

PROPOSED ENHANCEMENTS TO BASEL II MARKET RISK FRAMEWORK

I. INTRODUCTION

Following public consultation, the Basel Committee on Banking Supervision (“BCBS”) formally issued the proposed enhancements to the market risk capital requirements under the Basel II framework in July 2009, the details of which are set out in the following two documents (collectively referred to in this paper as the “Trading Book Proposals”):-

- *Revisions to the Basel II market risk framework (“MRF Paper”); and*
- *Guidelines for computing capital for incremental risk in the trading book (“IRC Guidelines”).*

The BCBS expects banks to comply with the revised requirements by 31 December 2010.

2. This paper describes the key changes introduced in the Trading Book Proposals and the HKMA’s plan for implementing them in Hong Kong.

II. BACKGROUND

3. The Trading Book Proposals are aimed at addressing major weaknesses in the Basel II market risk framework exposed by the global financial crisis. The crisis revealed that an important source of losses, and of the build-up of leverage, occurred in the trading book. A main contributing factor was that the

current market risk capital framework, which was based on the *1996 Amendment to the Capital Accord to incorporate market risks*, does not adequately capture some key risks. These include the risks associated with banks' holdings of securitization exposures¹ (including resecuritization exposures²) in the trading book, and the inability of the existing value-at-risk ("VaR") modelling framework to adequately reflect the impact of prolonged and severely stressed market conditions, like those experienced during the recent crisis.

III. SUMMARY OF ENHANCEMENTS TO MARKET RISK CAPITAL FRAMEWORK

4. The major enhancements contained in the Trading Book Proposals are summarised below, while further details about the HKMA's proposed implementation approach are set out in Sections IV and V of this paper.

(a) Banks which calculate market risk capital charge using the internal models approach ("IMM approach") will be subject to additional capital charges arising from the calculations of:-

- (i) a stressed VaR ("sVaR") which takes into account a one-year observation period relating to significant losses, to address the issue that the existing VaR modelling framework might not have adequately catered for the trading losses of banks during the crisis. It also helps reduce the procyclicality of the minimum market risk capital requirements; and

¹ Unless the context indicates otherwise, "securitization exposures" referred to in this paper generally include resecuritization exposures.

² A resecuritization exposure is a securitization exposure in which the risk associated with a pool of underlying exposures is tranching and at least one of the underlying exposures is a securitization exposure. In addition, an exposure to one or more resecuritization exposures is a resecuritization exposure.

- (ii) an incremental risk charge (“IRC”) which captures default risk³ and credit migration risk⁴ for non-securitization exposures over a one-year capital horizon at a 99.9% confidence interval, taking into account the liquidity horizons of individual positions or sets of positions. These two risks are incremental to the risks captured in the existing VaR over a 10-day horizon at a 99% confidence interval.
- (b) Securitization exposures booked in the trading book, irrespective of which market risk calculation approach is adopted, will be subject to the higher capital requirements applicable to such exposures in the banking book in the calculation of market risk capital charge for specific interest rate risk⁵. This initiative, combined with the new IRC requirement, will help reduce the incentive for regulatory arbitrage between the banking book and the trading book.
- (c) In the light of industry comments, the final version of the MRF Paper introduces a limited exception in the calculation of market risk capital charge for a bank’s correlation trading portfolio⁶, which consists of certain

³ Default risk means the potential for direct loss due to an obligor’s default as well as the potential for indirect losses that may arise from a default event.

⁴ Credit migration risk means the potential for direct loss due to an internal or external rating downgrade or upgrade as well as the potential for indirect losses that may arise from a credit migration event.

⁵ For the avoidance of doubt, the term “specific interest rate risk” used in this paper refers to specific risk for interest rate exposures under the market risk capital framework.

⁶ “Correlation trading portfolio” (“CTP”) refers to securitization exposures and n-th-to-default credit derivative contracts that meet these criteria: (a) the positions are neither resecuritization positions, nor derivatives of securitization exposures that do not provide a pro-rata share in the proceeds of a securitization tranche; and (b) all reference entities are single-name products, including single-name credit derivative contracts, for which a liquid two-way market exists. Positions that hedge the above positions and which are neither securitization exposures nor n-th-to-default credit derivative contracts and where a liquid two-way market exists for the exposures or the underlying exposures, are included in the CTP. However, positions which reference an underlying exposure that is treated as a retail exposure, a residential mortgage loan or a commercial mortgage loan, or positions which reference a claim on a special purpose entity are excluded from the CTP.

securitization exposures and n-th-to-default credit derivative contracts⁷ that meet specified criteria and to which concessional capital treatment may be granted by its supervisor subject to strict minimum requirements being met.

- (d) The scope of prudent valuation guidance will be expanded from that applicable to trading book positions only to all positions that are accounted for at fair value (i.e. regardless of whether they are booked in the trading book or in the banking book).

5. The HKMA will implement the Trading Book Proposals by revising the market risk capital framework through –

- amendments to relevant sections of the Banking (Capital) Rules (“BCR”) and Banking (Disclosure) Rules (“BDR”);
- updating of the technical note “*Use of Internal Models Approach to Calculate Market Risk*” (CA-G-3) issued by the HKMA under the Supervisory Policy Manual (“SPM”); and
- revision of the market risk-related capital reporting requirements.

⁷ An “n-th-to-default credit derivative contract” means a credit derivative contract where the payoff is based on the n-th asset to default in a basket of underlying reference instruments. Once the n-th-to-default occurs, the transaction terminates and is settled.

IV. PROPOSED AMENDMENTS TO BANKING (CAPITAL) RULES^{8, 9}

(A) Changes to standardized (market risk) approach (“STM approach”)

6. The requirements for calculating market risk capital charge for specific interest rate risk of an AI arising from securitization positions in the trading book will be aligned with those in the banking book. The credit risk capital treatment for securitization exposures prescribed in Part 7 of the BCR will be updated to incorporate the enhanced capital requirements for securitization exposures set out in *Enhancements to the Basel II framework* (“Basel II Enhancements”), another paper issued by the BCBS in July 2009. The following describes how such revised capital requirements in the banking book will be applicable to the securitization positions in the trading book (unless otherwise specified in Section IV(C) below for a CTP):-

Securitization positions

- (a) For securitization positions (both rated and unrated) in the trading book, if the underlying exposures in such positions are subject to the standardized (credit risk) approach or the basic approach for credit risk, AIs should use the standardized (securitization) approach (“STC(S) approach”) to calculate market risk capital charge for specific interest rate risk arising from the securitization positions concerned. Where such positions are rated, see Table 1 below for the applicable specific risk capital charges. The revised capital treatment for securitization exposures under the STC(S)

⁸ Any term used in Sections IV to VI of this paper which is defined in the BCR has the same meaning ascribed to it under the BCR.

⁹ The proposed amendments to the STM approach and the IMM approach set out in this Section will also be relevant to an AI which adopts, or seeks to adopt, the approach used by its parent bank to calculate its market risk. This is because pursuant to section 20(3)(a) of the BCR, the MA’s approval for the AI to adopt the parent bank approach depends on whether it can demonstrate to the satisfaction of the MA that use of that approach will not materially prejudice the calculation of its regulatory capital for market risk.

approach is set out in Section III(A) of Annex 3.

Table 1: Specific risk capital charges for rated positions subject to STC(S) approach

Credit quality grade (“CQG”) ¹⁰ / External credit assessment (for illustrative purposes) ¹¹		Long-term	CQG 1 (AAA to AA-)	CQG 2 (A+ to A-)	CQG 3 (BBB+ to BBB-)	CQG 4 (BB+ to BB-)	CQG 5 (Below BB-)
		Short-term	CQG 1 (A-1+ to A-1)	CQG 2 (A-2)	CQG 3 (A-3)		CQG 4 (Below A-3)
Securitization exposures	Resecuritization exposures		3.2%	8%	18%	52%	Deduction
	Other securitization exposures		1.6%	4%	8%	28%	Deduction

- (b) For securitization positions (both rated and unrated) in the trading book, if the underlying exposures in such positions are subject to the internal ratings-based approach (“IRB approach”) for credit risk, AIs should use the internal ratings-based (securitization) approach (“IRB(S) approach”) to calculate market risk capital charge for specific interest rate risk arising from the securitization positions concerned. Where such positions are rated, see Table 2 below for the applicable specific risk capital charges. The revised capital treatment for securitization exposures under the IRB(S) approach is set out in Section III(A) of Annex 3.

¹⁰ See Schedule 11 to the BCR.

¹¹ The rating notations are those of Standard & Poor’s.

Table 2: Specific risk capital charges for rated positions subject to IRB(S) approach

		Securitization exposures				
Credit Quality Grade (“CQG”) ¹² / External credit assessment (for illustrative purposes) ¹³		Resecuritization exposures		Other securitization exposures		
Long-term	Short-Term	Senior ¹⁴	Non-senior	Senior, granular ¹⁵	Non-senior, granular	Non-granular
CQG 1 (AAA to AA+)	CQG 1 (A-1+ to A-1)	1.60%	2.40%	0.56%	0.96%	1.60%
CQG 2 (AA to AA-)		2.00%	3.20%	0.64%	1.20%	2.00%
CQG 3 (A+)		2.80%	4.00%	0.80%	1.44%	2.80%
CQG 4 (A)	CQG 2 (A-2)	3.20%	5.20%	0.96%	1.60%	
CQG 5 (A-)		4.80%	8.00%	1.60%	2.80%	
CQG 6 (BBB+)		8.00%	12.00%	2.80%	4.00%	
CQG 7 (BBB)	CQG 3 (A-3)	12.00%	18.00%	4.80%	6.00%	
CQG 8 (BBB-)		16.00%	28.00%	8.00%		
CQG 9 (BB+)		24.00%	40.00%	20.00%		
CQG 10 (BB)		40.00%	52.00%	34.00%		
CQG 11 (BB-)		60.00%	68.00%	52.00%		
CQG 12 (Below BB-)	CQG 4 (Below A-3)	Deduction				

¹² See Schedule 14 to the BCR.

¹³ The rating notations are those of Standard & Poor's.

¹⁴ Under section 262(2) of the BCR, if an AI holds a securitization position in a given tranche of a securitization transaction and the tranche is effectively backed or secured by a first legal claim on the entire amount outstanding in respect of the underlying exposures in the transaction, the AI should treat the securitization position as a senior position.

¹⁵ Under section 262(5)(a)(i) of the BCR, a securitization exposure is "granular" if the effective number of underlying exposures is not less than 6.

- (c) The HKMA intends to subject unrated securitization positions in the trading book to the same treatment applicable to equivalent exposures booked in the banking book so as to avoid possible capital arbitrage between the two books. In general, the unrated securitization positions in the STC(S) approach and the IRB(S) approach are subject to deduction from an AI's capital base unless they satisfy the criteria for other treatment. Where an AI has obtained the approval of the Monetary Authority ("MA") to use the IMM approach to calculate market risk capital charge for specific interest rate risk and IRC, the AI may, subject to the MA's approval, use the outputs produced by its IRC model for applying the supervisory formula method to calculate such capital charge for its unrated securitization positions in the trading book.
- (d) An AI is not permitted to use any external credit assessment of a securitization exposure in the trading book for risk-weighting purposes if the assessment is at least partly based on unfunded support (for instance, in the form of a liquidity facility or credit enhancement) provided by the AI itself to the exposure. In such cases, the AI should treat the exposure as unrated.
- (e) An AI which provides unfunded support (e.g. a liquidity facility) to a securitization structure (e.g. an asset-backed commercial paper programme) in the banking book is subject to credit risk capital charge. An AI will be allowed to offset its credit risk capital charge for the unfunded support in the banking book against the capital charge for specific interest rate risk for any securitization exposures under the same securitization structure acquired and held in the trading book, provided that the AI is able to calculate and compare the capital charges for the relevant exposures (see Section III(B) of Annex 3 for details of the overlapping treatment).

- (f) In addition to the application of relevant banking book capital charges, the operational requirements for the recognition of external credit assessments set out in sections 231 and 232 of the BCR, as expanded to incorporate the new operational criteria for credit analysis set out in the Basel II Enhancements, will also apply to securitization exposures in the trading book. To make use of the STC(S) or the IRB(S) approach for risk-weighting such exposures, an AI will be required to satisfy certain criteria as evidence that it has performed a suitable level of due diligence in understanding and monitoring the risks associated with the exposures. The AI will have to deduct those securitization exposures from its capital base if it is unable to satisfy the criteria (see Section III(C) of Annex 3 for details of the new operational requirements for credit analysis).

N-th-to-default credit derivative contracts

- (g) The following requirements for calculating market risk capital charge for specific interest rate risk apply to n-th-to-default credit derivative contracts:-
- (i) The market risk capital charge for specific risk for an n-th-to-default credit derivative contract is the lesser of: (1) the sum of market risk capital charges for specific risk for the individual reference credit instruments in the basket and, where n is greater than one, disregarding the (n-1) obligations with the lowest market risk capital charge for specific risk; and (2) the maximum possible credit event payment under the contract;
- (ii) Offsetting is allowed only for first-to-default credit derivative contracts¹⁶ but not for n-th-to-default credit derivative contracts with

¹⁶ Where an AI has a risk position in one of the reference credit instruments underlying a first-to-default credit derivative contract and this credit derivative contract hedges the AI's risk position, the AI is allowed to reduce with respect to the hedged amount both the capital charge for specific risk for the reference credit instrument and that part of the capital charge for specific risk for the credit derivative

n greater than one;

- (iii) If an n-th-to-default credit derivative contract is externally rated, then the protection seller should calculate the market risk capital charge for specific risk using the rating of the derivative contract and apply the respective specific risk capital charge for securitization exposures specified in Table 1 or Table 2 above as applicable; and
- (iv) The capital charge against each net n-th-to-default credit derivative position applies irrespective of whether the AI has a long or short position (i.e. obtains or provides credit protection).

(B) Changes to internal models approach (“IMM approach”) for market risk

7. Under the existing market risk capital framework, AIs using the IMM approach are subject to market risk capital charge for general market risk and specific risk (the latter for interest rate exposures and equity exposures in the trading book). The framework will be revised to align with the new capital measures introduced in the MRF paper. These include –

- (a) requiring AIs to additionally calculate a stressed VaR (“sVaR”) when calculating market risk capital charge using VaR;
- (b) requiring AIs which have obtained the approval of the MA to model specific risk to calculate an incremental risk charge (“IRC”); and
- (c) allowing AIs which have a correlation trading portfolio (“CTP”) to seek the MA’s approval to calculate a comprehensive risk charge (“CRC”) for such correlation trading exposures¹⁷.

contract that relates to this particular reference credit instrument. Where an AI has multiple risk positions in reference credit instruments underlying a first-to-default credit derivative contract this offset is allowed only for that underlying reference credit instrument having the lowest specific risk capital charge.

¹⁷ For securitization positions and n-th-to-default credit derivative contracts that do not qualify as a CTP, or where there is no prior approval from the MA to model CRC for a CTP, AIs will be required to use

8. The HKMA's proposals to implement the above changes are detailed in the remaining parts of this Section.

(B1) Calculation of sVaR

9. In addition to the VaR calculated based on the most recent one-year observation period, AIs using the IMM approach will be required to calculate the sVaR as a new element of market risk capital charge. The sVaR is intended to replicate a VaR calculation that would be generated on an AI's current portfolio if the relevant market risk factors for the portfolio were experiencing a period of stress.

10. There is no prescribed model for generating the sVaR. AIs should use appropriate techniques to translate their VaR model into one that delivers a sVaR. The sVaR should be calculated at least on a weekly basis, and based on the 10-day, 99%, one-tailed confidence interval VaR measure of the current portfolio, with model inputs calibrated to historical data from a continuous 12-month period of significant financial stress relevant to an AI's portfolio. The period used should be approved by the MA and regularly reviewed by the AI. As an example, a 12-month period relating to significant losses arising from the U.S. sub-prime crisis in 2007/2008 or the Asian financial crisis in 1997/1998 would adequately reflect a period of such stress for many portfolios, although other periods relevant to the current portfolio should also be considered by the AI.

11. Under the revised market risk capital framework, each AI using the IMM approach should meet, on a daily basis, a market risk capital requirement expressed as the sum of -

the STM approach to calculate the market risk capital charge for specific interest rate risk as set out in Section IV(A) above.

- (a) the higher of (1) its last trading day's VaR (VaR_{t-1}); and (2) an average of the daily VaRs on each of the last 60 trading days (VaR_{avg}), multiplied by a multiplication factor (m_c);
- (b) the higher of (1) its latest available sVaR ($sVaR_{t-1}$); and (2) an average of the sVaR on each of the last 60 trading days ($sVaR_{avg}$), multiplied by a multiplication factor (m_s); and
- (c) where applicable, the capital charges mentioned in paragraph 7(b) and 7(c) above.

12. The multiplication factors m_c and m_s will each be subject to an absolute minimum of 3. AIs will be required to add to them individually a plus factor (which ranges from zero to one) and any additional plus factor in accordance with section 319(1)(b) and (c) of the BCR. The back-testing results applicable for determining the plus factors are those related to the VaR based on the most recent one-year observation period but not the sVaR.

(B2) Treatment for specific risk

13. AIs using the IMM approach will not be required to calculate market risk capital charge for specific risk under the STM approach (as revised based on Section IV(A) above) for interest rate exposures other than securitization exposures and n-th-to-default credit derivative contracts, if the MA has determined that they meet all the qualitative and quantitative requirements for using general market risk models, as well as the additional criteria and requirements for modelling specific risk and IRC.

14. AIs using the IMM approach are allowed to incorporate their securitization exposures and n-th-to-default credit derivative contracts in their VaR calculation. However, such exposures will still be required to be subject to

the STM approach (as revised based on Section IV(A) above) for the calculation of market risk capital charge for specific interest rate risk, unless they qualify as a CTP (see Section IV(C) below for more details).

(B3) Calculation of incremental risk charge (“IRC”)

15. AIs using the IMM approach should have an approach to calculate an IRC that captures default risk and credit migration risk (i.e. incremental risks) in all positions subject to a market risk capital charge for specific interest rate risk, with the exception of securitization exposures and n-th-to-default credit derivative contracts. With the incorporation of the IRC requirements, the requirements under section 317(2)(b) of the BCR to calculate a capital surcharge for default risk in accordance with section 318, as well as paragraph 2(e) of Schedule 3 to the BCR, will be removed.

16. An IRC model should measure losses due to default risk and credit migration risk at the 99.9% confidence interval over a capital horizon of one year, taking into account the liquidity horizons applicable to individual positions or sets of positions. The IRC is calculated by applying a scaling factor of 1.0 to the higher of (1) the average IRC over 12 weeks; and (2) the most recent IRC. The IRC should be calculated at least on a weekly basis, or more frequently, as required by the MA.

17. The BCBS recognizes that there is no single industry standard for the calculation of the IRC. Thus no specific approach for capturing the incremental risks is prescribed. AIs should demonstrate that their IRC models meet a soundness standard comparable to that of the IRB approach for credit risk under the BCR, using the assumption of a constant level of risk, and adjusted where appropriate to reflect the impact of liquidity, concentrations, hedging and optionality. Further guidance for calculating the IRC is set out in the Appendix,

which is based on the IRC Guidelines issued by the BCBS and will be incorporated into the SPM module “*Use of Internal Models Approach to Calculate Market Risk*” (CA-G-3).

18. Where AIs using the IMM approach do not have the MA’s approval to capture the IRC through an internally developed approach, they should calculate market risk capital charge for specific risk using the STM approach set out in section 287 of the BCR. Those n-th-to-default credit derivative contracts that do not qualify as a CTP will be subject to the STM approach (as revised based on Section IV(A) above) for the calculation of market risk capital charge for specific interest rate risk (see Section IV(C) below for more details on treatment for a CTP).

(B4) Changes in minimum standards for use of IMM approach

19. The changes to the minimum requirements for the use of the IMM approach are summarised below:-

- (a) The minimum “holding period” for calculating VaR is ten trading days. An AI which uses VaR numbers calculated according to shorter holding periods scaled up to ten days should demonstrate the reasonableness of its approach to the satisfaction of the MA if so required;
- (b) AIs may calculate the VaR using a weighting scheme that is not fully consistent with the requirements set out in paragraph 1(n)(iv) and (v) of Schedule 3 to the BCR (i.e. having a historical observation period of not less than 250 trading days, and if the AI applies a weighting scheme to the historical observations for the calculation of VaR, a higher weighting is assigned to recent observations), as long as that method results in a market risk capital charge at least as conservative as that calculated according to

paragraph 1(n)(iv) and (v) of Schedule 3;

- (c) AIs are required to update market data at least every month (instead of every three months) and to be in a position to update the data in a more timely fashion if deemed necessary; and
- (d) AIs using the IMM approach are required to satisfy the operational requirements set out in paragraph 6(d), (e) and (f) under Section IV(A) for securitization exposures in the trading book.

(C) Treatment for correlation trading portfolio (“CTP”)

20. Securitization exposures and n-th-to-default credit derivative contracts that meet the definition of a CTP (see Footnote 6 above) and other relevant criteria may, subject to the MA’s approval, be granted special treatment described below for the calculation of market risk capital charge for specific interest rate risk.

(C1) Treatment under STM approach

21. The market risk capital charge for specific interest rate risk of the CTP is equal to the higher of (1) the total market risk capital charge for specific risk that would apply just to the net long positions from the net long correlation trading exposures combined; and (2) the total market risk capital charge for specific risk that would apply just to the net short positions from the net short correlation trading exposures combined. The offsetting rules specified under section 287(2) of the BCR for specific interest rate risk under the STM approach apply.

(C2) Calculation of comprehensive risk charge (“CRC”) under IMM approach

22. Subject to the prior approval of the MA, AIs may incorporate their CTP in an internally developed approach that generates a comprehensive risk measure which adequately captures not only incremental default risk and credit migration risk but also all price risks. The comprehensive risk measure should, at a minimum, adequately capture the cumulative risk arising from multiple defaults, credit spread risk, volatility of implied correlations, basis risk, recovery rate volatility, and (to the extent the comprehensive risk measure incorporates benefits from dynamic hedging) the risk of hedge slippage and the potential costs of rebalancing such hedges.

23. The use of the comprehensive risk model is available only to AIs which are active in buying and selling correlation trading products (having regard to market perception and the AIs’ own judgement of the significance of such activities to themselves and to the markets in which they operate), and is subject to the satisfaction of all minimum requirements applicable to the adoption of the IRC model as well as some additional data, modelling and stress-testing criteria. See the Appendix for more details on these requirements and criteria.

24. Correlation trading exposures incorporated in this internally developed model are not required to be subject to the market risk capital charge for specific interest rate risk under the STM approach or to the IRC requirements as applicable. AIs, however, should incorporate the CTP in both of their VaR and sVaR calculations.

25. Similar to the IRC, the CRC should be calculated at least on a weekly basis, or more frequently, as required by the MA. The CRC is calculated by applying a scaling factor of 1.0 to the higher of (1) the average of the

comprehensive risk charges over 12 weeks; and (2) the most recent CRC. There will be no adjustment for double-counting between the CRC and the capital charges for other risk measures.

26. The CRC will be subject to a floor, which could be expressed as a percentage of the market risk capital charge applicable under the STM approach and will be set by the BCBS based on an impact study to be conducted by March 2010. The MA may also impose a supplemental capital charge against the CTP, to be added to an AI's capital requirement calculated under its comprehensive risk model, if the MA is satisfied that the stress-testing results provided by the AI indicate a material shortfall of its comprehensive risk measure.

V. OTHER PROPOSED MARKET RISK-RELATED AMENDMENTS

(A) Prudent valuation guidance

27. The scope of application of the prudent valuation guidance currently set out in Section VI.A.2 of Part 2 of the Basel II framework has been enhanced and expanded from positions in the trading book to all positions that are accounted for at fair value, whether they are in the trading book or in the banking book.

28. For the reporting of market risk capital charge, AIs are required to observe the expanded prudent valuation guidance¹⁸ in determining the current valuation of their market risk positions, and in assessing whether and how much valuation adjustment is necessary for regulatory capital purposes, particularly for less liquid positions and complex products such as securitization exposures and n-

¹⁸ The expanded guidance on prudent valuation will be incorporated as appropriate in relevant supervisory guidance on prudent valuation practices and market risk management, which is under development.

th-to-default credit derivative contracts. The MA also has the right to require adjustments by AIs to current value beyond those required by financial reporting standards, in particular where there is uncertainty around the current realisable value of a position due to illiquidity. The adjustments to the current valuation of less liquid positions should impact AIs' core capital.

29. See the Appendix to Annex 7 for the HKMA's proposed enhancements on valuation requirements.

(B) Banking (Disclosure) Rules ("BDR")

30. There will be enhancements or consequential amendments to the BDR for market risk relating to the new risk measures introduced (e.g. sVaR, IRC and CRC) and other recommendations set out in the MRF Paper. See Tables 10 and 11 of Annex 4 on the HKMA's proposed Pillar 3 enhancements.

(C) CA-G-3 on use of IMM approach to calculate market risk

31. The SPM module "*Use of Internal Models Approach to Calculate Market Risk*" (CA-G-3) will be updated to incorporate the new or enhanced guidance issued by the BCBS on internal model recognition, including the minimum requirements for the use of internal models for calculating the IRC and CRC. In addition, the following changes will be incorporated into CA-G-3:-

- (a) Specification of market risk factors: AIs are required to justify any risk factors incorporated in a pricing model but which are left out in the calculation of VaR to the satisfaction of the MA. In addition, the internal models should capture nonlinearities for option contracts and other relevant products (e.g. mortgage-backed securities, tranching exposures or n-th-to-default credit derivative contracts), as well as correlation risk and basis risk

(e.g. between credit default swaps and bonds). Moreover, the proxies used should show a good track record for the actual position held (e.g. an equity index for a position in an individual stock);

- (b) Model validation: Testing for model validation must include the use of hypothetical changes in portfolio value that would occur were end-of-day positions to remain unchanged; and
- (c) Guidance on calculating the IRC: The IRC Guidelines published by the BCBS in July 2009 and highlighted in the Appendix will be incorporated.

(D) Regulatory capital reporting requirements

32. The Return of Capital Adequacy Ratio (MA(BS)3) will be revised to take account of the proposed enhancements to the market risk capital framework set out in the above sections of this paper.

VI. IMPLEMENTATION

33. In line with the BCBS's recommended time schedule, the HKMA intends to complete the legislative amendments and other tasks related to the implementation of the Trading Book Proposals in Hong Kong by 31 December 2010, with the changes to take effect on 1 January 2011.

34. The implementation timetable is however subject to the progress of the BCBS in finalising certain new or revised metrics in market risk capital calculations. In the coming months, the BCBS will review the calibration of the market risk capital framework in the light of the results of an impact assessment being conducted. This review will include the multiplication factors m_c and m_s

for VaR and sVaR respectively; the scaling factors for IRC and CRC; and the floor to the liquidity horizon specified for IRC calculations. Also, the BCBS will determine the precise number and composition of stress scenarios to be used for the comprehensive risk model in consultation with the industry by March 2010, and will further evaluate the setting of a floor for the CRC based on an impact study to be conducted in 2010.

35. As the HKMA intends to follow closely the requirements of the Trading Book Proposals, AIs which plan to apply, or are in the process of applying, for approval from the MA to use the IMM approach for calculation of market risk capital charge should ensure that their internal models can fully comply with the revised market risk capital framework. Similarly, AIs which are using, or have received the MA's approval under the existing framework to use, the IMM approach should start implementing the necessary changes to their internal models as soon as practicable to ensure that their models can fully comply with the revised framework by 1 January 2011.