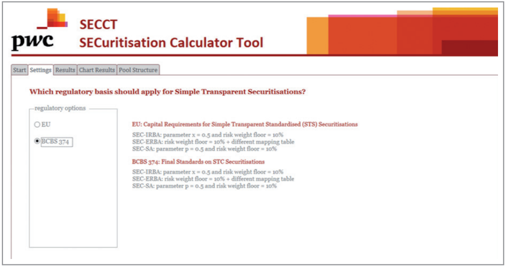
Incentives for STC securitisations through preferential capital treatment. Yet, new risk weights are still higher compared to those under CRR

Increased data requirements compared to the current approaches

The Solution: PwC's SECCT

SECCT – SECuritisation Calculator Tool





- PwC has developed an Access-based tool to calculate capital requirements using the current and the new approaches also for STC securitisations
- Test calculations for SEC-IRBA, SEC-ERBA, SEC-SA and EU propositions
- Integration of graphical results in the project documentation and presentation
- Extensive practical trials of the tool in various preliminary studies

Our Services

Our Expertise

Whether regarding the Basel Committee, EU-regulation or national legislation – we use our established know-how of the analysis and implementation of new supervisory regulation to provide our clients with high-quality services. Embedded into the **international PwC network**, we have access to the extensive knowledge of our experts around the world.

PwC's Global Basel IV Initiative was established to support you in all aspects of getting compliant with the new regulatory requirements to the securitisation framework.

PwC can draw on long lasting experience of implementing new regulatory requirements by supporting a number of banks in completing quantitative impact studies prior to the implementation of **Basel II and Basel III** and by the functional and technical implementation of the final regulations. The PwC-tools used during the QIS are flexible and will be updated automatically in case of new consultations by the Basel Committee.

About us

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