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Financial Sector Regulation Act 9 of 2017

Prudential Communication 1 of 2022

Revised market risk framework-Application Suite

Objective of this Communication

This Prudential Communication sets out the application suite for the revised market risk framework.

The Basel Committee on Banking Supervision's (BCBS) Revised Minimum Capital Requirements for Market Risk, also referred to as the Fundamental Review of the Trading Book (FRTB), due for implementation in South Africa on 1 January 2024¹, bears reference.

The revised market risk framework prescribes specific (and discretionary) application requirements for banks that undertake relevant business and trading activities that generate market risk, for which supervisory acknowledgement or approval is required prior to banks engaging in such activities. Furthermore, the revised market risk framework also requires banks to obtain approval from their supervisory authorities for the adoption of certain capitalisation approaches and methodologies.

Considering these requirements, the Prudential Authority (PA) constructed an isolated extraction of application requirements that inform banks' submissions of relevant motivations and documentary evidence for the PA's assessment and approval. Furthermore, the PA introduced additional application requirements, as determined through its policy and supervisory processes. Notwithstanding these minimum prescribed requirements, banks are encouraged to apply themselves rigorously, interrogate the complete revised market risk framework and submit additional information to strengthen their applications, as may be deemed relevant.

In light of the aforementioned developments, the PA hereby informs all affected persons of the revised market risk framework application suite, set out in Appendices A, B, C and D, respectively. The respective submission dates associated with each component of the application suite are stipulated in this Prudential Communication or in the implementation roadmap contained in Prudential Communication 7 of 2021². The PA is currently engaged in the construction of a prudential standard related to the revised market risk framework. Subsequent to the conclusion of all policy and legislative processes, including the embedment of the revised market risk framework Prudential Standard into South Africa's regulatory framework, the reference base of this application suite will be updated from the BCBS revised market risk framework to the application components of the envisaged prudential standard.

¹ As per the schedule reflected in Guidance Note 4 of 2021

² https://www.resbank.co.za/en/home/publications/publication-detail-pages/prudential-authority/pa-publicawareness/Communication/2021/Prudential-Communication-7-of-2021-Revised-market-and-credit-valuation-riskframeworks-implementation-roadmap

Table 1 below outlines the index structure of the application suite and its reference to the BCBS revised market risk framework. The foundational component in Table 1 is the core of the application suite and remains (in the main) a contingency for other application components of the revised market risk framework. In this regard, the PA will prioritise the assessment of banks' foundational component applications.

Table 1: Application suite index structure³

Appendix: Suite Component	BCBS framework reference ⁴
A. Foundational	MAR 11, 12 and RBC 25
B. Internal models approach	MAR 30, 31, 32 and 33
C. Simplified standardised approach	MAR 40
D. Standardised approach	MAR 20 and 21

All applications at the various milestones stipulated in this Prudential Communication and the implementation roadmap contained in Prudential Communication 7 of 2021 must be accompanied with approval from a respective bank's board of directors and highest committees responsible for the oversight of risk, capital, and audit, as well as an independent audit assessment of the relevant application submission. Furthermore, the internal models approach and standardised approach application submissions must be accompanied by a comprehensive model validation assessment and corresponding model governance committee(s) approval at the dates stipulated in Appendices B and D, respectively. These aforementioned requirements serve to demonstrate that the highest standards of rigour have been applied during banks' developmental and application compilation processes. In addition, the PA may request purpose-specific engagements with a bank's board of directors, senior management, and independent audit function during its assessment of relevant applications. Finally, banks are strongly encouraged to employ the full extent of their resources, capability, and governance to ensure that the requirements stipulated in this application suite and the revised market risk framework are comprehensively addressed.

Should banks foresee any challenges in addressing the requirements set out in this application suite or the revised market risk framework, it remains incumbent upon such banks to engage with the PA thereon in an expeditious manner. Accordingly, all requests for further engagement and information related to this Prudential Communication may be submitted via email to the PA Market Risk Division (PA_RSD-MarketRisk@resbank.co.za), with the relevant PA front line division copied, where applicable.

Yours sincerely

Kuben Naidoo

Deputy Governor and CEO: Prudential Authority

Date: 2022-01-20

³ The heading functionality has been activated for this PDF document to assist with navigation through the application suite.

⁴ MAR and RBC are the respective references for the Calculation of Risk Weighted Assets for Market Risk and the Risk Based Capital Requirements modules in the BCBS revised market risk framework.

Appendix A: Suite Component-Foundational

Where responses contained in the foundational application component submission intersect with responses in the other application components (non-foundational), the bank must ensure that such responses are included only in the foundational application component submission and simply referenced in the respective non-foundational application component submission.

Suite component index

Table 2: Suite component index-Foundational

PA/BCBS application reference	Descriptive reference
Section A: MAR 11	Definitions and application of market risk
1. MAR 11.3	Protection of capital adequacy ratio against currency risk
2. MAR 11.5(3)	Qualification for the dealer exception for the holding of other financial entities' capital instruments
Section B: MAR 12	Definition of a trading desk
3. MAR 12.2	Definition of a trading desk
Section C: RBC 25	Boundary between the banking book
	and the trading book
4. RBC 25.9	Consideration towards the exclusion of certain listed equities from the market risk framework
5. RBC 25.10	Deviation pertaining to the presumptive list of instruments
6. RBC 25.25	Dedicated internal risk transfer desk
Section D	Structural changes to the bank
7. PA specific	Overall changes to the bank

Section A: MAR 11-Definitions and application of market risk

1. Protection of capital adequacy ratio against currency risk (MAR 11.3)

Should the bank choose to protect its capital adequacy ratio in the manner stipulated by MAR 11.3, the bank must submit an application for consideration and approval by the PA. Should the PA approve the application, including the bank's risk management policy for structural foreign exchange (FX) positions as noted in MAR 11.3(5), the bank would be allowed to exclude the relevant currency risk positions from the calculation of the net open currency risk positions.

2. Qualification for the dealer exception for the holding of other financial entities' capital instruments (MAR 11.5(3))

In order to qualify for a dealer exception for the holding of other entities' capital instruments, the bank must submit documentation demonstrating:

- a. That it is an active market-maker
- b. The adequacy of its systems and controls related to the trading of financial institutions' eligible regulatory capital instruments.

Section B: MAR 12-Definition of a trading desk

3. Definition of a trading desk (MAR 12.2)

The bank must submit documentation for its full set of proposed trading desks in line with the requirements set out in MAR 12.2, for consideration and approval by the PA. Among various considerations deemed relevant in MAR 12.4, the bank must submit all appropriate documentation addressing the desks' policy documents, business strategy, trading and risk management structures and systems. This submission must also include the documentation submitted as part of the response to Appendix A: Section C-Question 6 (RBC 25.25) on the dedicated internal risk transfer desk.

Section C: RBC 25-Boundary between the banking book and the trading book

4. Consideration towards the exclusion of certain listed equities from the market risk framework (RBC 25.9)

The bank must submit the appropriate documentation to the PA on any matter requiring supervisory approval with respect to the requirements set out in MAR 25.9, including the consideration towards the exclusion of certain listed equities from the bank's application of the market risk framework.

5. Deviation pertaining to the presumptive list of instruments (RBC 25.10)

The bank must submit supporting documentation for consideration and approval by the PA, where it wishes to deviate from the presumptive list of instruments specified in RBC 25.9.

6. Dedicated internal risk transfer desk (RBC 25.25)

The bank must submit documentation pertaining to the construction and mechanical functioning of the dedicated internal risk transfer trading desk for consideration and approval by the PA.

Section D: Structural changes to the bank

7. PA specific-Overall changes to the bank

The bank must submit motivation and documentary evidence of changes to its structures and staff (across the trading, risk, finance, technology, model development, model validation, internal audit, and back-office functions), oversight and governance committees, cross-departmental policies (if any), procedures and processes, business and operating models and in-depth strategy in response to the implementation of the revised market risk framework. Where this submission overlaps with any other aspect of the overall application suite, indicate this accordingly and clearly reference the relevant component of the application suite.

Appendix B: Suite Component-Internal Models Approach

With respect to the internal models approach, banks must submit comprehensive model validation assessment documentation and associated approvals received from its relevant model governance committee(s) on the date of submission of its application to model the default risk charge under the internal models approach (subject to the receipt of approval on the general risk component, as stipulated in Appendix B: Section C-Question 11 (MAR 32.19 (footnote 1))). In this regard, the respective model validation assessments and application submissions must consider both the general and default risk components.

Suite component index

Table 3: Suite component index-Internal Models Approach

PA/BCBS application reference	Descriptive reference
Section A: MAR 30	General provisions
1. MAR 30.2(2)	Details of staff complement
2. MAR 30.3	Results of live testing
3. MAR 30.4(1)	The qualitative evaluation criteria
4. MAR 30.4(2)	Trading desk nominations
Section B: MAR 31	Model requirements
5. MAR 31.2 and MAR 31.3	Risk factors used in the pricing models
6. MAR 31.5	Use of proxies
7. MAR 31.14(3)	Vendor audit
8. MAR 31.15	Methodologies used in the mapping of
	real price observations to risk factors
9. MAR 31.23	Data used to calibrate the expected
	shortfall model
Section C: MAR 32	Backtesting and profit and loss
	attribution test requirements
10.MAR 32.3(1)	Validated backtesting and profit and loss
	attribution capability
11.MAR 32.19(footnote 1)	Application for approval to model default
	risk
12.MAR 32.28	Calculation of valuation adjustments at
40.1447.00.00	the trading desk level
13.MAR 32.30	Alignment of risk theoretical profit and
Oseffer D. MAD 00	loss input data
Section D: MAR 33	Capital requirements calculation
14.MAR 33.1	Disclosure of alternative methods to full
45 MAD 20 5(0)(-)	revaluation
15. MAR 33.5(2)(a)	Evidence of a reduced set of risk factors
16. MAR 33.9	Choice of an expected shortfall model
17. MAR 33.12(1) and (2)	Mapping of risk factors
18.MAR 33.12(3)	Increase of liquidity horizon (n)

19.MAR 33.16	Approval for the calculation of the stress scenario capital requirements
20.MAR 33.16(2)	Zero correlation assumption when aggregating gains and losses
21.MAR 33.32	Application for approval of a simplified modelling approach

Section A: MAR 30-General provisions

1. Details of staff compliment (MAR 30.2(2))

The bank must provide details of the defined roles and responsibilities for the full structure and staff complement involved across the future state trading, risk, finance, technology, model development, model validation, internal audit, and back-office functions, where these relate to the management across the capability and process value chain of any internal models approach.

2. Results of live testing (MAR 30.3)

Post receiving positive communication on the application outcome for desk nominations, banks must commence with an initial period of monitoring and live testing and submit monthly results to the PA (submission details to be specified) in order to demonstrate that a bank's implementation of the internal models approach is conceptually sound and implemented with integrity.

3. The qualitative evaluation criteria (MAR 30.4(1))

The bank must submit evidence demonstrating that the qualitative evaluation criteria set out in MAR 30.5 to MAR 30.16 are met, specifically relating to:

- a. Market risk management systems that are conceptually sound and implemented with integrity (MAR 30.5).
- b. The presence of an independent risk control unit (MAR 30.6).
- c. Conducting of regular backtesting and profit and loss attribution assessments at the trading desk and bank-wide levels of the internal models used for determining market risk capital requirements (MAR 30.7).
- d. The presence of a model validation unit of the bank, which is separate from the unit that designs and implements the internal models, and which conducts the initial and ongoing validation of all internal models at least on an annual basis (MAR 30.8).
- e. An elaboration of the active involvement of the board of directors and senior management in the risk control process (MAR 30.9).
- f. The core design elements of both the market risk capital requirement model and the internal risk management model should be the same (MAR 30.10).
- g. The presence of a rigorous stress testing programme, including actions to be taken where vulnerabilities are revealed by stress testing results (MAR 30.11 and MAR 30.12).
- h. The maintenance of a protocol for compliance with a documented set of internal manuals, policies, controls, and procedures concerning the operation of the internal market risk management model, as well as the detailed documentation of the bank's risk management model (MAR 30.13).
- i. Appropriate processes in place to ensure that no significant changes are made to internal models without the PA's approval (MAR 30.14).
- j. The comprehensiveness of the core functioning of the bank's internal models in determining market risk capital requirements (MAR 30.15).
- k. The responsibilities of the bank's internal audit and validation functions and external auditor(s) (MAR 30.16).

4. Trading desk nominations (MAR 30.4(2))

The bank must list the set of individual trading desk nominations for consideration and approval by the PA. The bank must comply with the conditions pertaining to trading desk nominations noted in MAR 30.4(2) and MAR 30.4(3). In addition, the prescriptive phases for desk nominations noted in the implementation roadmap (Prudential Communication 7 of 2021) must be adhered to.

Section B: MAR 31-Model requirements

5. Risk factors used in the pricing models (MAR 31.2 and MAR 31.3)

The bank must disclose the list of risk factors used in the pricing models or the standardised approach that are not incorporated in the internals models approach and provide a substantiation for such omissions.

6. Use of proxies (MAR 31.5)

The bank must specify the set of proxies used by the bank. In addition, the bank must provide the following information:

- a. Justification for the use of the proxies (include the maximum level of quantitative and qualitative detail for the use thereof).
- b. The source of the proxies.

7. Vendor audit (MAR 31.14 (3))

The bank must submit results and reports of the vendor audit conducted in order to validate the bank's pricing information.

8. Methodologies used in the mapping of real price observations to risk factors (MAR 31.15)

The bank must submit documentation that clearly supports the methodologies used in the mapping of real price observations to risk factors.

9. Data used to calibrate the expected shortfall model (MAR 31.23)

The bank must demonstrate that the data used to calibrate the expected shortfall (ES) model for a given risk factor that has passed the risk factor eligibility test is appropriate and meets the principles contained in MAR 31.25 to MAR 31.26.

Section C: MAR 32: Backtesting and profit and loss attribution test requirements

10 Validated backtesting and profit and loss attribution capability (MAR 32.3(1))

The bank must submit evidence of validated backtesting and profit and loss attribution capability with the bank's *initial* internal models approach application. If the bank receives approval to proceed with the prescribed period of initial monitoring and live testing, the bank must submit backtesting and profit and loss attribution results on a monthly basis to the PA.

11. Application for approval to model default risk (MAR 32.19 (footnote 1))

Post receiving approval for the application related to the general risk component, the bank must submit an application for approval to model default risk under the internal models approach. The PA will provide specific guidelines of the application details when communicating the outcome related to the general risk component application and assessment.

12. Calculation of valuation adjustments at the trading desk level (MAR 32.28)

If the bank is unable to calculate valuation adjustments at a trading desk level, the bank must provide supporting documentation to the PA justifying the inability thereto.

13. Alignment of risk theoretical profit and loss input data (MAR 32.30)

Where applicable, the bank must submit evidence demonstrating that the alignment of risk theoretical profit and loss input data for its risk factors with the data used in hypothetical profit and loss has been documented and that the requirements set out in MAR 32.30 have been met.

Section D: MAR 33: Capital requirements calculation

14. Disclosure of alternative methods to full revaluation (MAR 33.1)

The bank must submit a request with respect to alternative methods to full revaluation that the bank wishes to use, clarifying the reason thereon. The bank may only proceed with the use of such alternative methods upon the receipt of explicit approval from the PA.

15. Evidence of a reduced set of risk factors (MAR 33.5(2)(a))

The bank must submit the relevant documentary evidence of the reduced set of risk factors for consideration and approval by the PA.

16. Choice of an expected shortfall model (MAR 33.9)

The bank must clearly stipulate its choice of an expected shortfall model in the application to the PA. This may include either historical simulation, Monte Carlo simulation or other such analytical methods, as may be deemed appropriate.

17. Mapping of risk factors (MAR 33.12(1) and (2))

The bank must submit documentation that clearly specifies the mapping of risk factors.

18. Increase of liquidity horizon (n) (MAR 33.12(3))

Where the bank wishes to increase the liquidity horizon (n), the bank must submit a clear rationale for consideration and approval by the PA.

19. Approval for the calculation of the stress scenario capital requirements (MAR 33.16)

Submit a request with documentary evidence requesting approval for the calculation of the stress scenario capital requirements at the bucket level.

20. Zero correlation assumption when aggregating gains and losses (MAR 33.16(2))

Should a bank wish to use a zero-correlation assumption when aggregating gains and losses, the bank must conduct analysis to demonstrate the appropriateness thereof and submit the resulting and necessary evidence for consideration and approval by the PA.

21. Application for approval of a simplified modelling approach (MAR 33.32)

The bank must submit evidence detailing any simplified modelling approach for consideration and approval by the PA.

Appendix C: Suite Component-Simplified Standardised Approach

This section should be read and responded to alongside the simplified standardised approach determination⁵ (SSA Determination).

Suite component index

Table 4: Suite component index-Simplified Standardised Approach

PA/BCBS application reference	Descriptive reference	
Section A	Application for the use of the simplified standardised approach	
1. List of banks applying for the use of the	e simplified standardised approach	
2. Simplified standardised approach quali	tative criteria	
3. Details of the desks intending to apply	the simplified standardised approach for	
market risk capitalisation		
4. Strategy, nature, and scope of products		
Section B	Approach specific applications	
5. MAR 40.9 (3)	Interest rates: Specific risk-qualifying category	
6. MAR 40.29	Interest rates: General risk-alternative duration method	
7. MAR 40.37	Interest rate derivatives: Alternative	
	treatments to calculate positions to be	
	included in the maturity or duration	
	ladder	
8. MAR 40.62	Foreign exchange: Foreign exchange capital requirements exemption	
9. MAR 40.67	Commodities: Netting between different subcategories of the same commodity and capital requirements based on correlations	
10. MAR 40.74	Options: Approach to measure price risk	
	for banks that write options	
11. MAR 40.76 (footnote 34)	Options: Use of the book value or the market value	
12. MAR 40.77	Options: Use of the delta plus method	
13. MAR 40.81	Options: Scenario approach-interest rate	
	option-time bands	
14. MAR 40.85	Options: Scenario approach-application	
	of scenario analysis	

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⁵ https://www.resbank.co.za/en/home/publications/publication-detail-pages/prudential-authority/pa-deposit-takers/Banks-Determination/2021/Draft-Determination-of-the-FRTB-Simplified-Standardised-Approach-eligibility-

Section A: Application for the use of the simplified standardised approach

1. List of banks applying for the use of the simplified standardised approach

The bank must provide a list of the banks, within a banking group, applying for the use of the simplified standardised approach for the reporting and capitalisation of market risk. In addition, indicate whether any of the banks listed are a foreign subsidiary or branch of a locally licensed South African bank, and indicate whether the host regulator of the said foreign subsidiary or branch requires the adoption of the revised market risk framework standardised approach.

2. Simplified standardised approach qualitative criteria

The bank must demonstrate that all banks listed in question 1 have met the qualitative eligibility criteria set out in the SSA Determination.

3. Details of the desks intending to apply the simplified standardised approach for market risk capitalisation

Provide a list of the desks under each of the banks listed in question 1 that intend to apply the simplified standardised approach for market risk reporting and capitalisation.

4. Strategy, nature, and scope of products to be traded

Describe the specific market conditions, trading strategy and the nature and scope of products traded/to be traded across the desks listed in question 3 for each of the banks listed in question 1. In addition, the bank must elaborate on the complexity, risks incurred and any hedging strategies associated with the trading activity of non-linear products.

Section B: Approach specific applications

Subsequent to the receipt of an overall approval for the use of the simplified standardised approach, the bank may apply for approval to the PA for specific conditions, as noted in this section.

Interest Rate Risk

5. Specific risk-Qualifying category (MAR 40.9 (3))

The bank must submit the relevant motivation and documentary evidence to the PA for the assessment and approval of unrated securities that may be deemed to be of comparable investment quality.

6. General risk-alternative duration method (MAR 40.29)

Should a bank wish to calculate the price sensitivity of each position separately under the alternative duration method, it must submit the necessary motivation and documentary evidence to justify its case to the PA. Any changes to

methodology post this approval require a re-application to and approval by the PA.

Interest rate derivatives

7. Alternative treatments to calculate positions to be included in the maturity or duration ladder (MAR 40.37)

Should a bank wish to use alternative methods to calculate positions to be included in the maturity or duration ladder, it must submit the necessary motivation and documentary evidence to justify its case to the PA.

Foreign Exchange

8. Foreign exchange capital requirements exemption (MAR 40.62)

Should a bank wish to apply for the exemption of capital requirements related to its foreign currency business, it must submit the necessary motivation and documentary evidence to the PA to justify that it meets the prescriptive conditions set out in MAR 40.62.

Commodities

9. Netting between different subcategories of the same commodity and capital requirements based on correlations (MAR 40.67)

Should a bank wish to net positions in different subcategories of the same commodity and/or base its calculation of capital requirements for commodities on correlations, it must submit the necessary motivation and documentary evidence to justify its case to the PA.

Options

10. Approach to measure price risk for banks that write options (MAR 40.74)

Should a bank that writes options wish to use either the delta-plus or scenario approach to measure price risk, it must submit the necessary motivation and documentary evidence to justify its case to the PA.

11. Use of the book value or the market value (MAR 40.76 (footnote 34))

A bank must submit the necessary motivation and documentary evidence to the PA to use either the book value or the market value for options positions that do not fall in the trading book.

12. Use of the delta plus method (MAR 40.77)

A bank must submit the necessary motivation and documentary evidence to the PA related to an approved exchange model or proprietary options pricing model. The PA may disallow the use of the delta plus method in favour of the scenario approach. Alternatively, the PA may disallow the measurement and capitalisation

of options under the simplified standardised approach, and thus, the bank must follow the prescriptive measures set out in the SSA Determination.

13. Scenario approach-interest rate options-time bands (MAR 40.81)

Should a bank wish to base its market risk capital calculation for interest rate options on a minimum of six sets of time bands, it must submit the necessary motivation and documentary evidence to justify its case to the PA.

14. Scenario approach-application of scenario analysis (MAR 40.85)

Should a bank wish to use the scenario approach, its application of scenario analysis will be subject to supervisory consent and validation by the PA and as such, the bank must submit the necessary motivation and documentary evidence to justify its case to the PA.

Appendix D: Suite Component-Standardised Approach

General requirements

With respect to the standardised approach models, the bank must submit comprehensive model validation assessment documentation and associated approvals from its model governance committee(s) at a date to be specified in writing by the PA, but no earlier than three months before the date of implementation of the revised market risk framework.

The application requirements noted in Table 5 may be submitted alongside the foundational application submission in Appendix A: Suite Component-Foundational.

Suite component index

Table 5: Suite component index-Standardised Approach

PA/BCBS application reference	Descriptive reference
Section A: MAR 20	General provisions
1. MAR 20.2	Calculation and reporting frequency- non-banking subsidiaries of a bank
Section B: MAR 21	Sensitivities based method
2. MAR 21.14 (1)(b)	Calculation of FX Risk relative to a base currency
3. MAR 21.36 (2)	Equity investments in funds- consideration of a fund as a hypothetical portfolio
4. MAR 21.98	Application of the scalar of 1.5 consistently to all FX instruments

Section A: MAR 20-General provisions

1. Calculation and reporting frequency-non-banking subsidiaries of a bank (MAR 20.2).

Should a bank wish to calculate and report on the standardised approach on a quarterly basis for its non-banking subsidiaries, it must submit the necessary motivation and documentary evidence to the PA for assessment and approval.

Section B: MAR 21-Sensitivities based method

2. Calculation of FX Risk relative to a base currency (MAR 21.14 (1)(b))

Should a bank wish to calculate its FX risk relative to a base currency instead of the reporting currency, it must submit the necessary motivation and documentary evidence to the PA for assessment and approval.

3. Equity investments in funds-consideration of a fund as a hypothetical portfolio (MAR 21.36 (2))

A bank must submit the necessary motivation and documentary evidence for the PA's assessment and approval in order to consider a specific fund as a hypothetical portfolio.

4. Application of the scalar of 1.5 consistently to all FX instruments (MAR 21.98)

A bank must submit the necessary motivation and documentary evidence for the PA's assessment and approval in order to consider the application of the scalar of 1.5 consistently to all FX instruments.