MAS NOTICE 637 (AMENDMENT NO. 2) 2018

Issued on: 13 November 2018

RISK BASED CAPITAL ADEQUACY REQUIREMENTS FOR BANKS INCORPORATED IN SINGAPORE

Introduction

1 This document reflects amendments made to MAS Notice 637 to:

(a) implement the revised Basel Committee on Banking Supervision (BCBS) standard for interest rate risk in the banking book (IRRBB);

(b) implement the BCBS' total loss-absorbing capacity (TLAC) holdings standard;

(c) widen the scope of eligible collateral relating to commodities and equity for credit risk mitigation purposes;

(d) revise the risk weight for unrated exposures to public sector entities (PSEs) under the standardised approach for credit risk (SA(CR));

(e) make technical amendments to the public disclosure requirements;

(f) make other miscellaneous technical amendments.

2 For presentational purposes, the amendments in this document are compared with the version of MAS Notice 637 issued on 14 September 2012, as last revised on 5 October 2018 (the "Original Notice").

3 This document shall be interpreted as follows:

(a) Text which is coloured and struck through represent deletions;

(b) Text which is coloured and underlined represent insertions;

(c) Text which is highlighted in yellow are annotations to describe changes, and will not appear in the published untracked version of MAS Notice 637. For instance, portions of the Original Notice which are deleted in entirety are accompanied by the following explanatory text in yellow highlights: *[The previous Division xx / Sub-division xx / Annex xx / Paragraph xx / Table xx is deleted.]*;

(d) Any inserted portions are inserted in numerical or alphabetical order (as appropriate) with the existing text in the Original Notice;

(e) Any inserted definitions in the Glossary at Annex 2A are inserted in alphabetical order with the existing definitions in the Original Notice; and

(f) Portions of the Original Notice which are not reflected in this document are unchanged.

4 The amendments reflected in this document shall take effect from 16 November 2018, except where indicated otherwise.

5 The table below provides an overview of the amendments corresponding to the various effective dates:

Effective date	Amendments
16 November 2018	• Amendments to Parts II and VII, and Reporting Schedule 5E-2, which relate to eligible collateral (referred to in paragraph 1(c) above) • Amendment to Part VII to revise the risk weight for unrated exposures to PSEs under SA(CR) (referred to in paragraph 1(d) above) • Miscellaneous amendments to Parts II, IV, VII, VIII and X
31 December 2018	• Amendments to Parts II, X and XII, and Reporting Schedule 5G, which relate to IRRBB (referred to in paragraph 1(a) above)
1 January 2019	• Amendments to Parts II, VI and XI, and Reporting Schedule 1A, which relate to TLAC (referred to in paragraph 1(b) above) • Amendments to Part XI and XIA which relate to technical amendments to public disclosure requirements (referred to in paragraph 1(e) above) • Miscellaneous amendments to Reporting Schedule 1A

6 In the event of discrepancies between the amendments in this document and the published versions of MAS Notice 637 revised on 13 November 2018 (version with effect from 16 November 2018, version with effect from 31 December 2018, and version with effect from 1 January 2019, as the case may be), the published versions of MAS Notice 637 shall prevail. This document is to be used for reference only.

Amendments to Part II

PART II: DEFINITIONS

Annex 2A

GLOSSARY

α	means – (a) in relation to the CCR internal models method, the alpha factor set out in paragraph 2.14 of Annex 7Q of Part VII; and (b) in relation to the BIA, 15%;
β	means in relation to the SA(OR) and the ASA, the fixed beta factor set out for each business line in Table 9-2 of Part IX; [MAS Notice 637 (Amendment) 2016]
ABCP programme or asset-backed commercial paper programme	means a programme which predominantly issues commercial paper to third party investors with an original maturity of one year or less and is backed by assets or other exposures held in a bankruptcy-remote SPE; [MAS Notice 637 (Amendment No. 2) 2017]
ABCP programme sponsor	means an entity which – (a) purchases or advises or causes an SPE to purchase the exposures of a third party, which are then used to back commercial papers issued under an ABCP programme; or (b) places ABCP securities into the market, or provides liquidity or credit enhancements to the ABCP; [MAS Notice 637 (Amendment No. 2) 2017]
Accounting Loss Allowance	means the loss allowance for expected credit losses on the selected non-credit-impaired exposures[AA] set out in Appendix C of MAS Notice 612, that is determined and recognised in accordance with the impairment measurement requirements under FRS 109; [MAS Notice 637 (Amendment No. 3) 2017]
Accounting Standards	has the same meaning as in section 4(1) of the Companies Act (Cap. 50);
affiliate	means, (a) an entity that has a beneficial interest in 20% or more of the total number of ordinary shares or controls 20% or more of the voting power in the Reporting Bank, or

[AA] For the avoidance of doubt, "non-credit-impaired exposures" means credit exposures that do not fall within the definition of "credit-impaired financial asset" under FRS 109.
[MAS Notice 637 (Amendment No. 3) 2017]

	(b) an entity in which the Reporting Bank has a beneficial interest in 20% or more of the total number of ordinary shares or controls 20% or more of the voting power in the entity, or (c) an entity in which a related corporation of the Reporting Bank has a beneficial interest in 20% or more of the number of ordinary shares or controls 20% or more of the voting power in the entity; [MAS Notice 637 (Amendment No. 2) 2014]
A-IRBA or advanced IRBA	in relation to the IRBA wholesale asset class, means the approach under the IRBA under which a Reporting Bank uses its own estimates of PD, LGD and EAD;
allocation mechanism	in relation to the AMA where a Reporting Bank is a subsidiary of a banking institution incorporated outside Singapore, means the methodology used by the Reporting Bank to determine its operational risk capital based on an allocation of the operational risk capital of the banking institution incorporated outside Singapore;
AMA or advanced measurement approach	means the approach for calculating operational risk capital requirements set out in Division 5 of Part IX or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
AMA elements	means the internal and relevant external data on operational risk losses, scenario analysis and factors reflecting the business environment and internal control systems;
AMA exposure	means any exposure for which a Reporting Bank is using the AMA to calculate its operational risk capital requirement;
approved exchange	has the same meaning as in section 2 of the Securities and Futures Act (Cap. 289); [MAS Notice 637 (Amendment) 2018]
ASA or alternative standardised approach	means the approach for calculating operational risk capital requirements set out in Division 4 of Part IX or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
asset class	means – (a) in relation to the SA(CR), one of the classes of exposures set out in Sub-division 1 of Division 3 of Part VII; and (b) in relation to the IRBA, one of the classes of exposures set out in Sub-division 4 of Division 4 of Part VII;

associate	has the same meaning as "associate" under the Accounting Standards;
AT1 Capital or Additional Tier 1 Capital	means - (a) in relation to a Reporting Bank, the sum of items set out in paragraph 6.2.1; and (b) in relation to a subsidiary of a Reporting Bank, the sum of items set out in paragraph 6.2.1, where a reference to "Reporting Bank" shall be construed as a reference to "the subsidiary of the Reporting Bank"; [MAS Notice 637 (Amendment No. 2) 2014]
AT1 capital instrument	means a capital instrument which complies with the requirements set out in paragraph 6.2.2;
	[Insertion of definition of "automatic interest rate option" effective from 31 Dec 2018]
automatic interest rate option	means an option arising from a standalone instrument such as an exchange-traded or OTC option contract, or explicitly embedded within the contractual terms of an instrument such as a capped rate loan where the option holder may be reasonably expected to exercise the option if it is in their financial interest to do so;
Banking Act	means Banking Act (Cap. 19);
banking book	means all on-balance sheet and off-balance sheet exposures of a Reporting Bank other than its trading book positions;
banking group	means the Reporting Bank and its banking group entities;
banking group entity	means any subsidiary or any other entity which is treated as part of the Reporting Bank's group of entities according to Accounting Standards;
banking institution	means – (a) any bank licensed under the Banking Act; (b) any finance company licensed under the Finance Companies Act (Cap. 108); or (c) any entity which is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign jurisdiction to carry on banking business as defined in the Banking Act;
bank regulatory agency	in relation to a foreign jurisdiction, means an authority in the foreign jurisdiction exercising any function that corresponds to a regulatory function of the Authority under the Banking Act;
BCBS	means the Basel Committee on Banking Supervision;
BE&IC	means the business environment and internal control factors;

	[Insertion of definition of "behavioural interest rate option" effective from 31 Dec 2018]
behavioural interest rate option	means an option embedded implicitly or within the terms of financial contracts, such that changes in interest rates may effect a change in the behaviour of the client;
BIA or basic indicator approach	means the approach for calculating operational risk capital requirements set out in Division 2 of Part IX or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
Board	means the board of directors, or a designated committee of the board of directors; [MAS Notice 637 (Amendment No. 2) 2014]
borrower grade	in relation to wholesale exposures, means a risk category within the obligor rating scale of a rating system to which obligors are assigned on the basis of a specified and distinct set of rating criteria and from which estimates of PD are derived;
CCF	means credit conversion factor;
CCP or central counterparty	means a clearing facility that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts, through novation, an open offer system or other legally binding arrangements. For the purposes of this Notice, a CCP is a financial institution; [MAS Notice 637 (Amendment) 2012] [MAS Notice 637 (Amendment No. 2) 2014]
CCP RWA	means the risk-weighted assets for exposures to CCPs calculated in accordance with Annex 7AJ; [MAS Notice 637 (Amendment) 2012]
CCP trade exposures	means current exposure, including the variation margin due to a clearing member but not yet received, potential future exposure and initial margin of a clearing member or a client of a clearing member arising from any OTC derivative transaction, exchange-traded derivative transaction, long settlement transaction or SFT; [MAS Notice 637 (Amendment) 2012] [MAS Notice 637 (Amendment) 2016]
CCR or counterparty credit risk	means the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows;

CCR internal models method	means the method for calculating E or EAD, whichever is applicable, for any pre-settlement counterparty exposure arising from any OTC derivative transaction, long settlement transaction or SFT set out in Annex 7Q of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
CDR	means cumulative default rate;
CET1 Capital or Common Equity Tier 1 Capital	means - (a) in relation to a Reporting Bank, the sum of the items set out in paragraph 6.1.1; and (b) in relation to a subsidiary of a Reporting Bank, the sum of items set out in paragraph 6.1.1, where a reference to "Reporting Bank" shall be construed as a reference to "the subsidiary of the Reporting Bank"; [MAS Notice 637 (Amendment No. 2) 2014]
CET1 capital instrument	means a capital instrument which compiles with the requirements set out in paragraph 6.1.2; [MAS Notice 637 (Amendment) 2014]
CET1 CAR	means Common Equity Tier 1 capital adequacy ratio, calculated in accordance with paragraph 4.1.1;
CF	means commodities finance;
clean-up call	means an option which permits the securitisation exposures to be called before all of the underlying exposures or securitisation exposures have been repaid. In the case of a traditional securitisation, this is generally accomplished by repurchasing the remaining securitisation exposures once the underlying exposures or the outstanding securities issued have fallen below some specified level. In the case of a synthetic securitisation, the clean-up call may take the form of a clause that extinguishes the credit protection;

clearing member	means a member of, or a direct participant in, a CCP that is entitled to enter into a transaction with the CCP, regardless of whether it enters into trades with a CCP for its own hedging, investment or speculative purposes or whether it also enters into trades as a financial intermediary between the CCP and other market participants. Where a CCP has a link to a second CCP, that second CCP shall be treated as a clearing member of the CCP[AB]; [MAS Notice 637 (Amendment) 2012]
client	in relation to a clearing member, means a party to a transaction with a CCP through either the clearing member acting as a financial intermediary, or the clearing member guaranteeing the performance of the client to the CCP; [MAS Notice 637 (Amendment) 2012] [MAS Notice 637 (Amendment) 2014]
client sub-account	in relation to a clearing member, means an account for (a) transactions that it enters into with a client acting as a financial intermediary between the client and the CCP, and (b) collateral posted by such a client, that is held separately from the clearing member's proprietary transactions and collateral; [MAS Notice 637 (Amendment) 2016]
closed-end fund	has the same meaning as in section 2 of the Securities and Futures Act (Cap. 289); [MAS Notice 637 (Amendment) 2018]
CM or capital measure	has the same meaning as Tier 1 Capital; [MAS Notice 637 (Amendment) 2014]
collective investment scheme	has the same meaning as in section 2 of the Securities and Futures Act (Cap. 289); [MAS Notice 637 (Amendment) 2018]
co-operative society	means a co-operative society registered under the Co-operative Societies Act (Cap. 62); [MAS Notice 637 (Amendment No. 2) 2014]

[AB] Whether the second CCP's collateral contribution to the first CCP is treated as initial margin or a default fund contribution shall depend upon the legal arrangement between the CCPs. A Reporting Bank shall consult the Authority to determine whether such collateral contribution by the second CCP to the first CCP should be treated as an initial margin or default fund contribution. The Authority intends to consult and communicate with other financial services regulatory authorities via the "frequently asked questions" process of the Basel Committee on Banking Supervision to ensure consistency.

[MAS Notice 637 (Amendment) 2012]
[MAS Notice 637 (Amendment No. 3) 2017]

core market participant	means any of the entities listed in Annex 7L of Part VII;
corporate exposure	means – (a) in relation to the SA(CR), an exposure that falls within the definition in paragraph 7.3.1(f); and (b) in relation to the IRBA, an exposure that falls within the definition in paragraph 7.4.15(a);
corporation	has the same meaning as in section 4(1) of the Companies Act, but includes a co-operative society;
	[MAS Notice 637 (Amendment No. 2) 2014]
CPF	means the Central Provident Fund Board constituted under section 3 of the Central Provident Fund Act (Cap. 36);
	[Insertion of definition of "CPR" effective from 31 Dec 2018]
CPR	means conditional prepayment rate;
CPSS	means Committee on Payment and Settlement Systems;
	[MAS Notice 637 (Amendment) 2012]
CRE	means commercial real estate;
credit derivative	means any contract which transfers the credit risk of a reference obligation or set of reference obligations from the protection buyer to the protection seller, such that the protection seller has an exposure to the reference obligation(s);
credit enhancement	means a contractual arrangement in which a Reporting Bank or other entity retains or assumes a securitisation exposure that, in substance, provides some degree of credit protection to other parties to the securitisation;
	[MAS Notice 637 (Amendment No. 2) 2017]
credit RWA	means the sum of all credit risk-weighted exposure amounts in respect of all credit exposures calculated as set out in paragraph 7.1.1;
credit-enhancing interest only strip	means an on-balance sheet asset that represents a valuation of cash flows related to future margin income and is subordinated to the other securitisation exposures in a securitisation;
CRM or credit risk mitigation	means any technique used by a Reporting Bank to reduce the credit risk associated with any exposure which the Reporting Bank holds;

cross-product netting	means the netting between a Reporting Bank and a counterparty of pre-settlement counterparty exposures arising from transactions involving two or more of the following product categories: (a) OTC derivative transaction; (b) repo, reverse repo, securities or commodities lending transaction and securities or commodities borrowing transaction; and (c) margin lending transaction; [MAS Notice 637 (Amendment No. 2) 2017]
	[Insertion of definition of "CSRBB" effective from 31 Dec 2018]
CSRBB	means credit spread risk in the banking book;
CTP or correlation trading portfolio	means a portfolio that incorporates – (a) securitisation exposures and n-th-to-default credit derivatives meeting the following criteria: (i) the positions are neither resecuritisation positions, nor derivatives of securitisation exposures that do not provide a pro-rata share in the proceeds of a securitisation tranche (therefore excluding options on a securitisation tranche, or a synthetically leveraged super-senior tranche); (ii) all reference entities are single-name products, including single-name credit derivatives, for which a liquid two-way market exists. This will include commonly traded indices based on these reference entities; (iii) the positions do not reference an underlying exposure that would be treated as an SA(CR) exposure in the regulatory retail asset class, an SA(CR) exposure in the residential mortgage asset class, or an SA(CR) exposure in the CRE asset class; and (iv) the positions do not reference a claim on a special purpose entity, including any special purpose entity-issued instrument backed, directly or indirectly, by a position that would itself be excluded if held by a Reporting Bank directly, and (b) positions that hedge the securitisation exposures and n-th-to-default credit derivatives described in paragraph (a) above, where – (i) the positions are neither securitisation exposures nor n-th-to-default credit derivatives; and (ii) a liquid two-way market exists for the instrument by which the position is taken or its underlying exposures,

	and for the purpose of this definition, a two-way market is deemed to exist where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and trades settled at such price within a relatively short time conforming to trade custom;
currency mismatch	means a situation where an exposure and the collateral or credit protection provided in support of it are denominated in different currencies;
current exposure	means the larger of zero, or the market value of a transaction or portfolio of transactions within a netting set with a counterparty that would be lost upon the default of the counterparty, assuming no recovery on the value of those transactions in a bankruptcy or insolvency;
CVA or credit valuation adjustment	in relation to a Reporting Bank, means an adjustment to the mid-market valuation of the portfolio of trades with a counterparty, which reflects the market value of credit risk, and may include either the market value of the credit risk of the counterparty or the market value of the credit risk of both the Reporting Bank and the counterparty; [MAS Notice 637 (Amendment No. 2) 2014]
CVA RWA	means the risk-weighted assets for CVA calculated in accordance with Annex 7AI;
default	in relation to the IRBA, has the meaning in Annex 7X of Part VII;
default fund[AC]	means a fund established by a CCP, comprising the pre-funded or unfunded contributions of a CCP and its clearing members towards, or underwriting of, a CCP's mutualised loss sharing arrangements, and includes initial margins posted to a CCP in the case where the CCP uses the initial margins to mutualise losses among clearing members; [MAS Notice 637 (Amendment) 2012]
default fund exposure	means exposure arising from contributions of a Reporting Bank to a default fund of a CCP; [MAS Notice 637 (Amendment) 2012]
dilution	means any reduction in an amount receivable from a counterparty through cash or non-cash credits to the counterparty;

[AC] A default fund may also be known as clearing deposits, guaranty fund deposits or any other name. The description given by a CCP to its mutualised loss sharing arrangements is not determinative of the status of the arrangement as a default fund, rather, the substance of such arrangements shall govern its status as a default fund.

[MAS Notice 637 (Amendment) 2012]
[MAS Notice 637 (Amendment No. 3) 2017]

double default framework	means the framework for the recognition of credit protection for IRBA exposures set out in Annex 7G of Part VII;
DvP	means delivery-versus-payment;
EAD or exposure at the time of default	has the meaning in paragraph 4.1 of Annex 7Y of Part VII;
early amortisation provision	means a contractual provision that, once triggered, accelerates the reduction of the investor's interests in underlying exposures of a securitisation of revolving credit facilities[AD], and allows investors to be paid out prior to the originally stated maturity of the securities issued; [MAS Notice 637 (Amendment No. 2) 2017]
	[Insertion of definition of "early redemption risk" effective from 31 Dec 2018]
early redemption risk	means the risk of early withdrawal for fixed rate term deposits;
ECAI	means an external credit assessment institution, and includes all entities trading under the trade name of that external credit assessment institution; [MAS Notice 637 (Amendment) 2014]
EE or expected exposure	means the average of the distribution of exposures at any particular future date before the longest maturity transaction in the netting set matures;
effective EE	means as at a specific date, the maximum EE that occurs at that date or any prior date. Alternatively, it may be defined for a specific date as the greater of the expected exposure at that date, or the effective EE at the previous date;
effective EPE	means the weighted average over time of effective EEs over the first year of future exposures, or if all the contracts within the netting set mature before one year, over the time period of the longest maturity contract in the netting set, where the weights are the proportion that an individual effective EE represents of the entire time interval;

[AD] A securitisation of revolving credit facilities is a securitisation in which one or more underlying exposures represent, directly or indirectly, current or future draws on a revolving credit facility. Examples of revolving credit facilities include credit card exposures, home equity lines of credit, commercial lines of credit, and other lines of credit.

[MAS Notice 637 (Amendment No. 2) 2017]
[MAS Notice 637 (Amendment No. 3) 2017]

EL or expected loss	in relation to the IRBA, means the ratio of the amount expected to be lost on an exposure arising from a potential default of a counterparty, dilution or both, over a one-year period to the amount outstanding at default;
EL amount	has the meaning in Sub-division 14 of Division 4 of Part VII;
eligible CRE	means any CRE held as collateral where the requirements and guidelines set out in Annex 7F of Part VII are satisfied;
eligible credit protection	means any guarantee (or other instrument as the Authority may allow) or credit derivative where the requirements and guidelines set out in Annex 7F of Part VII are satisfied;
eligible financial collateral	means – (a) in relation to the FC(SA), one or more types of collateral set out in paragraph 2.2 of Annex 7F of Part VII; and (b) in relation to the FC(CA), one or more types of collateral set out in paragraph 2.3 of Annex 7F of Part VII, where the requirements and guidelines set out in Annex 7F of Part VII are satisfied;
eligible IRBA collateral	means one or more types of collateral set out in paragraph 2.5 of Annex 7F of Part VII where the requirements and guidelines set out in that Annex are satisfied;
eligible liquidity facility	in relation to the leverage ratio, means an off-balance sheet securitisation exposure that is a liquidity facility where the following requirements are complied with – (a) the facility documentation clearly identifies the nature, purpose and extent of any undertaking or commitment provided to the SPE, and limits the circumstances under which it may be drawn; (b) the facility is limited to a specified amount and duration, unless the Reporting Bank is able to withdraw, at its absolute discretion, the facility at any time with a reasonable period of notice; (c) any draw made under the facility is provided to the SPE and not directly to investors, and is limited to the amount that is likely to be repaid fully from the liquidation of the underlying exposures and any seller-provided credit enhancements; (d) the facility does not cover any losses incurred in the underlying exposures prior to a draw, and is not structured such that draw-down is certain (as indicated by regular or continuous draws or continuous revolving funding); (e) the facility is subject to an asset quality test that precludes it from being drawn to cover credit risk exposures where the obligor(s) are in default;

(f) if the exposures that the liquidity facility is required to fund are securities with an external credit assessment by a recognised ECAI, the facility is used to fund only securities that have a credit quality grade of "10" or better or a short-term credit quality grade of "III" or better as set out in Tables 7R-3 and 7R-4, respectively, of Annex 7R at the time of funding;
(g) the facility cannot be drawn after all applicable (e.g. transaction-specific and programme-wide) credit enhancements from which the facility would benefit have been exhausted;
(h) repayment of draws on the facility is not subordinated to any interests of any note holder in the programme or subject to deferral or waiver;
(i) the obligations of the Reporting Bank under the facility are standalone from its obligations under any other facility, commitment or undertaking provided by the Reporting Bank; and
(j) either –
    (i) an independent third party co-provides 25% of the liquidity facility that is to be drawn and re-paid on a pro-rata basis; or
    (ii) all the underlying exposures have a credit quality grade of "3" or better or a short-term credit quality grade of "III" or better as set out in Tables 7R-1 and 7R-2, respectively, of Annex 7R, and the facility documentation expressly provides that the Reporting Bank may reduce (and ultimately withdraw) its funding if the external credit assessment of the exposures falls to a credit quality grade of "4" or worse or to a short-term credit quality grade of "IV" as set out in Tables 7R-1 and 7R-2, respectively, of Annex 7R;

[MAS Notice 637 (Amendment No. 3) 2017]

eligible physical collateral	means any physical collateral where the requirements and guidelines set out in Annex 7F of Part VII are satisfied;
eligible protection provider	means - (a) in the case of a Reporting Bank using the SA(CR), SA(EQ), SEC-IRBA, SEC-ERBA or SEC-SA, a guarantor or protection seller which is – (i) a central government, a central bank, the Bank for International Settlements, the International Monetary Fund, the European Central Bank or the European Community; (ii) an MDB; (iii) a PSE; (iv) a banking institution; or (v) in the case where the credit protection is –

(A) not provided for a securitisation exposure, any other entity with an external credit assessment by a recognised ECAI; or

(B) provided for a securitisation exposure, any other entity, other than an SPE, which has a credit quality grade of "2" or better as set out in Table 7R-1 at the time the credit protection was provided, and a credit quality grade of "3" or better as set out in Table 7R-1 during the period of recognition of the effects of CRM;

(b) in the case of a Reporting Bank adopting the F-IRBA and not intending to use the double default framework, a guarantor or protection seller which is –

(i) any entity in paragraphs (a)(i) to (v) above; or

(ii) any entity which is internally rated; and

(c) in the case of a Reporting Bank adopting the F-IRBA and intending to use the double default framework, a guarantor or protection seller which complies with the requirements set out in paragraph 3.1 of Annex 7G;

[MAS Notice 637 (Amendment No. 2) 2017]

eligible purchased receivables exposure — in relation to the IRBA, means any exposure that falls within the definition in paragraph 7.4.18;

eligible receivables — means any financial receivables held as collateral where the requirements and guidelines set out in Annex 7F of Part VII are satisfied;

eligible RRE — means any RRE held as collateral where the requirements and guidelines set out in Annex 7F of Part VII are satisfied;

Eligible Total Capital — in relation to a Reporting Bank or subsidiary of the Reporting Bank, means the sum of Tier 1 Capital and Tier 2 Capital;

[MAS Notice 637 (Amendment No. 2) 2014]

EM or exposure measure — means the amount as calculated in accordance with paragraph 2.3 of Annex 4A;

[MAS Notice 637 (Amendment) 2014]

EPE or expected positive exposure — means the weighted average over time of EEs over the first year, or if all the contracts within the netting set mature before one year, over the time period of the longest maturity contract in the netting set, where the weights are the proportion that an individual EE represents of the entire time interval;

equity exposure — has the meaning given to it in Sub-division 1 of Division 5 of Part VII;

[MAS Notice 637 (Amendment No. 2) 2014]

	[Insertion of definition of "EVE" effective from 31 Dec 2018]
EVE	means the economic value of equity;
	[Insertion of definition of "ΔEVE" effective from 31 Dec 2018]
ΔEVE	means change in economic value of equity under an interest rate stress or shock scenario;
excess spread	means any gross finance charge collections and other income received by the trust or SPE after deducting certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses;
facility grade	in relation to wholesale exposures, means a risk category within the facility rating scale of a rating system to which exposures are assigned on the basis of a specified and distinct set of rating criteria and from which estimates of LGD are derived;
FC(CA) or financial collateral comprehensive approach	means the method for calculating the effects of CRM arising from eligible financial collateral set out in Annex 7I of Part VII;
FC(SA) or financial collateral simple approach	means the method for calculating the effects of CRM arising from eligible financial collateral set out in Sub-division 4 of Division 3 of Part VII;
financial institution	means an entity the principal activity of which is to carry on business in one or more of the following activities[B,C]: (a) banking business; (b) insurance business; (c) dealing or trading in securities, exchange-traded derivatives or OTC derivatives, whether as an agent or on a proprietary basis; (d) foreign exchange trading and leveraged foreign exchange trading, whether as an agent or on a proprietary basis; (e) advising on corporate finance; (f) fund management; (g) real estate investment trust management; (h) securities financing; (i) providing custodial services; (j) operating an exchange, trading system or market; (k) providing central counterparty services; (l) operating a payment system, securities depository, securities settlement system or trade repository; (m) providing financial advisory services;

[B] This includes a financial holding company which is not an operating entity that holds as a subsidiary, a banking institution or an insurance subsidiary.

[MAS Notice 637 (Amendment No. 2) 2014]

[C] For avoidance of doubt, this includes any entity that is approved, licensed, registered or otherwise regulated by the Authority, or any foreign entity that carries out activities which, if carried out in Singapore, would have to be approved, licensed, registered or otherwise regulated by the Authority.

(n) insurance broking;
(o) trust business;
(p) money broking;
(q) money-changing business;
(r) remittance business;
(s) lending;
(t) factoring;
(u) leasing;
(v) provision of credit enhancements;
(w) securitisation; or
(x) such other business that the Authority may specify from time-to-time;

financial year	has the same meaning as in section 4(1) of the Companies Act (Cap. 50);
F-IRBA or foundation IRBA	in relation to the IRBA wholesale asset class, means the approach under the IRBA under which a Reporting Bank uses its own estimates of PD but not its own estimates of LGD and EAD;
FRA	means a forward rate agreement;
FRS 109	means the Singapore Financial Reporting Standard 109; [MAS Notice 637 (Amendment No. 3) 2017]
FSB	[Insertion of definition of "FSB" effective from 1 Jan 2019] means the Financial Stability Board;
FSB TLAC Term Sheet	[Insertion of definition of "FSB TLAC Term Sheet" effective from 1 Jan 2019] means the FSB's TLAC principles and term sheet set out at the FSB's website at http://www.fsb.org/wp-content/uploads/TLAC-Principles-and-Term-Sheet-for-publication-final.pdf;
funded credit protection	means a CRM where the reduction of the credit risk of an exposure of a Reporting Bank is derived from the right of the Reporting Bank, in the event of the default of a counterparty or on the occurrence of other specified credit events relating to the counterparty, to liquidate, to obtain transfer or appropriation of, or to retain, certain assets or amounts;
gain-on-sale	means any increase in the equity of a Reporting Bank which is an originator resulting from the sale of underlying exposures in a securitisation; [MAS Notice 637 (Amendment No. 2) 2014]
general allowance	means loss allowance for credit exposures that do not fall within the definition of "credit-impaired financial asset" under FRS 109[CA];

[CA] For avoidance of doubt, general allowances include loss allowances maintained by a bank in excess of the Accounting Loss Allowance.
[MAS Notice 637 (Amendment No. 3) 2017]

[MAS Notice 637 (Amendment No. 3) 2017]

general wrong-way risk	means the risk that arises when the probability of default of counterparties is positively correlated with general market risk factors;
	[Insertion of definition of "G-SIB" effective from 1 Jan 2019]
G-SIB	means global systemically important bank, as identified by the FSB;
hedging set	means a group of transactions within a single netting set within which full or partial offsetting is recognised for the purpose of calculating the potential future exposure under the SA-CCR;
	[MAS Notice 637 (Amendment) 2016]
higher level client	in relation to a multi-level client structure, means the financial institution providing clearing services;
	[MAS Notice 637 (Amendment) 2016]
house sub-account	in relation to a clearing member, means an account for (a) transactions conducted for its proprietary purposes and (b) collateral posted by the clearing member for such transactions, and that account is held separately from transactions conducted by the clearing member acting as a financial intermediary between the CCP and its client and collateral posted by such clients, in client sub-accounts;
	[MAS Notice 637 (Amendment) 2016]
HVCRE	means high-volatility commercial real estate;
IA	means the internal audit function or an equally independent function of a Reporting Bank;
IAA or internal assessment approach	means the method for calculating credit risk-weighted exposure amounts for securitisation exposures set out in Annex 7AF or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
	[MAS Notice 637 (Amendment No. 2) 2017]

ICA or independent collateral amount	means the amount of collateral other than variation margin posted by the counterparty that the Reporting Bank may seize upon default of the counterparty, which does not change in response to the value of transactions it secures, and includes the Independent Amount parameter defined in standard industry documentation[D];
	[MAS Notice 637 (Amendment) 2016]
ICAAP	means internal capital adequacy assessment process;
IMA or internal models approach	means the approach for calculating market risk capital requirements set out in Division 3 of Part VIII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
IMA exposure	means any exposure for which a Reporting Bank is using the IMA to calculate its market risk capital requirement;
IMM or internal models method	means the method for calculating credit risk-weighted exposure amounts for IRBA(EQ) exposures set out in Sub-division 4 of Division 5 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
implicit support	in relation to a securitisation, means any support that a Reporting Bank provides to a securitisation in excess of its predetermined contractual obligations;
	[MAS Notice 637 (Amendment No. 2) 2017]
	[Insertion of definition of "IMS" effective from 31 Dec 2018]
IMS	means internal measurement system;
initial margin	in relation to exposures to a CCP, means collateral of a clearing member or a client of a clearing member posted to the CCP to mitigate the potential future exposure of the CCP to the clearing member arising from the possible future change in value of their transactions, but shall not include any contribution to a CCP for mutualised loss sharing arrangements. This includes collateral in excess of the minimum amount required, provided the CCP or clearing member may prevent the clearing member or the client of a clearing member from withdrawing such excess collateral;
	[MAS Notice 637 (Amendment) 2012]

[D] For example, the 1992 (Multicurrency-Cross Border) Master Agreement and the 2002 Master Agreement published by the International Swaps & Derivatives Association, Inc. (ISDA Master Agreement). The ISDA Master Agreement includes the ISDA CSA: the 1994 Credit Support Annex (Security Interest – New York Law), or, as applicable, the 1995 Credit Support Annex (Transfer – English Law) and the 1995 Credit Support Deed (Security Interest – English Law).

[MAS Notice 637 (Amendment) 2016]

insurance subsidiary	means – (a) a subsidiary which carries on insurance business as an insurer; (b) a subsidiary which is – (i) a holding company of the subsidiary referred to in sub-paragraph (a); and (ii) subject to specific capital adequacy requirements set out in a direction issued by the Authority under section 28 of the Monetary Authority of Singapore Act; or (c) a subsidiary of the holding company referred to in sub-paragraph (b), which is included by the holding company in its computation of specific capital adequacy requirements set out in a direction issued by the Authority under section 28 of the Monetary Authority of Singapore Act. [MAS Notice 637 (Amendment No. 3) 2017]
internal loss data	in relation to the AMA, means the internal data on operational risk losses;
IOSCO	means the International Organisation of Securities Commissions;
IPRE	means income-producing real estate;
IRBA or internal ratings-based approach	means the approach for calculating credit risk-weighted exposure amounts set out in Division 4 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
IRBA adoption date	means the date from which a Reporting Bank begins using the IRBA for calculating any part of its regulatory capital requirements;
IRBA asset class	means any one of the classes of exposures belonging to the IRBA wholesale asset class, the IRBA retail asset class or the IRBA eligible purchased receivables asset class;
IRBA asset sub-class	in relation to IRBA, means any one of the classes of exposures set out in paragraphs 7.4.15 to 7.4.18;
IRBA eligible purchased receivables asset class	in relation to the IRBA, means the class of exposures comprising eligible purchased receivables exposures;
IRBA exposure	means any exposure for which a Reporting Bank is using the IRBA to calculate its credit risk-weighted exposure amount;

IRBA parameters	means PD, LGD and EAD;
IRBA retail asset class	in relation to the IRBA, means the class of exposures comprising retail exposures;
IRBA wholesale asset class	in relation to the IRBA, means the class of exposures comprising wholesale exposures;
IRBA(EQ) or internal ratings-based approach for equity exposures	means the approach for calculating credit risk-weighted exposure amounts for equity exposures set out in Sub-division 4 of Division 5 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
IRBA(EQ) exposure	means – (a) any equity exposure (excluding equity investments in funds held in the banking book) for which a Reporting Bank is using the IRBA(EQ) to calculate its credit risk-weighted exposure amount; or (b) in the case where the Reporting Bank uses IRBA(EQ) to calculate the credit risk-weighted exposure amount for its equity exposures, any equity investment in funds held in the banking book; [MAS Notice 637 (Amendment No. 3) 2017]
IRB pool or internal ratings-based pool	in relation to a securitisation, means a pool of underlying exposures to a securitisation for which a Reporting Bank has approval from the Authority under sub-division 3 of Division 4 of Part VII, and sufficient information, to calculate capital requirements using the IRBA for all underlying exposures; [MAS Notice 637 (Amendment No. 2) 2017]
IRC or incremental risk charge	means the capital charges on incremental default and credit migration risks of positions which are subject to specific risk;
	[Insertion of definition of "IRRBB" effective from 31 Dec 2018]
IRRBB	means interest rate risk in the banking book;
ISDA	means the International Swaps and Derivatives Association;
IT	means information technology;
JTD or jump to default	means an event where a credit exposure defaults before the market has factored its increased default risk into its current credit spreads;
JTD01	means the estimated decline in the mark-to-market value associated with a JTD of an entity, assuming a zero recovery rate for the entity's liabilities;

LGD or loss given default	in relation to the IRBA, has the meaning in paragraph 3.1 of Annex 7Y of Part VII;
long settlement transaction	means any transaction where a counterparty undertakes to deliver a security, a commodity or a foreign exchange amount against cash, other financial instruments or commodities, or vice versa, at a settlement or delivery date which is contractually specified as more than the lower of the market standard for this particular transaction type and five business days after the date on which the Reporting Bank enters into the transaction;
loss	in relation to the IRBA, means any economic loss on an exposure as described in Annex 7Y of Part VII;
lower level client	in relation to a multi-level client structure, means the financial institution clearing through: (a) a client of a clearing member; or (b) a client of a client of a clearing member; [MAS Notice 637 (Amendment) 2016]
LR or leverage ratio	means the percentage calculated in accordance with paragraph 1.1 of Annex 4A; [MAS Notice 637 (Amendment) 2014]
M or effective maturity	in relation to the IRBA, means the maturity of an exposure, determined in the manner set out in Annex 7Z of Part VII;
main index	means an index which – (a) comprises equities listed on any approved exchange or overseas exchange; and (b) is referenced by futures or options traded on any approved exchange or overseas exchange;
major stake company	in relation to a Reporting Bank, means any company in which the Reporting Bank is deemed, by virtue of section 32(7) of the Banking Act, to hold a major stake;
margin agreement	means any contractual agreement or any terms and conditions of an agreement, where one counterparty has to supply collateral to a second counterparty when an exposure of that second counterparty to the first counterparty exceeds a specified level;
margin lending transaction	means a transaction in which a Reporting Bank extends credit in connection with the purchase, sale, carrying or trading of securities, where the loan amount is collateralised by securities whose value is generally greater than the amount of the loan, and does not include other loans that happen to be collateralised by securities;

margin period of risk	means the time period from the last exchange of collateral covering a netting set of transactions with a defaulting counterparty until that counterparty is closed out and the resulting market risk is re-hedged;
margin threshold	means the largest amount of an exposure that remains outstanding until one party has the right to call for collateral;
market RWA	means the risk-weighted assets for market risks determined in the manner set out in Part VIII;
maturity mismatch	means a situation where the residual maturity of the credit risk mitigant is less than the residual maturity of the underlying credit exposure;
MDB	means a multilateral development bank;
mixed pool	in relation to a securitisation, means a pool of underlying exposures to a securitisation for which a Reporting Bank has approval from the Authority under sub-division 3 of Division 4 of Part VII, and sufficient information, to calculate capital requirements using the IRBA for some, but not all, underlying exposures; [MAS Notice 637 (Amendment No. 2) 2017]
multi-level client structure	means any structure in which clearing services are provided by a financial institution which is not a direct clearing member, but is itself a client of a clearing member or a client of a client of a clearing member; [MAS Notice 637 (Amendment) 2016]
n-th-to-default credit derivative	means a contract where – (a) the payoff is based on the n-th asset to default in a basket of underlying reference instruments; and (b) the transaction terminates and is settled once the n-th default occurs;
netting	means bilateral netting, including – (a) netting by novation, where obligations between two counterparties to deliver a given currency on a given value date under a transaction are automatically amalgamated with all other obligations under other transactions to deliver on the same currency and value date, thereby extinguishing former transactions with a single legally binding new transaction; and (b) close-out netting, where some or all of the ongoing transactions between two counterparties are terminated due to the default of either counterparty or upon the occurrence of a termination event as defined in the netting agreement, whereupon the values of such transactions are combined and reduced to a single payable sum,

	but excluding payments netting which is designed to reduce the operational cost of daily settlements, where the gross obligations of the counterparties are not in any way affected;
netting agreement	means any agreement which effects netting between two counterparties, or any other arrangement to effect netting, which does not contain a walkaway clause[1];
netting set	means a group of transactions between two counterparties that is subject to a qualifying bilateral netting agreement or a qualifying cross-product netting agreement, as the case may be; any transaction which is not subject to a qualifying bilateral netting agreement or a qualifying cross-product netting agreement shall be deemed a netting set;
NICA or net independent collateral amount	means the amount of segregated and unsegregated collateral posted by the counterparty less the unsegregated collateral posted by the Reporting Bank, and in relation to the Independent Amount defined in standard industry documentation, takes into account the differential of Independent Amount required for the Reporting Bank minus Independent Amount required for the counterparty[1A]; [MAS Notice 637 (Amendment) 2016]
NII	[Insertion of definition of "NII" effective from 31 Dec 2018] means net interest income;
ΔNII	[Insertion of definition of "ΔNII" effective from 31 Dec 2018] means change in net interest income under an interest rate stress or shock scenario;
NMDs or non-maturity deposits	[Insertion of definition of "NMDs or non-maturity deposits" effective from 31 Dec 2018] means non-maturing deposits, which are liabilities of a Reporting Bank that have no contractually agreed maturity date and where a depositor is free to withdraw the deposits any time;
OF	means object finance;
offsetting transaction	means the transaction leg between a clearing member and the CCP when the clearing member acts on behalf of a client, for example, when a clearing member clears or novates a client's trade; [MAS Notice 637 (Amendment) 2012]

[1] "Walkaway clause" means any provision which permits a party to a netting agreement that is not in default to make limited payments or no payments at all, to a defaulting party under the same netting agreement, even if the party that is in default is a net creditor under the netting agreement.

[1A] For the avoidance of doubt, NICA represents the amount of collateral that a Reporting Bank may use to offset its exposure on the default of the counterparty, and does not include collateral that the Reporting Bank has posted to a segregated, bankruptcy remote account.

operating entity	means an entity that is conducting business with the intention of earning a profit in its own right; [MAS Notice 637 (Amendment No. 2) 2014]
operational risk	means the risk of loss resulting from – (a) inadequate or failed internal processes; (b) actions or omissions of persons; (c) systems; or (d) external events, including legal risk[1B], but does not include strategic or reputational risk; [MAS Notice 637 (Amendment) 2016]
operational RWA	means the risk-weighted assets for operational risks determined in the manner set out in Part IX;
originator	means – (a) an entity which, either itself or through related entities, directly or indirectly, creates the exposure being securitised[2]; or (b) any entity which sponsors a securitisation, i.e. purchases or advises or causes an SPE to purchase the exposures of a third party, which are then used in a securitisation (for avoidance of doubt, selling credit protection such that the entity or the SPE has a long position in the credit risk of the obligor is equivalent to purchasing exposures) [2A], and includes an ABCP programme sponsor; [MAS Notice 637 (Amendment No. 2) 2017]
ORM framework or operational risk management and measurement framework	means the approach of a Reporting Bank in identifying, assessing, monitoring, controlling and mitigating operational risk and includes the operational risk management processes and measurement systems of the Reporting Bank;
ORMF	means the operational risk management function;

1B Legal risk includes exposures to fines, penalties, or punitive damages resulting from criminal prosecution, regulatory or supervisory actions, as well as such damages or other sums payable resulting from civil claims or settlements.

2 Where an entity lends to an SPE with a view to enabling that SPE to make loans which are then used in a securitisation, the entity will generally be deemed to be acting as an originator.

2A An entity which advises or causes an SPE to purchase the exposures of a third party, which are then used in a securitisation will generally not be deemed to be acting as an originator if –

(a) the entity has not advised or caused the SPE to purchase any exposures which are then used in a securitisation before the date of issue of securities effecting the transfer of credit risk of those exposures to the investors in the securitisation;

(b) the entity will not be liable for any losses incurred by the SPE arising from the exposures (for avoidance of doubt, the entity may still be liable for losses arising from a breach of its fiduciary duties); and

(c) the entity does not undertake to achieve a minimum performance for the exposures.

ORMS or operational risk measurement system	means a subset of the ORM framework and includes the systems and data of a Reporting Bank that are used to measure operational risk. Central to the ORMS is the AMA model that is used by the Reporting Bank to quantify its operational risk capital requirement;
OTC	means over-the-counter;
OTC derivative transaction	means an exchange rate contract, interest rate contract, equity contract, precious metal or other commodity contract or credit derivative contract which is not traded on an exchange; [MAS Notice 637 (Amendment) 2012]
overseas exchange	has the same meaning as in section 2 of the Securities and Futures Act (Cap. 289);
own-estimate haircuts	means haircuts calculated using the internal estimates of the Reporting Bank of market price volatility and foreign exchange volatility, based on an approach that complies with the requirements and meets the guidelines set out in Section 3 of Annex 7J of Part VII;
parameterisation process	means the process by which a Reporting Bank derives estimates of IRBA parameters as set out in Section 5 of Annex 7AB of Part VII;
PD or probability of default	in relation to the IRBA, has the meaning in paragraph 2.1 of Annex 7Y of Part VII;
peak exposure	means a high percentile (typically 95% or 99%) of the distribution of exposures at any particular future date before the maturity date of the longest transaction in the netting set;
PE/VC investments	has the same meaning as defined in MAS Notice 630;
PF	means project finance;
~~preference share~~	~~has the same meaning as in section 4(1) of the Companies Act (Cap. 50);~~
PSE or public sector entity	means – (a) a regional government or local authority that is able to exercise one or more functions of the central government at the regional or local level; (b) an administrative body or non-commercial undertaking responsible to, or owned by, a central government, regional government or local authority, which performs regulatory or non-commercial functions; (c) a statutory board in Singapore (other than the Authority); or

	(d) a town council in Singapore established pursuant to the Town Councils Act (Cap. 392A);
QRRE	means qualifying revolving retail exposures;
qualifying bilateral netting agreement	means a bilateral netting agreement where the requirements set out in Annex 7N of Part VII are complied with;
qualifying cross-product netting agreement	means a cross-product netting agreement where the requirements set out in Annex 7N of Part VII are complied with;
qualifying MDB	means an MDB listed in Annex 7S of Part VII;
qualifying SFT	means an SFT where the requirements set out in Annex 7K of Part VII are complied with;
rating system	in relation to a class of exposures under the IRBA, means all of the methods, processes, controls, data collection and IT systems that support the assessment of credit risk, the assignment of exposures to grades or pools (internal risk ratings), and the parameterisation process for that class of exposures;
recognised ECAI	means an ECAI recognised by the Authority pursuant to paragraph 7.3.53 and listed in Annex 7RA;
	[MAS Notice 637 (Amendment) 2014]
recognised group A exchange	has the same meaning as in regulation 2 of the Securities and Futures (Financial and Margin Requirements for Holders of Capital Markets Services Licenses) Regulations;
reference obligation	means any obligation specified under a credit derivative contract used for purposes of either determining cash settlement value or the deliverable obligation;
repo	means a repurchase transaction;
Reporting Bank	means a bank incorporated in Singapore;
regulated exchange	means an exchange approved, licensed or otherwise regulated by the Authority or by a financial services regulatory authority other than the Authority;
regulatory capital	means capital which is used to meet regulatory requirements;
	[MAS Notice 637 (Amendment No. 2) 2014]

resecuritisation exposure	means a securitisation exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation exposure, and includes an exposure to one or more resecuritisation exposures[2B];
	[MAS Notice 637 (Amendment No. 2) 2017]
retail exposure	in relation to the IRBA, means any exposure which falls within paragraph 7.4.16;
risk charge	in relation to a market risk position, means the percentage assigned to that position to derive the capital requirement;
	[MAS Notice 637 (Amendment No. 2) 2014]
	[Insertion of definition of "risk-free rate" effective from 31 Dec 2018]
risk-free rate	means the interest rate that a Reporting Bank would expect from a risk-free investment for a given maturity;
risk weight	in relation to an exposure, means a degree of risk expressed as a percentage assigned to that exposure;
risk weight function	in relation to the IRBA, means the formula for calculating risk-weighted exposure amounts using estimates of IRBA parameters;
RRE	means residential real estate;
RWA	means risk-weighted assets;
RWE	means risk-weighted exposure;
SA-CCR or standardised approach for counterparty credit risk	means the method for calculating E or EAD, whichever is applicable, for any pre-settlement counterparty exposure arising from OTC derivative or exchange-traded derivative transactions, or long settlement transactions set out in Annex 7O of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
	[MAS Notice 637 (Amendment) 2016]
SA(CR) or standardised approach to credit risk	means the approach for calculating credit risk-weighted exposure amounts set out in Division 3 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;

[2B] An exposure resulting from retranching of a securitisation exposure is not a resecuritisation exposure if the Reporting Bank is able to demonstrate that the cash flows to and from the Reporting Bank could be replicated in all circumstances and conditions by an exposure to the securitisation of a pool of assets that contains no securitisation exposures.

[MAS Notice 637 (Amendment No. 2) 2017]

SA(CR) exposure	means any exposure for which a Reporting Bank is using the SA(CR) to calculate its credit risk-weighted exposure amount;
SA(EQ) or standardised approach for equity exposures	means the approach for calculating credit risk-weighted exposure amounts for equity exposures set out in Sub-division 3 of Division 5 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
SA(EQ) exposure	means – (a) any equity exposure (excluding equity investments in funds held in the banking book) for which a Reporting Bank is using the SA(EQ) to calculate its credit risk-weighted exposure amount; or (b) in the case where the Reporting Bank uses SA(EQ) to calculate the credit risk-weighted exposure amount for its equity exposures, any equity investment in funds held in the banking book; [MAS Notice 637 (Amendment No. 3) 2017]
	[Insertion of definition of "SA(IR)" effective from 31 Dec 2018]
SA(IR)	means the standardised approach for calculating IRRBB as set out in Annex 10B or, if the reference is to any regulatory requirement of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
SA(MR) or standardised approach to market risk	means the approach for calculating market risk capital requirements set out in Division 2 of Part VIII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
SA(OR) or standardised approach to operational risk	means the approach for calculating operational risk capital requirements set out in Division 3 of Part IX or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements;
SA pool or standardised approach pool	in relation to a securitisation, means a pool of underlying exposures to a securitisation for which a Reporting Bank – (a) does not have approval from the Authority to use the IRBA to calculate capital requirements for any underlying exposures or does not have sufficient information to calculate capital requirements using the IRBA for any underlying exposures; or (b) is prohibited by the Authority from treating the pool as a IRB pool or a mixed pool; [MAS Notice 637 (Amendment No. 2) 2017]

SEC-ERBA or securitisation external ratings-based approach	means the approach for calculating credit risk-weighted exposure amounts for securitisation exposures set out in Sub-division 5 of Division 6 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements; [MAS Notice 637 (Amendment No. 2) 2017]
SEC-IRBA or securitisation internal ratings-based approach	means the approach for calculating credit risk-weighted exposure amounts for securitisation exposures set out in Sub-division 4 of Division 6 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements; [MAS Notice 637 (Amendment No. 2) 2017]
SEC-SA or securitisation standardised approach	means the approach for calculating credit risk-weighted exposure amounts for securitisation exposures set out in Sub-division 6 of Division 6 of Part VII or, if the reference is to any regulatory requirements of, or administered by, a bank regulatory agency other than the Authority, the equivalent under those requirements; [MAS Notice 637 (Amendment No. 2) 2017]
securities	means – (a) any securities as defined in section 2 of the Securities and Futures Act (Cap. 289); (b) any specified securities-based derivatives contracts as defined in section 2 of the Securities and Futures Act (Cap. 289); or (c) any units in a collective investment scheme; [MAS Notice 637 (Amendment) 2018]
securities firm	means – (a) any entity holding a capital markets services licence under section 84(1) of the Securities and Futures Act (Cap. 289); or (b) any entity that is approved, licensed, registered or otherwise regulated by a regulatory agency other than the Authority to carry out activities permitted under a capital markets services licence under section 84(1) of the Securities and Futures Act (Cap. 289);
securitisation	means any transaction or scheme involving the tranching of credit risk associated with an exposure or a pool of exposures and which has the following characteristics: (a) payments in the transaction or scheme depend on the performance of the exposure or pool of exposures; (b) the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme; and

	(c) junior tranches can absorb losses without interrupting contractual payments to more senior tranches;
securitisation exposure	means any exposure of a Reporting Bank to a securitisation, and includes – (a) any on-balance sheet exposure to securities issued pursuant to a securitisation (e.g. asset-backed securities, mortgage-backed securities and collateralised debt obligations), regardless of whether it was retained by the Reporting Bank at, or repurchased by the Reporting Bank after, the origination of the securitisation; (b) any off-balance sheet exposure to a securitisation (e.g. through credit enhancements, liquidity facilities, credit derivatives, tranched cover, interest rate swaps or currency swaps); and (c) reserve accounts (e.g. cash collateral accounts) recorded as an asset by the originating bank; [MAS Notice 637 (Amendment No. 2) 2017]
securitised exposure	means an exposure, securitised by a Reporting Bank in its capacity as originator or ABCP programme sponsor, that forms an underlying exposure of a securitisation;
segmentation	in relation to retail exposures, means the process by which a Reporting Bank aggregates retail exposures into homogenous pools;
senior securitisation exposure	in relation to a securitisation, is an exposure to a senior securitisation tranche; [MAS Notice 637 (Amendment No. 2) 2017]
senior securitisation tranche	in relation to a securitisation, is a tranche that is effectively backed or secured by a first claim on the cash flows from the underlying exposures[3]; [MAS Notice 637 (Amendment No. 2) 2017]

3 While this generally includes only the most senior securities issued pursuant to a securitisation, in some instances there may be other claims that may be more senior in the cash flow waterfall (e.g. a swap claim) but may be disregarded for the purpose of determining which tranches are senior. Different maturities of several senior tranches that share pro rata loss allocation shall have no effect on the seniority of these tranches, since they benefit from the same level of credit enhancement. The material effects of differing tranche maturities are captured by maturity adjustments on the risk weights to be assigned to the securitisation exposures. If a senior tranche is retranched or partially hedged (i.e. not on a pro rata basis), only the new most senior tranche would be treated as senior for capital purposes.

[MAS Notice 637 (Amendment No. 2) 2017]

servicer	means a Reporting Bank which carries out administrative functions relating to the cash flows of the underlying exposure or pool of exposures of a securitisation, including setting up and operating the mechanism for collecting payments of interest or principal derived from the underlying exposures and channeling these funds to the investors or the trustee representing them, customer service, cash management, maintenance of records and reporting duties;
SFT	means a securities or commodities financing transaction comprising any one of the following: (a) a repo or a reverse repo; (b) a securities or commodities lending transaction or securities or commodities borrowing transaction; (c) a margin lending transaction, for which the value of the transaction depends on market valuation and the transaction is often subject to margin agreements; [MAS Notice 637 (Amendment) 2012]
SL	means specialised lending;
small business	means a corporation, partnership, limited liability partnership, sole proprietorship or trustee in respect of a trust with reported annual sales of less than $100 million; [MAS Notice 637 (Amendment) 2012]
SPE or special purpose entity	means a corporation, trust, or other entity established for a specific purpose, the activities of which are limited to those appropriate to accomplish that purpose, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures;
specific allowance	means loss allowance for credit exposures that fall within the definition of "credit-impaired financial asset" under FRS 109; [MAS Notice 637 (Amendment No. 3) 2017]
specific wrong-way risk	means the risk that arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with that counterparty; [MAS Notice 637 (Amendment) 2014]
structured note	has the same meaning as in section 240AA(5) of the Securities and Futures Act (Cap. 289); [MAS Notice 637 (Amendment) 2018]

subsidiary	has the same meaning as in section 5 of the Companies Act (Cap. 50);
supervisory slotting criteria	in relation to the IRBA, means the method of calculating risk-weighted exposure amounts for exposures in the SL asset sub-class or the HVCRE asset sub-class in accordance with Sub-division 12 of Division 4 of Part VII and Annex 7V of Part VII;
supervisory validation	means the process by which the Authority examines the readiness of a Reporting Bank for adopting the IRBA or the AMA, as the case may be, for the purpose of deciding whether the Reporting Bank may begin a recognised parallel run;
synthetic securitisation	means a structure with at least two different tranches which reflect different degrees of credit risk, where credit risk of an underlying exposure or pool of exposures is transferred, in whole or in part, through the use of funded or unfunded credit derivatives or guarantees;
	[Insertion of definition of "TDRR" effective from 31 Dec 2018]
TDRR	means term deposit redemption rate;
TEP or total eligible provisions	means the sum of all allowances, including specific allowances, partial write-offs, portfolio-specific general allowances such as country risk allowances and general allowances, which are attributed to credit exposures subject to the IRBA, and includes any discounts on defaulted assets, but excludes any CVA which has already been recognised by the Reporting Bank as an incurred write-down (i.e. a CVA loss);
the Authority	means the Monetary Authority of Singapore established under the Monetary Authority of Singapore Act (Cap. 186);
Tier 1 Capital	in relation to a Reporting Bank or subsidiary of the Reporting Bank, means the sum of CET1 Capital and AT1 Capital; [MAS Notice 637 (Amendment No. 2) 2014]
Tier 1 CAR	means Tier 1 capital adequacy ratio, calculated in accordance with paragraph 4.1.2;
Tier 2 Capital	means - (a) in relation to a Reporting Bank, the sum of the items set out in paragraph 6.3.1; and (b) in relation to a subsidiary of a Reporting Bank, the sum of items set out in paragraph 6.3.1, where a reference to "Reporting Bank" shall be construed as a reference to "the subsidiary of the Reporting Bank"; [MAS Notice 637 (Amendment No. 2) 2014]

Tier 2 capital instrument	means a capital instrument which complies with the requirements set out in paragraph 6.3.2;
Total CAR	means total capital adequacy ratio, calculated in accordance with paragraph 4.1.3;
	[Insertion of definition of "TLAC or Total Loss-absorbing Capacity holding" effective from 1 Jan 2019]
TLAC or Total Loss-absorbing Capacity holding	means TLAC-eligible instruments as set out in the FSB TLAC Term Sheet;
trading book	has the meaning in Sub-division 3 of Division 1 of Part VIII;
traditional securitisation	means a structure where the cash flow from an underlying exposure or pool of exposures is used to service at least two different tranches reflecting different degrees of credit risk;
tranche	means a contractually established segment of the credit risk associated with an underlying exposure or pool of exposures, where a position in the segment entails a risk of credit loss greater than or less than a position of the same amount in each other such segment, without taking account of credit protection provided by third parties directly to the holders of positions in the segment or in other segments;
	[Insertion of definition of "uncompensated prepayments" effective from 31 Dec 2018]
uncompensated prepayments	means any prepayment of a loan, or any part of it, for which the economic cost is not charged to the borrower;
unconsolidated subsidiary	means a subsidiary whose assets and liabilities are not included in the consolidated financial statements of the banking group;
unconsolidated financial institution	means a financial institution whose assets and liabilities are not included in the consolidated financial statements of the banking group; [MAS Notice 637 (Amendment) 2016]
unconsolidated major stake company	means a major stake company whose assets and liabilities are not included in the consolidated financial statements of the banking group; [MAS Notice 637 (Amendment) 2016]
unfunded credit protection	means a CRM where the reduction of the credit risk of an exposure of a Reporting Bank is derived from the undertaking of a third party to pay an amount in the event of the default of a counterparty or on the occurrence of other specified events;
unrated	in relation to any exposure, means that the exposure does not have an external credit assessment from a recognised ECAI;

USD	means the United States dollar;
VaR or value-at-risk	means the maximum amount that can be lost from an investment or a portfolio of investments under normal market conditions over a given holding period at a particular confidence interval;
variation margin	in relation to exposures to a CCP, means funded collateral of a clearing member or a client of a clearing member posted on a daily or intraday basis to a CCP based on price movements of the transactions of the clearing member or the client of a clearing member; [MAS Notice 637 (Amendment) 2012] [MAS Notice 637 (Amendment) 2016]
wholesale exposure	in relation to the IRBA, means an exposure that falls within the definition in paragraph 7.4.15; and
written law	has the same meaning as in section 2 of the Interpretation Act.

[MAS Notice 637 (Amendment No. 2) 2017]
[MAS Notice 637 (Amendment No. 3) 2017]
[MAS Notice 637 (Amendment) 2018]

Amendments to Part IV

PART IV: CAPITAL ADEQUACY RATIOS AND LEVERAGE RATIO

Amendments to Annex 4A

Section 2: EM

Derivative Transactions

2.7 For a derivative transaction that is not covered by a qualifying bilateral netting agreement, a Reporting Bank shall calculate its exposure measure in respect of the derivative transaction by adding -

(a) the replacement cost[24] as set out in paragraph 1.1(a) of Annex 7O of MAS Notice 637 in force immediately before 1 January 2017 (except that the references to "OTC derivative transaction" shall be replaced by "derivative transaction"); and

(b) the amount for potential future exposure as set out in paragraph 1.1(b) of Annex 7O of MAS Notice 637 in force immediately before 1 January 2017 (except that the references to "OTC derivative transaction" shall be replaced by "derivative transaction").

2.8 For a derivative transaction that is covered by a qualifying bilateral netting agreement, a Reporting Bank shall calculate its exposure measure in respect of the derivative transaction by adding -

(a) the net replacement cost[24] as set out in paragraph 1.2(a) of Annex 7O of MAS Notice 637 in force immediately before 1 January 2017 (except that the reference to "OTC derivative transactions" shall be replaced by "derivative transactions"); and

(b) an add-on, "A_{Net}", for the potential future exposure as set out in paragraphs 1.2(b) and 1.3 of Annex 7O of MAS Notice 637 in force immediately before 1 January 2017 (except that the reference to "OTC derivative transactions" shall be replaced by "derivative transactions").

[24] Where there is no accounting measure of exposure for certain derivative instruments because they are held completely off-balance sheet, the Reporting Bank shall use the sum of positive fair values of these derivative instruments as the replacement cost.

Amendments to Part VI [All amendments to Part VI are effective from 1 Jan 2019]

PART VI: DEFINITION OF CAPITAL

Amendments to Paragraph 6.1.3

Division 1: Common Equity Tier 1 Capital

Regulatory Adjustments Applied in the Calculation of CET1 Capital

6.1.3 A Reporting Bank shall apply the following regulatory adjustments in the calculation of CET1 Capital at the Solo or Group level, as the case may be:

[MAS Notice 637 (Amendment No. 2) 2014]

(a) goodwill, including any goodwill included in the valuation of investments in unconsolidated major stake companies, shall be deducted in the calculation of CET1 Capital.[33] The full amount representing goodwill shall be deducted, net of any associated deferred tax liability that would be extinguished if the goodwill becomes impaired or is derecognised under the Accounting Standards;

[MAS Notice 637 (Amendment No. 2) 2014]
[MAS Notice 637 (Amendment) 2016]

(b) intangible assets, including but not limited to copyright, patents and other intellectual property, shall be deducted in the calculation of CET1 Capital. The full amount representing intangible assets shall be deducted, net of any associated deferred tax liability that would be extinguished if the intangible assets become impaired or are derecognised under the Accounting Standards;

[MAS Notice 637 (Amendment No. 2) 2014]

(c) deferred tax assets that rely on the future profitability of the Reporting Bank or any banking group entity to be realised shall be deducted in the calculation of CET1 Capital.[34]

[33] For the avoidance of doubt, goodwill included in the carrying amount of associates accounted for using the equity method shall be deducted from CET1 Capital at the Group level. Such goodwill shall be calculated by separating any excess of the acquisition cost over the Reporting Bank's share of the net fair value of the identifiable assets and liabilities of the entity.

[34] An overinstallment of tax or current year tax losses carried back to prior years may give rise to a claim or receivable from the government or relevant tax authority. Such amounts are usually classified as current tax assets for accounting purposes. As the recovery of such a claim or receivable does not rely on the future profitability of the Reporting Bank or any banking group entity, it shall be assigned the relevant sovereign risk-weighting.

At the Solo level, deferred tax assets may be netted with associated deferred tax liabilities prior to being deducted in the calculation of CET1 Capital, only if offsetting is permitted by the relevant tax authority. The deferred tax liabilities permitted to be netted against deferred tax assets shall exclude amounts that have been netted against the deduction of goodwill, intangible assets and defined benefit pension assets pursuant to sub-paragraphs (a), (b) and (h) respectively of this paragraph.

The Reporting Bank shall not permit the following for the purposes of calculating CET1 CAR, Tier 1 CAR or Total CAR at the Group level:

(i) intra-entity netting of deferred tax assets against deferred tax liabilities for any banking group entity incorporated or established outside Singapore; and

(ii) inter-entity netting of deferred tax assets against deferred tax liabilities.

However, the Authority may permit sub-paragraphs (i) and (ii) above if the Reporting Bank confirms in writing to the Authority that the deferred tax assets and deferred tax liabilities relate to taxes levied by the same tax authority, and that it has received written opinions from external auditors and legal advisors that the relevant tax authorities allow or would allow, deferred tax assets to be offset against the deferred tax liabilities. For the avoidance of doubt, the deferred tax liabilities permitted to be netted against deferred tax assets shall exclude amounts that have been netted against the deduction of goodwill, intangible assets and defined benefit pension assets pursuant to sub-paragraphs (a), (b) and (h) respectively of this paragraph;

(d) the amount of cash flow hedge reserve that relates to the hedging of items that are not fair valued on the balance sheet, including projected cash flows, shall be derecognised in the calculation of CET1 Capital. In this regard, positive amounts shall be deducted, and negative amounts shall be added back[35];

(e) in the case where the Reporting Bank has adopted the IRBA, any shortfall of the TEP relative to the EL amount shall be deducted in the calculation of CET1 Capital. The full amount shall be deducted, and shall not be reduced by any tax effects that could be expected to occur if provisions were to rise to the level of EL amount;

(f) any increase in equity resulting from a securitisation transaction, such as that which is associated with expected future margin income resulting in a gain-on-sale, shall be deducted in the calculation of CET1 Capital;

[MAS Notice 637 (Amendment No. 2) 2014]

[35] This adjustment specifically identifies and removes the element of the cash flow hedge reserve that gives rise to artificial volatility in common equity, as the reserve only reflects the fair value of the derivative, and not the change in the fair value of the hedged future cash flow.

(fa) any exposures to credit-enhancing interest-only strips, net of:

(i) specific allowances attributable to such exposures; and

(ii) the amount that shall be deducted in the calculation of CET1 Capital under sub-paragraph (f) that is attributable to such exposures;

shall be deducted in the calculation of CET1 Capital;

[MAS Notice 637 (Amendment No. 2) 2017]
[MAS Notice 637 (Amendment No. 3) 2017]

(g) all unrealised fair value gains or losses on financial liabilities arising from changes in the credit risk of the Reporting Bank or any banking group entity shall be derecognised in the calculation of CET1 Capital. In this regard, positive amounts shall be deducted, and negative amounts shall be added back. In addition, all accounting valuation adjustments on derivative liabilities arising from changes in the credit risk of the Reporting Bank or any banking group entity shall be derecognised in the calculation of CET1 Capital. The offsetting between valuation adjustments arising from changes in the credit risk of the Reporting Bank or any banking group entity and those arising from changes in the credit risk of the counterparties shall not be allowed. In addition, any funding valuation adjustment applied by a Reporting Bank or any banking group entity shall not have the effect of offsetting or reducing its unrealised fair value gains or losses on financial liabilities or accounting valuation adjustments on derivative liabilities arising from changes in the credit risk of the Reporting Bank or any banking group entity, for the purpose of calculating the amount to be derecognised in the calculation of CET1 Capital;

[MAS Notice 637 (Amendment) 2016]

(h) any defined benefit pension fund liabilities, as included in the balance sheet, shall be fully recognised in the calculation of CET1 Capital. For each defined benefit pension fund that is an asset on the balance sheet, the asset shall be deducted in the calculation of CET1 Capital net of any associated deferred tax liabilities which would be extinguished if the asset becomes impaired or derecognised under the Accounting Standards. Assets in the fund to which the Reporting Bank has unrestricted and unfettered access may, with the prior approval of the Authority, offset the deduction. Such offsetting assets shall be given the risk weight they would receive if they were owned directly by the Reporting Bank[36];

[36] This adjustment addresses the concern that assets arising from pension funds may not be capable of being withdrawn and used for the protection of depositors and other creditors of the Reporting Bank. The concern is that their only value stems from a reduction in future payments into the fund. The treatment allows the Reporting Bank to reduce the deduction of the assets if it can address these concerns and show that the assets can be easily and promptly withdrawn from the fund.

(i) all investments in the Reporting Bank's own ordinary shares (including treasury shares, where applicable), whether held directly or indirectly[37] by the Reporting Bank or any of its banking group entities, shall be deducted in the calculation of CET1 Capital, unless already derecognised under the Accounting Standards.[38] If the Reporting Bank or any of its banking group entities is contractually obliged to purchase any of its own ordinary shares, the Reporting Bank shall deduct such ordinary shares in the calculation of CET1 Capital. This adjustment shall apply to exposures in both the banking book and trading book.[39]

Gross long positions may be deducted net of short positions in the same underlying exposure, only if the short positions involve no counterparty credit risk. The Reporting Bank shall look through holdings of index securities to deduct exposures to its own ordinary shares.[40] However, gross long positions in its own ordinary shares resulting from holdings of index securities may be netted against short positions in its own ordinary shares, which result from short positions in the same underlying index[41];

[MAS Notice 637 (Amendment No. 2) 2014]

(j) reciprocal cross holdings in the ordinary share capital of financial institutions that are designed to artificially inflate the capital position of the Reporting Bank shall be deducted in the calculation of CET1 Capital;

(k) [Deleted by MAS Notice 637 (Amendment) 2016]

(l) PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630 shall be deducted in the calculation of CET1 Capital, unless otherwise approved by the Authority;

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37 Indirect holdings are exposures or parts of exposures that, if a direct holding loses its value, will result in a loss to the Reporting Bank substantially equivalent to the loss in value of the direct holding.

38 This deduction is to avoid the double counting of the Reporting Bank's own capital that arises from direct holdings, indirect holdings via index funds and potential future holdings as a result of contractual obligations to purchase own shares.

39 For the avoidance of doubt, this adjustment does not cover ordinary shares held by the Reporting Bank or any of its banking group entities where:
(a) the investments in the ordinary shares are funded by third parties other than the Reporting Bank or any of its banking group entities (e.g. life insurance policyholders or other third party investors);
(b) the risks and rewards associated with the investments in ordinary shares are borne primarily by the third parties; and
(c) decisions to transact in the ordinary shares are made independently from the issuer of the capital instruments and in the interests of the third parties.

40 If the Reporting Bank finds it operationally burdensome to look through and monitor its exact exposure to its own capital as a result of its holdings of index securities, the Reporting Bank may, with the prior approval of the Authority, use a conservative estimate. The methodology for the estimate should demonstrate that in no case will the actual exposure be higher than the estimated exposure.

41 In such cases, the short positions may involve counterparty credit risk, which will be subject to the relevant counterparty credit risk charge.

42 [Deleted by MAS Notice 637 (Amendment) 2016]

(m) the full amount of capital deficits in subsidiaries that are financial institutions and that are subject to minimum prudential standards and supervision by a regulatory agency, and the pro-rata share of capital deficits in associates that are financial institutions and that are subject to minimum prudential standards and supervision by a regulatory agency, shall be deducted in the calculation of CET1 Capital. In the event that a recapitalisation plan is in place or an irrevocable commitment has been given by other shareholders to make up the capital deficit, the Authority may approve a corresponding reduction in the amount of deductions in respect of such capital deficits;

(n) valuation adjustments made in accordance with Annex 8N that exceed the valuation adjustments made under financial reporting standards shall be deducted in the calculation of CET1 Capital;

(o) certain investments in the ordinary shares of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake, shall be deducted in the calculation of CET1 Capital, in accordance with sub-paragraphs (i) and (ii) below:

(i) the amount of such investments to be deducted in the calculation of CET1 Capital shall be the proportion of ordinary share holdings to total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv), multiplied by the amount by which total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) in aggregate and on a net long basis exceed 10% of the Reporting Bank's common equity. In this sub-paragraph, the Reporting Bank's common equity for the purpose of calculating the 10% threshold shall be calculated after applying the regulatory adjustments set out in sub-paragraphs (a) to (n) above to the sum of the elements set out in paragraphs 6.1.1(a) to (f);

(ii) the total ~~capital~~ holdings of capital instruments and other TLAC liabilities and ordinary share holdings referred to in sub-paragraph (i) above shall be calculated as follows:

(A) direct, indirect[37] and synthetic holdings of capital instruments and other TLAC liabilities shall be included. For example, the Reporting Bank shall look through holdings of index securities to determine the underlying holdings of capital and other TLAC liabilities[43];

[43] If the Reporting Bank finds it operationally burdensome to look through and monitor its exact exposure to the capital or other TLAC liabilities of such entities as a result of its holdings of index securities, the Reporting Bank may, with the prior approval of the Authority, use a conservative estimate. The methodology for the estimate should demonstrate that in no case will the actual exposure be higher than the estimated exposure.

(B) the net long positions in both the banking book and trading book shall be included. In this regard, the gross long position can be offset against the short position in the same underlying exposure, if the maturity of the short position either matches the maturity of the long position, or has a residual maturity of at least one year[44,45,46]. For other TLAC liabilities, it is the gross long position that is to be included in paragraphs 6.3.3(d)(iii) to (iv) and the net long position that is to be included in paragraphs 6.1.3(o)(i) to (ii);

(C) underwriting positions in capital instruments or other TLAC liabilities held for a period longer than five working days shall be included, while those positions held for five working days or less can be excluded;

(D) if the capital instrument of the entity in which the Reporting Bank has invested does not meet the criteria for CET1 Capital, AT1 Capital or Tier 2 Capital of the Reporting Bank, the capital instrument is to be considered as ordinary shares for the purpose of this regulatory adjustment[47];

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44 For positions in the trading book, if the Reporting Bank has a contractual right or obligation to sell a long equity position at a specific point in time and the counterparty in the contract has an obligation to purchase the long equity position if the Reporting Bank exercises its right to sell, this point in time may be treated as the maturity of the long position, and the maturity of the long and short positions are deemed to be matched.

45 For a position hedged against market risk where the hedge does not qualify to offset the gross long position for the purpose of determining the amount to be deducted, the Reporting Bank may choose to include the long position in its calculation of market RWA, in addition to deducting the long position. Where the hedge qualifies to offset the gross long position, the Reporting Bank may choose to exclude both positions from its calculation of market RWA.

46 Where a Reporting Bank uses a short position in an index to hedge a long position, the portion of the index that is composed of the same underlying exposure that is being hedged may be used to offset the long position only if (a) both positions are held in the trading book; (b) the positions are accounted for at fair value; and (c) the hedge is recognised as effective under the Reporting Bank's internal control processes, as assessed by the Authority.

47 For the avoidance of doubt,

(a) a capital instrument would be deemed to have met the criteria for CET1 Capital, AT1 Capital or Tier 2 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards;

(b) if the entity in which the Reporting Bank has invested is a financial institution that is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not included as regulatory capital of the entity, the investment can be excluded for the purpose of this regulatory adjustment; and

[MAS Notice 637 (Amendment) 2016]

(c) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares but is nevertheless recognised as Tier 1 capital (or its equivalent) or Tier 2 capital (or its equivalent) of the entity, the capital instrument shall be considered as an AT1 capital instrument or Tier 2 capital instrument, respectively, for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

(E) the maximum amount that could be paid out on any guarantee or capital enhancement, through which capital support is provided by the Reporting Bank to a financial institution shall be included. The Reporting Bank shall consult the Authority if there is uncertainty whether such guarantee or capital enhancement is to be considered as ordinary shares for the purpose of the regulatory adjustment; and

(F) certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution may be temporarily excluded with the approval of the Authority; and

(iii) the amount of total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) that do not exceed the 10% threshold calculated in accordance with sub-paragraph (i) above and are not deducted shall continue to be risk-weighted[48]. For the application of risk-weighting, the amount of the holdings shall be allocated on a pro rata basis between those below and those above the threshold;

[MAS Notice 637 (Amendment) 2016]

(p) certain investments in the ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries at the Solo and Group levels), shall be deducted in the calculation of CET1 Capital, in accordance with sub-paragraphs (i) and (ii) below, unless a deduction has been made pursuant to sub-paragraph (l) above:

(i) the amount of such investments to be deducted in the calculation of CET1 Capital shall be the amount by which such investments in aggregate exceed the threshold amount. In this sub-paragraph, the threshold amount is the lower of[49]:

(A) 10% of the Reporting Bank's common equity, calculated by applying the regulatory adjustments set out in sub-paragraphs (a) to (o) above to the sum of elements set out in paragraph 6.1.1(a) to (f); and

(B) 15% of the Reporting Bank's CET1 Capital[50];

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[48] Capital instruments in the banking book and trading book will thus be subject to the appropriate capital treatment as set out in Part VII and Part VIII, respectively.

[49] For the period from 1 January 2013 to 31 December 2017, the threshold amount is based on sub-paragraph (A) only. The requirement to calculate the threshold amount based on the lower of sub-paragraph (A) and sub-paragraph (B) will take effect from 1 January 2018.

[50] This is equivalent to 17.65% of the Reporting Bank's common equity after (a) applying all regulatory adjustments set out in paragraphs 6.1.3(a) to (o); and (b) deducting in full such investments described in paragraph 6.1.3(p)(ii).

(ii) the investments in aggregate referred to in sub-paragraph (i) above shall be calculated as follows:

(A) direct, indirect[37] and synthetic holdings shall be included. For example, the Reporting Bank shall look through holdings of index securities to determine the underlying holdings of ordinary shares[43];

(B) the net long positions in both the banking book and trading book shall be included. In this regard, the gross long position can be offset against the short position in the same underlying exposure, if the maturity of the short position either matches the maturity of the long position or has a residual maturity of at least one year[44,45,46];

(C) underwriting positions held for a period longer than five working days shall be included, while those positions held for five working days or less can be excluded;

(D) if the capital instrument of the entity in which the Reporting Bank has invested does not meet the criteria for CET1 Capital, AT1 Capital or Tier 2 Capital of the Reporting Bank, the capital instrument is to be considered as ordinary shares for the purpose of this regulatory adjustment[50A];

(E) the maximum amount that could be paid out on any guarantee or capital enhancement, through which capital support is provided by the Reporting Bank to a financial institution shall be included. The Reporting Bank shall consult the Authority if there is uncertainty whether such guarantee or capital enhancement is to be considered as ordinary shares for the purpose of the regulatory adjustment; and

(F) certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution may be temporarily excluded with the approval of the Authority; and

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50A For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for CET1 Capital, AT1 Capital or Tier 2 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards;
(b) if the entity in which the Reporting Bank has invested is a financial institution that is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not included as regulatory capital of the entity, the investment can be excluded for the purpose of this regulatory adjustment; and
(c) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares but is nevertheless recognised as Tier 1 capital (or its equivalent) or Tier 2 capital (or its equivalent) of the entity, the capital instrument shall be considered as an AT1 capital instrument or Tier 2 capital instrument, respectively, for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

(iii) the amounts of such investments that do not exceed the thresholds set out in sub-paragraph (i) above and are not deducted shall be risk-weighted at 250%;

[MAS Notice 637 (Amendment No. 2) 2014]
[MAS Notice 637 (Amendment) 2016]

(q) any other item or class of items which the Authority may specify in writing to the Reporting Bank for the purpose of this paragraph; and

(r) in the case where the Reporting Bank does not have enough AT1 Capital to satisfy the required deductions set out in paragraph 6.2.3, the shortfall shall be deducted in the calculation of CET1 Capital.

Amendments to Paragraph 6.2.3

Division 2: Additional Tier 1 Capital

Regulatory Adjustments Applied in the Calculation of AT1 Capital

6.2.3 A Reporting Bank shall apply the following regulatory adjustments in the calculation of AT1 Capital at the Solo or Group level, as the case may be:

[MAS Notice 637 (Amendment No. 2) 2014]

(a) all investments in the Reporting Bank's own AT1 capital instruments, whether held directly or indirectly[37] by the Reporting Bank or any of its banking group entities, shall be deducted in the calculation of AT1 Capital, unless already derecognised under the Accounting Standards. If the Reporting Bank or any of its banking group entities is contractually obliged to purchase any of its own AT1 capital instruments, the Reporting Bank shall deduct such AT1 capital instruments in the calculation of AT1 Capital. This adjustment shall apply to exposures in both the banking book and trading book.[63]

[63] For the avoidance of doubt, this adjustment does not cover AT1 capital instruments held by the Reporting Bank or any of its banking group entities where:
(a) the investments in the AT1 capital instruments are funded by third parties other than the Reporting Bank or any of its banking group entities (e.g. life insurance policyholders or other third party investors);
(b) the risks and rewards associated with the investments in AT1 capital instruments are borne primarily by the third parties; and
(c) decisions to transact in the AT1 capital instruments are made independently from the issuer of the capital instruments and in the interests of the third parties.

Gross long positions may be deducted net of short positions in the same underlying exposure, only if the short positions involve no counterparty credit risk. The Reporting Bank shall look through holdings of index securities to deduct exposures to its own AT1 capital instruments.[40] However, gross long positions in its own AT1 capital instruments resulting from holdings of index securities may be netted against short positions in its own AT1 capital instruments, which result from short positions in the same underlying index[41];

[MAS Notice 637 (Amendment) 2014]
[MAS Notice 637 (Amendment No. 2) 2014]

(b) reciprocal cross holdings in the AT1 capital instruments[63A] of financial institutions that are designed to artificially inflate the capital position of the Reporting Bank shall be deducted in the calculation of AT1 Capital;

(c) [Deleted by MAS Notice 637 (Amendment) 2016]

(d) certain investments in the AT1 capital instruments of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake, shall be deducted in the calculation of AT1 Capital[64A], in accordance with sub-paragraphs (i) and (ii) below:

63A For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for AT1 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards; and
(b) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares but is nevertheless recognised as Tier 1 capital (or its equivalent) of the entity, the capital instrument shall be considered as an AT1 capital instrument for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

64 [Deleted by MAS Notice 637 (Amendment) 2016]

65 [Deleted by MAS Notice 637 (Amendment) 2016]

64A For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for AT1 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards;
(b) if the entity in which the Reporting Bank has invested is a financial institution that is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not included as regulatory capital of the entity, the investment can be excluded for the purpose of this regulatory adjustment; and
(c) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares but is nevertheless recognised as Tier 1 capital (or its equivalent) of the entity, the capital instrument shall be considered as an AT1 capital instrument for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

(i) the amount of such investments to be deducted in the calculation of AT1 Capital shall be the proportion of AT1 capital instrument holdings to total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv), multiplied by the amount by which total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) in aggregate and on a net long basis exceed 10% of the Reporting Bank's common equity. In this sub-paragraph, the Reporting Bank's common equity for the purpose of calculating the 10% threshold shall be calculated in accordance with paragraph 6.1.3(o)(i) and the AT1 capital instrument holdings shall be calculated as follows:

(A) direct, indirect[64B] and synthetic holdings of capital instruments shall be included. For example, the Reporting Bank shall look through holdings of index securities to determine the underlying holdings of capital[64C];

(B) the net long positions in both the banking book and trading book shall be included. In this regard, the gross long position can be offset against the short position in the same underlying exposure, if the maturity of the short position either matches the maturity of the long position, or has a residual maturity of at least one year[64D,64E,64F];

(C) underwriting positions held for a period longer than five working days shall be included, while those positions held for five working days or less can be excluded; and

[64B] Indirect holdings are exposures or parts of exposures that, if a direct holding loses its value, will result in a loss to the Reporting Bank substantially equivalent to the loss in value of the direct holding.
[MAS Notice 637 (Amendment) 2016]

[64C] If the Reporting Bank finds it operationally burdensome to look through and monitor its exact exposure to the capital of such entities as a result of its holdings of index securities, the Reporting Bank may, with the prior approval of the Authority, use a conservative estimate. The methodology for the estimate should demonstrate that in no case will the actual exposure be higher than the estimated exposure.
[MAS Notice 637 (Amendment) 2016]

[64D] For positions in the trading book, if the Reporting Bank has a contractual right or obligation to sell a long equity position at a specific point in time and the counterparty in the contract has an obligation to purchase the long equity position if the Reporting Bank exercises its right to sell, this point in time may be treated as the maturity of the long position, and the maturity of the long and short positions are deemed to be matched.
[MAS Notice 637 (Amendment) 2016]

[64E] For a position hedged against market risk where the hedge does not qualify to offset the gross long position for the purpose of determining the amount to be deducted, the Reporting Bank may choose to include the long position in its calculation of market RWA, in addition to deducting the long position. Where the hedge qualifies to offset the gross long position, the Reporting Bank may choose to exclude both positions from its calculation of market RWA.
[MAS Notice 637 (Amendment) 2016]

[64F] Where a Reporting Bank uses a short position in an index to hedge a long position, the portion of the index that is composed of the same underlying exposure that is being hedged may be used to offset the long position only if (a) both positions are held in the trading book; (b) the positions are accounted for at fair value; and (c) the hedge is recognised as effective under the Reporting Bank's internal control processes, as assessed by the Authority.
[MAS Notice 637 (Amendment) 2016]

(D) certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution may be temporarily excluded with the prior approval of the Authority;

[MAS Notice 637 (Amendment) 2016]

(ii) the total ~~capital~~ holdings of capital instruments and other TLAC liabilities referred to in sub-paragraph (i) above shall be calculated in accordance with paragraph 6.1.3(o)(ii); and

(iii) the amount of total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) that do not exceed the 10% threshold calculated in accordance with paragraph 6.1.3(o)(i) and are not deducted shall continue to be risk-weighted[48]. For the application of risk-weighting, the amount of the holdings shall be allocated on a pro rata basis between those below and those above the threshold;

[MAS Notice 637 (Amendment) 2016]

(e) investments in the AT1 capital instruments of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries at the Solo and Group levels), shall be deducted in the calculation of AT1 Capital[64G]. The total of such investments shall be calculated as follows:

(i) direct, indirect[37] and synthetic holdings shall be included. For example, the Reporting Bank shall look through holdings of index securities to determine the underlying holdings of AT1 capital instruments[43];

(ii) the net long positions in both the banking book and trading book shall be included. In this regard, the gross long position can be offset against the short position in the same underlying exposure, if the maturity of the short position either matches the maturity of the long position or has a residual maturity of at least one year[44,45,46];

[64G] For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for AT1 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards;
(b) if the entity in which the Reporting Bank has invested is a financial institution that is subject to minimum prudential standards and supervision by a regulatory agency and if the investment is not included as regulatory capital of the entity, the investment can be excluded for the purpose of this regulatory adjustment; and
(c) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares but is nevertheless recognised as Tier 1 capital (or its equivalent) of the entity, the capital instrument shall be considered as an AT1 capital instrument for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

(iii) underwriting positions held for a period longer than five working days shall be included, while those positions held for five working days or less can be excluded; and

(iv) certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution may be temporarily excluded with the approval of the Authority;

[MAS Notice 637 (Amendment No. 2) 2014]
[MAS Notice 637 (Amendment) 2016]

(f) any other item or class of items which the Authority may specify in writing to the Reporting Bank for the purpose of this paragraph; and

(g) in the case where the Reporting Bank does not have enough Tier 2 Capital to satisfy the required deductions set out in paragraph 6.3.3, the shortfall shall be deducted in the calculation of AT1 Capital.

Amendments to Paragraph 6.3.3

Division 3: Tier 2 Capital

Regulatory Adjustments Applied in the Calculation of Tier 2 Capital

6.3.3 A Reporting Bank shall apply the following regulatory adjustments in the calculation of Tier 2 Capital at the Solo or Group level, as the case may be:

[MAS Notice 637 (Amendment No. 2) 2014]

(a) all investments in the Reporting Bank's own Tier 2 capital instruments, whether held directly or indirectly[37] by the Reporting Bank or any of its banking group entities, shall be deducted in the calculation of Tier 2 Capital, unless already derecognised under the Accounting Standards. If the Reporting Bank or any of its banking group entities is contractually obliged to purchase any of its own Tier 2 capital instruments, the Reporting Bank shall deduct such Tier 2 capital instruments in the calculation of Tier 2 Capital. This adjustment shall apply to exposures in both the banking book and trading book.[75]

Gross long positions may be deducted net of short positions in the same underlying exposure, only if the short positions involve no counterparty credit risk. The Reporting Bank shall look through holdings of index securities to deduct exposures to its own Tier 2 capital instruments.[40] However, gross long positions in its own Tier 2 capital instruments resulting from holdings of index securities may be netted against short positions in its own Tier 2 capital instruments, which result from short positions in the same underlying index[41];

[MAS Notice 637 (Amendment) 2014]
[MAS Notice 637 (Amendment No. 2) 2014]

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75 For the avoidance of doubt, this adjustment does not cover Tier 2 capital instruments held by the Reporting Bank or any of its banking group entities where:
(a) the investments in the Tier 2 capital instruments are funded by third parties other than the Reporting Bank or any of its banking group entities (e.g. life insurance policyholders or other third party investors);
(b) the risks and rewards associated with the investments in Tier 2 capital instruments are borne primarily by the third parties; and
(c) the decisions to transact in the Tier 2 capital instruments are made independently from the issuer of the capital instruments and in the interests of the third parties.

(b) reciprocal cross holdings in the Tier 2 capital instruments[75A] of financial institutions that are designed to artificially inflate the capital position of the Reporting Bank shall be deducted in the calculation of Tier 2 Capital;

(c) [Deleted by MAS Notice 637 (Amendment) 2016]

(d) certain investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake, shall be deducted in the calculation of Tier 2 Capital[76A], in accordance with sub-paragraphs (i) to (iv)~~and (ii)~~ below:

(i) the amount of such investments to be deducted in the calculation of Tier 2 Capital shall be the proportion of total holdings of Tier 2 capital instruments ~~holdings~~ and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) to total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv), multiplied by the amount by which total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) in aggregate and on a net long basis exceed 10% of the Reporting Bank's common equity. In this sub-paragraph, the Reporting Bank's common equity for the purpose of calculating the 10% threshold shall be calculated in accordance with paragraph 6.1.3(o)(i) and the total holdings of Tier 2 capital instruments ~~holdings~~ and other TLAC liabilities shall be calculated as follows:

[75A] For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for Tier 2 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards; and
(b) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares but is nevertheless recognised as Tier 2 capital (or its equivalent) of the entity, the capital instrument shall be considered as a Tier 2 capital instrument for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

[76] [Deleted by MAS Notice 637 (Amendment) 2016]

[77] [Deleted by MAS Notice 637 (Amendment) 2016]

[76A] For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for Tier 2 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards;
(b) if the entity in which the Reporting Bank has invested is a financial institution that is subject to minimum prudential standards and supervision by a regulatory agency and if the investment is not included as regulatory capital of the entity, the investment can be excluded for the purpose of this regulatory adjustment; and
(c) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares and is recognised as Tier 2 capital (or its equivalent) of the entity, the capital instrument shall be considered as a Tier 2 capital instrument for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

(A) direct, indirect[76B] and synthetic holdings of capital instruments and other TLAC liabilities shall be included. For example, the Reporting Bank shall look through holdings of index securities to determine the underlying holdings of capital and other TLAC liabilities[76C];

(B) the net long positions in both the banking book and trading book shall be included. In this regard, the gross long position can be offset against the short position in the same underlying exposure, if the maturity of the short position either matches the maturity of the long position, or has a residual maturity of at least one year[76D,76E,76F]. For other TLAC liabilities, it is the gross long position that is to be included in paragraphs 6.3.3(d)(iii) to (iv) and the net long position that is to be included in paragraphs 6.3.3(d)(i) to (ii);

(C) underwriting positions held for a period longer than five working days shall be included, while those positions held for five working days or less can be excluded; and

(D) certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution may be temporarily excluded with the approval of the Authority;

(ii) the total ~~capital~~ holdings of capital instruments and other TLAC liabilities referred to in sub-paragraph (i) above shall be calculated in accordance with paragraph 6.1.3(o)(ii); ~~and~~

76B Indirect holdings are exposures or parts of exposures that, if a direct holding loses its value, will result in a loss to the Reporting Bank substantially equivalent to the loss in value of the direct holding.
[MAS Notice 637 (Amendment) 2016]

76C If the Reporting Bank finds it operationally burdensome to look through and monitor its exact exposure to the capital or other TLAC liabilities of such entities as a result of its holdings of index securities, the Reporting Bank may, with the prior approval of the Authority, use a conservative estimate. The methodology for the estimate should demonstrate that in no case will the actual exposure be higher than the estimated exposure.
[MAS Notice 637 (Amendment) 2016]

76D For positions in the trading book, if the Reporting Bank has a contractual right or obligation to sell a long equity position at a specific point in time and the counterparty in the contract has an obligation to purchase the long equity position if the Reporting Bank exercises its right to sell, this point in time may be treated as the maturity of the long position, and the maturity of the long and short positions are deemed to be matched.
[MAS Notice 637 (Amendment) 2016]

76E For a position hedged against market risk where the hedge does not qualify to offset the gross long position for the purpose of determining the amount to be deducted, the Reporting Bank may choose to include the long position in its calculation of market RWA, in addition to deducting the long position. Where the hedge qualifies to offset the gross long position, the Reporting Bank may choose to exclude both positions from its calculation of market RWA.
[MAS Notice 637 (Amendment) 2016]

76F Where a Reporting Bank uses a short position in an index to hedge a long position, the portion of the index that is composed of the same underlying exposure that is being hedged may be used to offset the long position only if (a) both positions are held in the trading book; (b) the positions are accounted for at fair value; and (c) the hedge is recognised as effective under the Reporting Bank's internal control processes, as assessed by the Authority.
[MAS Notice 637 (Amendment) 2016]

(iii) holdings of other TLAC liabilities shall be deducted from Tier 2 capital unless –

(A) the holding falls within the 10% threshold provided for in paragraph 6.1.3(o)(i); or

(B) the following conditions are met:

(BA) the holding has been designated by the Reporting Bank to be treated in accordance with paragraph 6.3.3(d)(iii);

(BB) the holding is in the Reporting Bank's trading book;

(BC) the holding is sold within 30 business days of the date of its acquisition; and

(BD) such holdings are, in aggregate and on a gross long basis, less than 5% of the Reporting Bank's common equity (after applying the regulatory adjustments listed in paragraphs 6.1.3(a) to (n));

(iv) if a holding designated under paragraph 6.3.3(d)(iii) above no longer meets any of the conditions set out in that paragraph, it shall be deducted in full from Tier 2 capital. Once a holding has been designated under paragraph 6.3.3(d)(iii) above, it may not subsequently be included within the 10% threshold referred to in paragraph 6.1.3(o)(i);

(v) the amount of holdings of other TLAC liabilities covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) and (iv) above and are not deducted shall continue to be risk-weighted[48]; and

(vi)~~(iii)~~ the amount of total ~~capital~~ holdings of capital instruments and other TLAC liabilities not covered by the 5% threshold described in paragraphs 6.3.3(d)(iii) to (iv) that do not exceed the 10% threshold calculated in accordance with paragraph 6.1.3(o)(i) and are not deducted shall continue to be risk-weighted[48]. For the application of risk-weighting, the amount of the holdings shall be allocated on a pro rata basis between those below and those above the threshold;

(e) investments in the Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries at the Solo and Group levels), shall be deducted in the calculation of Tier 2 Capital[77AA]. The total of such investments shall be calculated as follows:

(i) direct, indirect[37] and synthetic holdings shall be included. For example, the Reporting Bank shall look through holdings of index securities to determine the underlying holdings of Tier 2 capital instruments and other TLAC liabilities [43];

(ii) the net long positions in both the banking book and trading book shall be included. In this regard, the gross long position can be offset against the short position in the same underlying exposure, if the maturity of the short position either matches the maturity of the long position or has a residual maturity of at least one year[44, 45, 46];

(iii) underwriting positions held for a period longer than five working days shall be included, while those positions held for five working days or less can be excluded; and

(iv) certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution may be temporarily excluded with the approval of the Authority; and

[MAS Notice 637 (Amendment No. 2) 2014]
[MAS Notice 637 (Amendment) 2016]

(f) any other item or class of items which the Authority may specify in writing to the Reporting Bank for the purpose of this paragraph.

Insertion of Paragraphs 6.3.9 to 6.3.11

TLAC Holdings

6.3.9 For the purpose of this part, other TLAC liabilities include:

[77AA] For the avoidance of doubt,
(a) a capital instrument would be deemed to have met the criteria for Tier 2 Capital of the Reporting Bank, if it satisfies the applicable regulatory capital criteria imposed by a bank regulatory agency that has implemented the Basel III standards;
(b) if the entity in which the Reporting Bank has invested is a financial institution that is subject to minimum prudential standards and supervision by a regulatory agency and if the investment is not included as regulatory capital of the entity, the investment can be excluded for the purpose of this regulatory adjustment; and
(c) if the entity in which the Reporting Bank has invested is a financial institution that is not a bank, the entity is subject to minimum prudential standards and supervision by a regulatory agency and the investment is not in the form of ordinary shares and is recognised as Tier 2 capital (or its equivalent) of the entity, the capital instrument shall be considered as a Tier 2 capital instrument for the purpose of this regulatory adjustment.

[MAS Notice 637 (Amendment) 2016]

(a) all direct, indirect and synthetic investments in the instruments of a G-SIB resolution entity that are eligible to be recognised as external TLAC but that do not otherwise qualify as regulatory capital[79AG] for the issuing G-SIB, with the exception of instruments excluded by paragraph 6.3.10;

(b) all holdings of instruments issued by a G-SIB resolution entity that rank pari passu to any instruments included in (a) above, with the exceptions of:

(i) instruments listed as liabilities excluded from TLAC in Section 10 of the FSB TLAC Term Sheet ("Excluded Liabilities"); and

(ii) instruments ranking pari passu with instruments eligible to be recognised as TLAC by virtue of the exemptions to the subordination requirements in section 11 of the FSB TLAC Term Sheet.

6.3.10 In certain jurisdictions, G-SIBs may be able to recognise instruments ranking pari passu to Excluded Liabilities as external TLAC, up to a limit, in accordance with the exemptions to the subordination requirements set out in the penultimate paragraph of section 11 of the FSB TLAC Term Sheet ("subordination exemptions"). Where a G-SIB is able to recognise such instruments, a Reporting Bank's holdings of those instruments will be subject to a proportionate deduction approach. Under this approach, only a proportion of holdings of instruments that are eligible to be recognised as external TLAC by virtue of the subordination exemptions will be considered a holding of TLAC by the Reporting Bank. The proportion is calculated as:

(a) the funding issued by the G-SIB resolution entity that ranks pari passu with Excluded Liabilities and that is recognised as external TLAC by the G-SIB resolution entity; divided by

(b) the funding issued by the G-SIB resolution entity that ranks pari passu with Excluded Liabilities and that would be recognised as external TLAC if the subordination requirement was not applied[79AH].

A Reporting Bank shall calculate its holdings of other TLAC liabilities of the respective issuing G-SIB resolution entities based on the latest available public information provided by the issuing G-SIBs on the proportion to be used.

[79AG] Tier 2 instruments that no longer count in full as regulatory capital (as a result of having a residual maturity of less than five years) continue to be recognised in full as a Tier 2 instrument by the Reporting Bank for the regulatory adjustments in this part.

[79AH] For example, if a G-SIB resolution entity has funding that ranks pari passu with Excluded Liabilities equal to 5% of RWAs and receives partial recognition of these instruments as external TLAC equivalent to 3.5% of RWAs, then a Reporting Bank holding such instruments shall include only 70% (= 3.5 / 5) of such instruments in calculating its TLAC holdings. The same proportion should be applied by the Reporting Bank to any indirect or synthetic investments in instruments ranking pari passu with Excluded Liabilities and eligible to be recognised as TLAC by virtue of the subordination exemptions.

6.3.11 The regulatory adjustments relating to TLAC holdings set out in this part apply from the date on which the issuing G-SIB becomes subject to a minimum TLAC requirement[79AI].

[79AI] The conformance period is set out in section 21 of the FSB TLAC Term Sheet. In summary, firms that have been designated as G-SIBs before end-2015 and continue to be designated thereafter, with the exception of such firms headquartered in an emerging market economy, shall meet the TLAC requirements from 1 January 2019. For firms headquartered in emerging market economies, the requirements will apply from 1 January 2025 at the latest; this may be accelerated in certain circumstances.

Amendments to Part VII

PART VII: CREDIT RISK

Amendments to Paragraph 7.1.14

Sub-division 6: Calculation of Credit RWA for Securitisation Exposures

7.1.14 A Reporting Bank which is capping the risk-weighted exposure amount shall apply a maximum aggregated risk-weighted exposure for its securitisation exposures in the same securitisation of $P \times K_P \times 12.5$, with P and K_P defined as follows –

(a) P: The largest proportion of interest that the Reporting Bank holds across all tranches of a given pool–

(i) if the Reporting Bank's securitisation exposures all reside in a single tranche of a given securitisation, P equals the proportion (expressed as a percentage) of securitisation exposures that the Reporting Bank holds in that given tranche (calculated as the total nominal amount of the Reporting Bank's securitisation exposures in the tranche divided by the nominal amount of the tranche); and

(ii) if the Reporting Bank's securitisation exposures reside in different tranches of a given securitisation, P equals the maximum proportion of interest across tranches, where the proportion of interest for each of the different tranches should be calculated as described above.

(b) K_P: The capital requirement for the underlying pool –

(i) for an IRB pool, K_P equals K_{IRB} as calculated in paragraphs 7.6.19 to 7.6.30;

(ii) for an SA pool, K_P equals K_{SA} as calculated in paragraphs 7.6.53 to 7.6.59; and

(iii) for a mixed pool, K_P equals the exposure-weighted average capital requirement of the underlying pool using K_{SA} for the proportion of the underlying pool for which the ~~bank~~ Reporting Bank cannot calculate K_{IRB}, and K_{IRB} for the proportion of the underlying pool for which ~~a bank~~ the Reporting Bank can calculate K_{IRB}.

Amendments to Paragraphs 7.3.16 and 7.3.17

Sub-division 3: Risk Weights

PSE Asset Class

7.3.16 Subject to paragraph 7.3.17 below, a Reporting Bank shall risk-weight any SA(CR) exposure in the PSE asset class in accordance with Table 7-2.

Table 7-2: Risk Weights for the PSE Asset Class

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	20%	50%	50%	100%	100%	150%	~~100~~50%

7.3.17 A Reporting Bank shall risk weight any SA(CR) exposure in the PSE asset class in accordance with Table 7-3 if –

(a) in the case of a PSE in Singapore, the exposures to the ~~central government of the jurisdiction of that PSE~~ Singapore Government have a credit quality grade of "1" as set out in Table 7R-1 of Annex 7R of this Part[129A]; and

(b) in the case of a PSE outside Singapore, the bank regulatory agency of the jurisdiction where the PSE is established has exercised the national discretion to treat the claim on the PSE as a claim on the central government and the exposures to the central government of the jurisdiction of that PSE have a credit quality grade of "1" as set out in Table 7R-1 of Annex 7R of this Part.

Table 7-3: Risk Weights for Exposures to PSEs where the Central Government has a Credit Quality Grade of "1"[129A]

Credit Quality Grade	1	2	3	4	5	6	Unrated
Risk Weight	0%	20%	20%	100%	100%	150%	20%

[129A] An exposure to a PSE in Singapore that is risk-weighted at 0% pursuant to paragraph 7.3.17(a) and Table 7-3 is treated as an exposure to the Singapore Government.

Amendments to Section 2 of Annex 7F

Section 2: Recognition of Collateral

Types of Collateral

2.1 A Reporting Bank shall ensure that the relevant requirements in paragraphs 2.6 to 2.11 below are complied with before it recognises the effects of CRM of the types of collateral set out in paragraphs 2.2 to 2.5 below.

2.2 For a Reporting Bank using the FC(SA), eligible financial collateral comprises[226A] –

(a) cash (as well as certificates of deposit or other similar instruments[226B] issued by the Reporting Bank)[227] on deposit with the Reporting Bank;[228]

(b) gold;

(c) any debt security[228A] –

(i) with an original maturity of one year or less that has a credit quality grade of "III" or better as set out in Table 7R-2 of Annex 7R of Part VII; or

(ii) with an original maturity of more than one year that has a credit quality grade of "4" or better as set out in Table 7R-1 of Annex 7R of Part VII if it is issued by a central government or central bank, or a credit quality grade of "3" or better as set out in Table 7R-1 of Annex 7R of Part VII if it is issued by any other entity;

(d) any equity security (including convertible bonds) that is included in a main index~~ of any approved exchange in Singapore or any recognised group A exchange~~; and

(e) any unit in a collective investment scheme where –

(i) a price for the units is publicly quoted daily; and

226A This shall exclude any CET1 capital instrument, AT1 capital instrument or Tier 2 capital instrument issued by the Reporting Bank which is held by the Reporting Bank or any of its banking group entities as collateral. Please also note section 29(3) of the Banking Act which prohibits a Reporting Bank from granting any credit facility against the security of its own shares.

[MAS Notice 637 (Amendment) 2014]

226B This shall not include any structured deposits. Structured deposit has the same meaning as in Regulation 2 of the Financial Advisers (Structured Deposits – Prescribed Investment Product and Exemption) Regulations 2005.

[MAS Notice 637 (Amendment No. 2) 2014]

227 Cash-funded credit-linked notes issued by a Reporting Bank against exposures in the banking book which fulfill the criteria for eligible credit derivatives shall be treated as cash collateralised transactions.

228 When cash on deposit, certificates of deposit or other similar instruments issued by the lending Reporting Bank are held as collateral at a third-party banking institution in a non-custodial arrangement and are pledged or assigned to the lending Reporting Bank, the Reporting Bank shall apply the risk weight of the third-party banking institution to the exposure covered by such collateral (after any necessary haircuts for currency risk). This is subject to the pledge or assignment being unconditional and irrevocable.

228A This includes any structured note.

(ii) the collective investment scheme is limited to investing in the instruments listed in this paragraph.[229]

[MAS Notice 637 (Amendment No. 2) 2014]
[MAS Notice 637 (Amendment) 2018]

2.2A Resecuritisations, irrespective of any credit ratings, are not eligible financial collateral. This prohibition applies whether the Reporting Bank is using the supervisory haircuts method, the own estimates of haircuts method, the repo VaR method or the internal model method.

2.3 For a Reporting Bank using the FC(CA), eligible financial collateral comprises[226A] –

(a) any instrument listed in paragraph 2.2 above;

(b) any equity security (including convertible bonds) that is listed on any ~~approved exchange in Singapore or any recognised group A exchange~~ approved exchange or overseas exchange; and

(c) any unit in a collective investment scheme where a price for the units is publicly quoted daily and the collective investment scheme is limited to investing in instruments listed in paragraph 2.2 and in this paragraph.[230]

[MAS Notice 637 (Amendment) 2018]

2.4 Notwithstanding paragraphs 2.2 and 2.3 above, in the case of any pre-settlement counterparty exposures arising from a repo-style transaction (i.e. repo, reverse repo, securities lending or securities borrowing transaction) which is included in the trading book, eligible financial collateral[226A] includes all instruments which a Reporting Bank may include in the trading book (except resecuritisation exposures).

[MAS Notice 637 (Amendment) 2012]

2.5 For a Reporting Bank adopting the IRBA, eligible IRBA collateral comprises -

(a) eligible CRE and eligible RRE;

(b) eligible receivables; and

(c) eligible physical collateral comprising –

(i) all industrial properties in Singapore;

(ii) land in Singapore;

[229] The use or potential use by a collective investment scheme of derivative instruments solely to hedge investments listed in paragraph 2.2 shall not prevent units in that collective investment scheme from being recognised as eligible financial collateral for a Reporting Bank using FC(SA).

[230] The use or potential use by a collective investment scheme of derivative instruments solely to hedge investments listed in paragraph 2.3 shall not prevent units in that collective investment scheme from being recognised as eligible financial collateral for a Reporting Bank using FC(CA).

(iii) land in another jurisdiction where the bank regulatory agency has recognised such land as eligible physical collateral;

(iv) ships;

(v) aircraft; ~~and~~

(vi) commodities; and

(vii) such other collateral which is approved by the Authority.

2.5A For the purpose of paragraph 2.5, "commodity" means –

(a) any produce, item, good or article; or

(b) any index, right or interest in any produce, item, good or article.

Requirements for Recognition of Collateral

2.6 A Reporting Bank shall ensure that the following requirements are complied with before it recognises the effects of CRM of any collateral:

(a) the legal mechanism by which collateral is pledged, assigned or transferred shall confer on the Reporting Bank the right to liquidate or take legal possession of the collateral, in a timely manner, in the event of the default, insolvency or bankruptcy (or one or more otherwise-defined credit events set out in the transaction documentation) of the counterparty (and, where applicable, of the custodian holding the collateral);

(b) the Reporting Bank has taken all steps necessary to fulfill those requirements under the law applicable to the Reporting Bank's interest in the collateral for obtaining and maintaining an enforceable security interest[231] or for exercising a right to net or set off in relation to title transfer collateral;

(c) the credit quality of the counterparty and the value of the collateral do not have a material positive correlation[232];

(d) the Reporting Bank has implemented clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring default of counterparty and liquidating the collateral are observed, and that the collateral can be liquidated promptly; and

(e) where the collateral is held by a custodian, the Reporting Bank has taken reasonable steps to ensure that the custodian segregates the collateral from its own assets.

231 For example, by registering it with a registrar.

232 For example, securities issued by the counterparty or a related group entity would be ineligible.

2.7 In addition to the requirements in paragraph 2.6 above, a Reporting Bank shall ensure that the following requirements are complied with before it recognises CRE or RRE held as collateral as eligible CRE or eligible RRE:

(a) the repayment of the facility is not materially dependent on any cash flow generated by the CRE or RRE[233];

(b) the value of the CRE or RRE that is pledged is not materially dependent on the performance of the obligor[234];

(c) any claim on collateral shall be properly filed on a timely basis;

(d) collateral interests shall reflect a perfected charge wherein all legal requirements for establishing the claim are fulfilled;

[MAS Notice 637 (Amendment) 2013]

(e) the collateral agreement and the process for enforcement of the agreement allow the Reporting Bank to realise the value of such collateral within a reasonable timeframe;

(f) the CRE or RRE shall be valued at or less than the fair value at which the property could be sold under a private contract between a willing seller and an arm's-length buyer on the date of valuation;

(g) the value of the CRE or RRE is monitored at least on an annual basis[235]. More frequent monitoring should be conducted whenever there are significant changes in market conditions;

(h) where the Reporting Bank has a junior charge over the CRE or RRE, the conditions under paragraph 7.4.31 of Part VII are satisfied;

[MAS Notice 637 (Amendment) 2013]

(i) the types of CRE or RRE accepted by the Reporting Bank as collateral and lending policies (e.g. advance rates) when such collateral may be taken is clearly documented;

(j) the CRE or RRE is adequately insured against damage or deterioration;

(k) the extent of any permissible prior claims, such as tax, on the CRE or RRE is monitored on an ongoing basis; and

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233 IPRE that is part of the SL asset sub-class will not be recognised as eligible CRE or eligible RRE.

234 This requirement is not intended to preclude situations where purely macro-economic factors affect both the value of the CRE or RRE held as collateral and the performance of the obligor.

235 Statistical methods of evaluation (e.g. reference to house price indices, sampling) may be used to update estimates or to identify collateral that may have declined in value and that may need re-appraisal. A Reporting Bank shall obtain a qualified professional evaluation on the value of the CRE or RRE if information indicates that the value of the collateral may have declined materially relative to general market prices or when a credit event, such as default, occurs.

236 *[This footnote has been intentionally left blank.]*

(l) environmental liability arising in respect of the CRE or RRE, such as the presence of toxic material on a property, is appropriately monitored.

2.8 In addition to the requirements in paragraph 2.6 above, a Reporting Bank shall ensure that the following requirements are complied with before it recognises any financial receivables as eligible receivables:

(a) the financial receivables have an original maturity of one year or less;

(b) the repayment occurs through the commercial or financial flows related to the underlying assets of the obligor which include both self-liquidating debt arising from the sale of goods or services linked to a commercial transaction and general amounts owed by buyers, suppliers, renters, national and local governmental authorities, or other non-affiliated parties not related to the sale of goods or services linked to a commercial transaction, but excludes receivables associated with securitisation, sub-participations or credit derivatives;

(c) the legal mechanism by which collateral is given is robust and ensures that the Reporting Bank has clear rights over the proceeds from the collateral;

(d) framework, policies and procedures to ensure that the Reporting Bank has a perfected first charge over the collateral is in place;

[MAS Notice 637 (Amendment) 2013]

(e) collateral arrangements are properly documented, and clear and robust procedures for the timely collection of collateral proceeds[237] are in place[238];

(f) a sound process for determining the credit risk in the receivables is in place[239]. Where the Reporting Bank relies on the obligor to ascertain the credit risk of the customers, it shall review the obligor's credit policy to ascertain its soundness and credibility;

(g) the margin between the amount of the exposure and the value of the receivables reflects all appropriate factors, including the cost of collection, concentration within the receivables pool pledged by an individual obligor, and potential concentration risk within the total exposures of the Reporting Bank;

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237 A Reporting Bank should have procedures in place to ensure that all legal conditions required for declaring the default of the customer and timely collection of collateral are observed. In the event of the financial distress or default of the obligor, the Reporting Bank should have legal authority to sell or assign the receivables to other parties without the consent of the receivables' obligors.

238 A Reporting Bank should have a documented process for collecting receivable payments in distressed situations. The requisite facilities for collection should be in place, even when the Reporting Bank normally looks to the obligor for collections.

239 Such a process should include analyses of the obligor's business and industry (e.g. effects of the business cycle) and the types of customers with whom the obligor does business.

(h) a continuous monitoring process[240] that is appropriate for the specific exposures (either immediate or contingent) attributable to the collateral is in place; and

(i) the receivables pledged by an obligor are diversified and are not unduly correlated[241] with the obligor[242].

2.9 In addition to the requirements in paragraph 2.6~~, and~~ paragraphs 2.7(c) to 2.7(g) and paragraphs 2.7(i) to 2.7(k)[242A] above, a Reporting Bank shall ensure that the following requirements are complied with before it recognises any physical collateral as eligible physical collateral:

(a) the Reporting Bank has first charge over the collateral;

[MAS Notice 637 (Amendment) 2013]

(b) the facility agreement includes detailed descriptions of the collateral and detailed specifications of the manner and frequency of revaluation;

(c) the types of physical collateral accepted by the Reporting Bank and policies and practices in respect of the appropriate amount of each type of collateral relative to the exposure amount is clearly documented in its internal credit policies and procedures, and available for examination and audit review;

(d) the credit policies of a Reporting Bank with regard to the transaction structure addresses appropriate collateral requirements relative to the exposure amount, the ability to liquidate the collateral readily, the ability to establish objectively a price or market value, the frequency with which the value can readily be obtained (including a professional appraisal or valuation), and the volatility of the value of the collateral;

(e) the periodic revaluation process involves a review of "fashion-sensitive" collateral to ensure that valuations are appropriately adjusted downward for fashion or model-year obsolescence as well as physical obsolescence or deterioration, and includes physical inspection of the collateral where inventories (e.g. raw materials, work-in-progress, finished goods, dealers' inventories of automobiles) and equipment are involved;

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240 This process may include, as appropriate and relevant, ageing reports, control of trade documents, borrowing base certificates, frequent audits of collateral, confirmation of accounts, control of the proceeds of accounts paid, analyses of dilution (credits given by the obligor to the issuers) and regular financial analysis of both the obligor and the issuers of the receivables, especially in the case when a small number of large-sized receivables are taken as collateral. A Reporting Bank should monitor whether its overall concentration limits are being observed. A Reporting Bank should also review on a regular basis the compliance with loan covenants, environmental restrictions and other legal requirements.

241 Where the correlation is high, such as where some issuers of the receivables are reliant on the obligor for their viability or the obligor and the issuers belong to a common industry, the attendant risks should be taken into account in the setting of margins for the collateral pool as a whole.

242 Receivables from related corporations and associates, officers and employees of the obligor shall not be recognised as credit risk mitigants.

242A References to CRE or RRE in paragraphs 2.7(c) to 2.7(g) and paragraphs 2.7(i) to 2.7(k) shall be read as being applicable to physical collateral.

(f) there exists liquid markets for the disposal of the collateral in an expeditious and economically efficient manner;

(g) there exists publicly available market prices for the collateral which are generally relied upon by the market; and

(h) steps are taken to adequately insure the collateral against damage or deterioration[243].

2.10 A Reporting Bank shall treat the CRM of any leased asset that does not expose the Reporting Bank to residual value risk, in the same manner as exposures collaterialised by the same type of collateral and comply with the minimum requirements for the collateral type. In addition to the requirements in paragraph 2.6 above, a Reporting Bank shall ensure that the following requirements are complied with before it recognises the effects of CRM of any leased asset, that does not expose the Reporting Bank to residual value risk, pledged as collateral in respect of lease payments due to a Reporting Bank as a lessor:

(a) the requirements in paragraph 2.7 or paragraph 2.9, as the case may be, are complied with;

(b) the Reporting Bank exercises robust risk management with respect to the location of the leased asset, the use to which it is put, its age, and planned obsolescence;

(c) there is a robust legal framework to establish the legal ownership of the leased asset by the Reporting Bank and its ability to exercise its rights as owner in a timely fashion; and

(d) the difference between the rate of depreciation of the leased asset and the rate of amortisation of the lease payments is not so large as to overstate the effects of CRM attributed to the leased assets.

2.11 In addition to the requirements in paragraph 2.6 above, a Reporting Bank shall ensure that the following requirements are complied with before it recognises the effects of CRM of any collateral for OTC derivative transactions and SFTs:

(a) a Reporting Bank shall ensure that sufficient resources are devoted to the orderly operation of margin agreements with counterparties in OTC derivative transactions and SFTs, as measured by the timeliness and accuracy of its outgoing calls and response time to incoming calls; and

(b) a Reporting Bank shall have collateral management policies in place to control, monitor and report:

(i) the risk to which margin agreements expose them, such as the volatility and liquidity of the securities exchanged as collateral;

243 Where a Reporting Bank has recognised ships as eligible physical collateral, the insurance taken out on such assets shall be assigned to the Reporting Bank. Where a Reporting Bank has recognised aircrafts as eligible physical collateral, the insurance taken out on such assets shall name the Reporting Bank as the sole loss payee.

(ii) the concentration risk to particular types of collateral;

(iii) the reuse of collateral (both cash and non-cash), including the potential liquidity shortfalls resulting from the reuse of collateral received from counterparties; and

(iv) the surrender of rights on collateral posted to counterparties.

Amendments to Paragraph 2.1 of Annex 7J

Section 2: Standard Supervisory Haircuts

2.1 The standard supervisory haircuts, H_E, H_C and H_S (assuming daily remargining and daily revaluation (i.e. mark-to-market) and a ten-business day holding period), are as follows:

Table 7J-1 - Standard Supervisory Haircuts

<table>
<tr><th colspan="2">Eligible Financial Collateral</th><th colspan="3">Standard Supervisory Haircuts</th></tr>
<tr><th>Issue Rating for Debt Securities</th><th>Residual Maturity</th><th>Central Governments or Central Banks</th><th>Other Issuers</th><th>Securitisation Exposures</th></tr>
<tr><td rowspan="3">Any debt security with a credit quality grade of "1" or short-term credit quality grade of "I"</td><td>≤ 1 year</td><td>0.005</td><td>0.01</td><td>0.02</td></tr>
<tr><td>> 1 year, ≤ 5 years</td><td>0.02</td><td>0.04</td><td>0.08</td></tr>
<tr><td>> 5 years</td><td>0.04</td><td>0.08</td><td>0.16</td></tr>
<tr><td rowspan="3">Any debt security with a credit quality grade of "2" and "3" or short-term credit quality grade of "II" and "III"</td><td>≤ 1 year</td><td>0.01</td><td>0.02</td><td>0.04</td></tr>
<tr><td>> 1 year, ≤ 5 years</td><td>0.03</td><td>0.06</td><td>0.12</td></tr>
<tr><td>> 5 years</td><td>0.06</td><td>0.12</td><td>0.24</td></tr>
<tr><td>Any debt security with a credit quality grade of "4"</td><td>All</td><td>0.15</td><td>NA</td><td>NA</td></tr>
<tr><td colspan="2">Gold</td><td colspan="3">0.15</td></tr>
<tr><td colspan="2">Any equity (including a convertible bond) in a main index ~~of an approved exchange in Singapore or a recognised group A exchange~~</td><td colspan="3">0.15</td></tr>
<tr><td colspan="2">Any other equity (including a convertible bond) listed on an approved exchange ~~in Singapore or a recognised group A exchange~~ or an overseas exchange</td><td colspan="3">0.25</td></tr>
<tr><td colspan="2">Any unit in a collective investment scheme</td><td colspan="3">0.25 or highest haircut applicable to any security in which the fund can invest</td></tr>
<tr><td colspan="2">Cash in the same currency as the underlying exposure</td><td colspan="3">0</td></tr>
<tr><td colspan="2">Instruments in the trading book other than those listed above (for pre-settlement counterparty exposures arising from repo-style transactions, i.e. repo, reverse repo, securities lending or securities borrowing transactions, included in the trading book)</td><td colspan="3">0.25</td></tr>
</table>

[MAS Notice 637 (Amendment) 2014]

Amendments to Annex 7S

QUALIFYING MDBs

"Qualifying MDBs" means:

(a) the African Development Bank;

(b) the Asian Development Bank;

(c) the Asian Infrastructure Investment Bank;

(d) the Caribbean Development Bank;

(e) the Council of Europe Development Bank;

(f) the European Bank for Reconstruction and Development;

(g) the European Investment Bank;

(h) the European Investment Fund;

(i) the Inter-American Development Bank;

(j) ~~the International Development Association;~~

(k) the Islamic Development Bank;

(l) the Nordic Investment Bank;

(m) the International Finance Facility for Immunisation; or

(n) the World Bank Group, including the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation and the Multilateral Investment Guarantee Agency.

[MAS Notice 637 (Amendment No. 2) 2017]

Amendments to Paragraph 2.8 of Annex 7W

Section 2: Operational Requirements and Guidelines

Systems for Controlling Collateral, Credit Availability and Cash

2.8 A Reporting Bank shall have clear and effective policies and procedures governing the control of purchased receivables, credit availability and cash. In particular, a Reporting Bank shall have –

(a) written internal policies that specify all material elements of the receivables purchase programme, (including advancing rates, eligible collateral, necessary documentation, concentration limits, and how cash receipts are to be handled), where these elements should take into account all relevant and material factors, (including the financial condition of the seller and servicer, risk concentrations, and trends in the quality of the purchased receivables and the customer base of the seller); and

(b) internal systems to ensure that funds are advanced only against specified supporting collateral and documentation (such as servicer attestations, invoices and shipping documents).

Amendments to Paragraphs 2.9 and 2.11 of Annex 7X

Section 2: Definition of Default

2.9 A Reporting ~~bank~~ Bank shall record a default when –

(a) for an overdraft, the approved limit (i.e. advised limit) remains breached for more than 90 days[322];

(b) for a revolving corporate exposure, an amount is overdue for more than 90 days;

(c) for a revolving retail exposure (e.g. credit card), the minimum monthly payment is not paid in full by the due date nor within the 90 days thereafter, and subsequent minimum monthly payments billed are also not paid in full; and

(d) for a loan with periodic principal instalments, interest payments, or both, an amount due and payable is not paid in full within 90 days of the instalment or payment due date.

2.11 A Reporting ~~Banks~~ Bank shall ensure that the re-ageing policy includes clear prescriptions on –

[322] This includes where the obligor has been advised of a limit smaller than current outstandings and the lower limit remains breached for more than 90 days. A Reporting Bank shall also have adequate internal policies for assessing the creditworthiness of obligors who are offered overdraft accounts.

(a) the approval authorities and reporting requirements on re-aging;

(b) the minimum age of a facility before it is eligible for re-ageing;

(c) the delinquency levels of facilities that are eligible for re-ageing;

(d) the maximum number of re-ageings per facility; and

(e) the associated reassessments of the capacity of the obligor to repay should re-aging take place.

Amendments to Paragraphs 1.5 and 1.6 of Annex 7AA

Section 1: Minimum Requirements

Minimum Requirements for IRBA Retail Asset Class

1.5 Without prejudice to paragraph 1.1 above and subject to paragraph 2.1 below, a Reporting ~~bank~~ Bank shall ensure that the data series used in the process for deriving estimates of IRBA parameters for any exposure that falls within the IRBA retail asset class –

(a) for deriving any PD estimate, covers at least five years for at least one data source. If the available observation period spans a longer period for any source and the data is relevant and material, the Reporting Bank shall use the longer period. A Reporting Bank need not give equal importance to historic data if it can demonstrate that more recent data is a better predictor of default rates;

(b) for deriving any LGD estimate, ideally covers a complete economic cycle but is no shorter than a period of five years for at least one data source. A Reporting Bank need not give equal importance to historic data if it is able to demonstrate that more recent data is a better predictor of loss rates; and

(c) for deriving any EAD estimate, ideally covers a complete economic cycle but is no shorter than a period of five years for at least one data source. A Reporting Bank need not give equal importance to historic data if it is able to demonstrate that more recent data is a better predictor of drawdowns.

Minimum Requirements for IRBA Purchased Receivables Asset Class

1.6 Without prejudice to paragraph 1.1 above and subject to paragraph 2.1 below, a Reporting ~~bank~~ Bank shall ensure that the data series used in the process for deriving estimates of IRBA parameters for any exposure that falls within the IRBA purchased receivables asset class shall follow the treatment for the IRBA asset class to which the underlying purchased asset is categorised.

Amendments to Paragraphs 1.1 and 1.3 of Annex 7AC

Section 1: IRBA Coverage

1.1 A Reporting Bank should observe the parameters set out in this Annex in its IRBA rollout.

1.3 The Authority recognises that a simultaneous rollout across all material asset classes may not be practicable in all circumstances. As such, the Authority may permit phased rollouts in certain cases. Notwithstanding this, the Authority will generally not permit a Reporting Bank to adopt the IRBA unless it is able to do so meaningfully from its IRBA adoption date. In a case where a phased rollout is permitted by the Authority, the initial rollout should account for the banking group's most significant portfolios in terms of size and risk profile. At minimum, the Authority expects a Reporting Bank to transition exposures that attract at least 60% to 70% of its capital requirements for credit risk at the Group level to the IRBA from the IRBA adoption date. This percentage is to be computed based on the exposures and the approaches of the Reporting Bank that are in use as at the start of the recognised parallel run[367].

[367] By way of example, a Reporting Bank adopting ~~F-IRBA~~ IRBA on 1 Jan ~~2008~~2018 shall compute this threshold by dividing the sum of the RWA calculated in paragraph 7.1.1(b) and the SEC-IRBA RWA calculated in accordance with Sub-division 6 of this Division for exposures transitioning to the IRBA on 1 Jan ~~2008~~ 2018 by the sum of (a) the RWA calculated in paragraph 7.1.1(b) and the SEC-IRBA calculated in accordance with Sub-division 6 of this Division for exposures transitioning to the IRBA on 1 Jan ~~2008~~2018; ~~and~~ (b) the RWA calculated in paragraph 7.1.1(a) for exposures that are permitted to be excluded from the IRBA; and (c) its SEC-ERBA RWA, SEC-SA RWA, and RWA from securitisation exposures to which the SEC-IRBA, SEC-ERBA, and SEC-SA cannot be applied, calculated in accordance with Sub-division 6 of this Division. Equity exposures excluded from IRBA(EQ) as set out in paragraph 4.8 of this Annex and exposures to CCPs for which CCP RWA is calculated in accordance with paragraph 7.1.1(d) of Sub-division 1 of Division 1 of this Part are to be excluded from the computation of this threshold.

[MAS Notice 637 (Amendment) 2012]

Amendments to paragraph 1.1 of Annex 7AK

Section 1: Illustrative Example – Calculation using the LTA

1.1 Assume a Reporting Bank, which is using the SA(CR) to calculate the credit risk-weighted exposure amount for the underlying exposures of funds if the exposures were held directly by the Reporting ~~bank~~Bank, owns 20% of the shares of an individual fund that replicates an equity index. Further assume that the fund holds short term (less than one year) forward contracts that are cleared through a qualifying CCP of notional amount of $100, and presents the following balance sheet:

Assets	
Cash	$20
Government bonds (AAA rated)	$30
Variation margin receivable – forward contracts	$50
Liabilities	
Notes payable	$5
Equity	
Shares	$95

Amendments to Part VIII

PART VIII: MARKET RISK

Amendments to Paragraph 8.3.4A(a)

8.3.4A A Reporting Bank which starts to use models for one or more risk factor categories will, over time, be expected to extend the models to all its market risks such that, except for insignificant exposures, all its market risks across the entire banking group are captured and reliably measured by its internal models[546A]. The following conditions shall apply to a Reporting Bank using a combination of IMA and the SA(MR):

(a) each broad risk factor category shall be assessed using a single approach (either IMA or the SA(MR)), no combination of the two methods shall in principle be permitted within a risk category or across different entities of a Reporting ~~Banks~~ Bank for the same type of risk. A Reporting Bank shall obtain prior approval from the Authority for any deviation from this principle;

(b) any modification of the combination of the two approaches shall not be permitted unless the Authority is satisfied with the justification provided by the Reporting Bank; and

(c) no element of market risk shall escape measurement, i.e. the exposure for all the various risk factors, whether calculated according to the SA(MR) or IMA, shall be captured.

[546A] Market risks arising from insignificant exposures which are not included in its models shall be separately measured and the market risk capital requirement for such exposures shall be calculated using the SA(MR).

Amendments to Part X

PART X: SUPERVISORY REVIEW PROCESS

Amendments to Footnote 705 in Annex 10A

Section 1: Introduction

1.1 This Annex sets out additional details on the expectations of the Authority with regard to the ICAAP of a Reporting Bank. While this document is intended to help a Reporting Bank in assessing the comprehensiveness and rigour of its ICAAP, it shall not be construed as an exhaustive compliance checklist. A Reporting Bank should refer to the Pillar 2 principles and guidance set out in "International Convergence of Capital Measurement and Capital Standards: A Revised Framework – Comprehensive Version", "Enhancements to the Basel II Framework" and "A Sound Capital Planning Process: Fundamental Elements" issued by the BCBS in June 2006, July 2009 and January 2014 respectively. A Reporting Bank should also refer to other relevant risk management publications issued by the BCBS and the Authority[705]. The following material risk categories and topics are covered in this Annex:

(a) Section 3 – Credit Risk, Concentration Risk and Securitisation Risk;

(b) Section 4 – Market Risk and Valuation Practices;

(c) Section 5 – Interest Rate Risk in the Banking Book;

(d) Section 6 – Operational Risk;

(e) Section 7 – Liquidity Risk;

(f) Section 8 – Reputational Risk;

(g) Section 9 – Other Risk Factors; and

(h) Section 10 – Stress Testing Practices.

[MAS Notice 637 (Amendment No. 2) 2014]

705 For example, the "Guidelines on Risk Management Practices" issued by the Authority, "Range of Practices and Issues in Economic Capital Frameworks" issued by the BCBS in March 2009, and "Supervisory guidance for managing risks associated with the settlement of foreign exchange transactions" issued by the BCBS in February 2013.

The previous Section 5 is deleted and substituted with the following Section 5.

[Effective from 31 Dec 2018]

Section 5: Interest Rate Risk in the Banking Book

5.1 IRRBB is the risk to the Reporting Bank's capital and earnings arising from adverse movements in interest rates that affect the Reporting Bank's banking book positions.

5.2 There are three main types of IRRBB that may potentially change the value or earnings of interest rate-sensitive assets, liabilities and off-balance sheet items in a way, or at a time, that can adversely affect the Reporting Bank's financial condition –

(a) gap risk, which describes the risk arising from the term structure of banking book instruments, and the timing of interest rate changes;

(b) basis risk, which describes the risk arising from relative changes in interest rates for banking book instruments that have similar tenors but are priced using different interest rate indices; and

(c) option risk, which describes the risk arising from option derivative positions or from optionalities embedded in a Reporting Bank's assets, liabilities and off-balance sheet items in the banking book, where the Reporting Bank or counterparty can alter the level and timing of their cash flows. Option risk can be further characterised into automatic option risk and behavioural option risk.

5.3 A Reporting Bank shall identify its sources of IRRBB, IRRBB exposures and take appropriate steps to measure, monitor and control IRRBB.

5.4 A Reporting Bank shall –

(a) identify any IRRBB inherent in the products held or offered by it, and the activities carried out by it; and

(b) ensure that such products and activities are subject to adequate procedures and controls.

5.5 A Reporting Bank shall –

(a) ensure that its internal policies require the approval of significant hedging or risk management strategies to be obtained before being implemented;

(b) ensure that the approval of its significant hedging or risk management strategies is obtained in accordance with its internal policies;

(c) conduct a pre-acquisition review of all products and activities that are new to it to ensure that it understands the IRRBB associated with such products and activities;

(d) subject such products and activities to a predetermined test phase before fully rolling out the product or commencing the activity;

(e) put in place adequate operational procedures and risk control systems to measure, monitor and control IRRBB prior to introducing a new product, hedging or risk-taking strategy; and

(f) ensure that the management of its IRRBB is integrated within its broader risk management framework and aligned with its business planning and budgeting activities.

5.6 CSRBB refers to any kind of asset or liability spread risk of instruments with credit risk that is not explained by IRRBB or by the expected credit or jump to default risk. A Reporting Bank should monitor and assess CSRBB in their interest rate risk management framework.

IRRBB Management Framework and Risk Appetite

5.7 A Reporting Bank shall –

(a) have in place an adequate IRRBB management framework to effectively manage IRRBB; and

(b) ensure that the framework is reviewed and evaluated for effectiveness by an independent party on a regular basis.

5.8 Notwithstanding paragraph 5.9 of this Annex, a Reporting Bank shall ensure that the Board is responsible for oversight of –

(a) the IRRBB management framework referred to in paragraph 5.7 of this Annex; and

(b) the Reporting Bank's risk appetite for IRRBB.

5.9 The Board may delegate the task of developing IRRBB policies and practices to the senior management of the Reporting Bank or an asset and liability management committee ("ALCO") (collectively referred to in this Section as "delegates").

5.10 Where the Board has made a delegation under paragraph 5.9 of this Annex, the Reporting Bank shall do the following –

(a) where the task for developing IRRBB policies and practices is delegated to an ALCO, ensure that the ALCO meets regularly and includes representatives from each major department connected to IRRBB[718];

(b) ensure that the Board clearly identifies the delegates for managing IRRBB and oversees the adequate separation of responsibilities in key elements of the risk management process to avoid potential conflicts of interest;

[718] For example, this includes a department which is –
(a) responsible for the risk identification, measurement, monitoring or control of IRRBB; or
(b) responsible for risk-taking functions that contribute to the Reporting Bank's IRRBB.

(c) ensure that the delegates have clear lines of authority over the units responsible for establishing and managing IRRBB positions and that there is a clear communication channel to convey the delegates' directives to these units;

(d) ensure that the Board puts in place an organisational structure that enables the delegates to carry out their responsibilities effectively and facilitates effective decision-making and good governance. The Board should encourage discussions between its members and the delegates, as well as between the delegates and others in the bank, regarding the IRRBB management process.

5.11 For the purposes of paragraph 5.8 of this Annex, a Reporting Bank shall do the following –

(a) ensure that the Board –

(i) understands the nature and the level of the Reporting Bank's IRRBB exposure;

(ii) approves broad business strategies and overall policies with respect to IRRBB; and

(iii) provides clear guidance regarding the acceptable level of IRRBB, given the Reporting Bank's business strategies;

(b) ensure that the Board is responsible for ensuring that senior management has the capability and skills to understand IRRBB, and that adequate resources are devoted to IRRBB management;

(c) ensure that the Board oversees the steps taken to identify, measure, monitor and control IRRBB and ensure that they are consistent with the approved strategies and policies of the Reporting Bank;

(d) ensure that the Board or, where the Board has made a delegation under paragraph 5.9 of this Annex, the delegates, establishes the following –

(i) appropriate limits on IRRBB, including the definition of specific procedures and approvals necessary for exceptions, and ensuring compliance with those limits;

(ii) adequate systems and standards for measuring IRRBB;

(iii) standards for measuring IRRBB, valuing positions and assessing performance, including procedures for updating interest rate shock and stress scenarios and key underlying assumptions driving the Reporting Bank's IRRBB analysis;

(iv) a comprehensive IRRBB reporting and review process; and

(v) effective internal controls and management information system;

(e) ensure that the Board or, where the Board has made a delegation under paragraph 5.9 of this Annex, the delegates, oversees the approval, implementation and review of IRRBB management policies, procedures and limits. The Reporting Bank should inform the Board regularly (at least semi-annually) on the level and trend of the Reporting Bank's IRRBB exposures;

(f) where the Board has made a delegation under paragraph 5.9 of this Annex, ensure that the Board regularly reviews timely information that is sufficiently detailed to allow it to understand and assess the performance of the delegates in monitoring and controlling IRRBB in compliance with policies approved by the Board. The Reporting Bank shall carry out such reviews more frequently when the Reporting Bank runs significant IRRBB exposures or has positions in complex IRRBB instruments;

(g) ensure that the Board understands the implications of the Reporting Bank's IRRBB strategies, including the potential linkages with, and impact on, market, liquidity, credit and operational risks;

(h) ensure that more than one member of the Board has sufficient technical knowledge to be able to question and challenge any report concerning IRRBB that is presented to the Board;

(i) have IRRBB identification, measurement, monitoring and control functions with clearly defined responsibilities that are sufficiently independent from risk-taking functions of the Reporting Bank and that report IRRBB exposures directly to the Board or its delegates;

(j) ensure that its risk management and strategic planning areas communicate regularly to facilitate evaluations of risk arising from future business.

5.12 For the purposes of paragraph 5.7 of this Annex, a Reporting Bank shall do the following as part of its IRRBB management process –

(a) implement adequate internal controls that promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant laws, regulations and bank policies;

(b) with regard to IRRBB control policies and procedures, implement appropriate approval processes, exposure limits, reviews and other mechanisms designed to provide a reasonable assurance that risk management objectives are being achieved;

(c) ensure that evaluations and reviews of the Reporting Bank's internal control system and risk management processes, including that personnel comply with established policies and procedures, are conducted on a regular basis by individuals who, or units which, are independent of the functions that they are assigned to evaluate and review;

(d) ensure that the evaluations and reviews done pursuant to sub-paragraph (c) address any significant change, including any change in market conditions, personnel, technology and structures of compliance with exposure limits, which may affect the effectiveness of controls and that there are appropriate escalation procedures for any exceeded limits;

(e) where revisions or enhancements to internal controls are warranted, ensure that an internal review mechanism is in place to ensure that such revisions or enhancements to internal controls are implemented in a timely manner;

(f) ensure that its IRRBB identification, measurement, monitoring and control processes are reviewed by an independent auditing function (such as an internal or external auditor) on a regular basis;

(g) where a written report has been produced in respect of a review under sub-paragraph (f), by the internal or external auditors or other equivalent external parties (such as consultants) which conducted the review, make the written report available to the Authority.

5.13 A Reporting Bank should have clearly defined risk appetite statements[718A] that are approved by the Board and implemented through comprehensive risk appetite frameworks[718B].

5.14 The Reporting Bank should articulate its risk appetite for IRRBB in terms of the risk to both economic value and earnings.

5.15 The Reporting Bank should ensure that the risk appetite framework referred to in paragraph 5.13 of this Annex –

(a) delineates delegated powers, lines of responsibility and accountability over IRRBB management decisions; and

(b) clearly defines authorised instruments, hedging strategies and risk-taking opportunities.

5.16 The Reporting Bank shall ensure that all IRRBB policies are periodically reviewed[718C].

5.17 A Reporting Bank shall implement policy limits set by the Board that target maintaining IRRBB exposures that are consistent with the Reporting Bank's risk appetite.

5.18 For the purposes of paragraph 5.17 of this Annex, the Reporting Bank shall do the following –

718A A risk appetite statement is a written articulation of the aggregated level and types of IRRBB exposures that a Reporting Bank will accept, or avoid, in order to achieve its business objectives.
718B A risk appetite framework refers to policies and procedures for limiting and controlling IRRBB.
718C A Reporting Bank should review its IRRBB policies at least annually, and revise its IRRBB policies as needed.

(a) before implementing the policy limits set by the Board, ensure that such limits are consistent with the Reporting Bank's overall approach for measuring IRRBB;

(b) apply aggregate risk limits, clearly articulating the amount of IRRBB acceptable to the Board, on a consolidated basis and, as appropriate, at the level of individual affiliates. Limits may be associated with specific scenarios of changes in interest rates or term structures, such as an increase or decrease of a particular size or a change in shape. The interest rate movements used in developing these limits shall represent meaningful shock and stress situations, taking into account historical interest rate volatility and the time required by management to mitigate those risk exposures;

(c) ensure that policy limits to be implemented are appropriate to the nature, size, complexity and capital adequacy of the Reporting Bank, as well as its ability to measure and manage its risks. Depending on the nature of the Reporting Bank's activities and business model, the Reporting Bank may also identify sub-limits for individual business units, portfolios, instrument types or specific instruments. The Reporting Bank shall ensure that the level of detail of risk limits reflects the characteristics of the Reporting Bank's holdings, including the various sources of the Reporting Bank's IRRBB exposures. A Reporting Bank with significant exposures to gap risk, basis risk or positions with explicit or embedded options should establish risk tolerances appropriate for these risks;

(d) ensure that the Board or its delegates, as the case may be, approve major hedging or risk-taking initiatives in advance of implementation. The Reporting Bank should develop a dedicated set of risk limits to monitor the evolution of hedging strategies that rely on instruments such as derivatives, and to control mark-to-market risks in instruments that are accounted for at market value. The Reporting Bank should assess proposals to use new instrument types or new strategies (including hedging) to ensure that the resources required to establish sound and effective IRRBB management of the product or activity have been identified, that the proposed activities are in line with the Reporting Bank's overall risk appetite, and procedures to identify, measure, monitor and control the risks of the proposed product or activity have been established. The Reporting Bank shall ensure that positions related to internal risk transfers between the banking book and the trading book are properly documented;

(e) put in place systems to ensure that positions that exceed, or are likely to exceed, limits defined by the Board or its delegates are escalated to the Board or the delegates without delay and receive prompt management attention. The Reporting Bank shall ensure that there is a clear policy on who will be informed, how the communication will take place and the actions which will be taken in response to an exception[718D].

[718D] A Reporting Bank may set limits that are absolute in the sense that they should never be exceeded or in a manner where, under specific circumstances, breaches of such limits are tolerated for a predetermined short period of time.

IRRBB Measurement

5.19 Except where paragraph 5.20 of this Annex applies, a Reporting Bank shall –

(a) have in place its own IMS to measure its IRRBB;

(b) adopt the SA(IR) wholly as its IMS; or

(c) adopt the SA(IR) in part as its IMS, and have in place its own IMS to measure its IRRBB in the parts where the SA(IR) is not adopted.

5.20 The Authority may, as it considers necessary, require a Reporting Bank to adopt the SA(IR), wholly or in part, as its IMS. Where the Authority requires a Reporting Bank to adopt the SA(IR) in part as its IMS, the Reporting Bank shall have in place its own IMS to measure its IRRBB in the parts where the SA(IR) is not adopted.

5.21 A Reporting Bank shall capture all material sources of IRRBB and assess the effect of market changes on the scope of its activities through its IMS.

5.22 A Reporting Bank should ensure that its IRRBB policy takes into account the impact of an interest rate shock on its economic value, as well as the Reporting Bank's ability to generate stable earnings sufficient to maintain its normal business operations. A Reporting Bank should pay attention to the complementary nature of economic value and earnings-based measures in their risk and internal capital assessments, in particular in terms of –

(a) outcomes, where economic value measures compute a change in the net present value of the Reporting Bank's assets, liabilities and off-balance sheet items subject to specific interest rate shock and stress scenarios, while earnings-based measures focus on changes to future profitability within a given time horizon eventually affecting future levels of the Reporting Bank's own equity capital;

(b) assessment horizons, where economic value measures reflect changes in value over the remaining life of the Reporting Bank's assets, liabilities and off-balance sheet items, that is, until all positions have run off, while earnings-based measures cover only the short to medium term, and therefore do not fully capture those risks that will continue to impact profit and loss accounts beyond the period of estimation; and

(c) future business or production, where economic value measures consider the net present value of repricing cash flows of instruments on the Reporting Bank's balance sheet or accounted for as an off-balance sheet item (that is, a run-off view). In addition to a run-off view, earnings measures may assume rollover of maturing items (that is, a constant balance sheet view), or assess the scenario-consistent impact on the Reporting Bank's future earnings inclusive of future business (that is, a dynamic view[718E]), or both.

5.23 A Reporting Bank shall measure its IRRBB by assessing the potential impact of interest rate shock and stress scenarios on its economic value and earnings[718F].

5.24 For the purposes of paragraph 5.23 of this Annex, a Reporting Bank shall ensure that its IMS for IRRBB is able to calculate the impact on its economic value and earnings of multiple scenarios, based on the following –

(a) interest rate shock scenarios selected by the Reporting Bank addressing the Reporting Bank's risk profile, according to its ICAAP;

(b) historical and hypothetical interest rate stress scenarios, which tend to be more severe than shock scenarios;

(c) the six standardised interest rate shock scenarios set out in Annex 10C;

(d) any additional interest rate shock scenarios required by the Authority.

5.25 For the purposes of paragraph 5.23 of this Annex, the Reporting Bank shall carry out the following –

(a) measure its vulnerability to loss under stressful market conditions, which should include conditions under which key business assumptions and parameters break down, and consider those results when establishing and reviewing their policies and limits for IRRBB;

(b) develop and implement an effective stress testing framework for IRRBB as part of its broader risk management and governance processes which shall feed into the decision-making process at the appropriate management level, including strategic decisions (for example, business and capital planning decisions) of the Board or its delegates;

(c) ensure that IRRBB stress testing is considered in its ICAAP, and is rigorous, forward-looking and identifies events of severe changes in market conditions which could adversely impact the Reporting Bank's capital or earnings, including through changes in the behaviour of its customer base;

[718E] A dynamic view can be useful for business planning and budgeting purposes. However, dynamic approaches are dependent on key variables and assumptions that are extremely difficult to project with accuracy over an extended period and can potentially hide certain key underlying risk exposures.

[718F] While the economic value and earnings-based measures share certain commonalities, it is important to manage IRRBB through both measures. If a Reporting Bank solely minimises its economic value risk by matching the repricing of its assets with liabilities beyond the short term, it could run the risk of earnings volatility.

(d) develop a stress testing framework for IRRBB that includes clearly defined objectives, scenarios tailored to the Reporting Bank's businesses and risks, well-documented assumptions and sound methodologies, and is commensurate with the Reporting Bank's nature, size and complexity as well as business activities and overall risk profile;

(e) use the framework to assess the potential impact of the scenarios on the Reporting Bank's financial condition, enable ongoing and effective review processes for stress tests and recommend actions based on the stress test results;

(f) ensure that IRRBB stress tests are used in the communication of risks, within the Reporting Bank, with the Authority, and with the market through appropriate disclosures.

5.26 A Reporting Bank should have in place a selection process for its internal interest rate shock and stress scenarios by doing the following –

(a) have in place a stress testing framework for IRRBB which ensures that the opinions of the various experts on IRRBB in the Reporting Bank are taken into account. The identification of relevant shock and stress scenarios for IRRBB, the application of sound modelling approaches and the appropriate use of the stress testing results require the collaboration of different experts[718G] within a Reporting Bank;

(b) determine, by currency, a range of potential interest rate movements against which the Reporting Bank will measure its IRRBB exposures, and ensure that risk is measured under a reasonable range of potential interest rate scenarios, including some containing severe stress elements. In developing the scenarios, the Reporting Bank should consider a variety of factors, such as the shape and level of the current term structure of interest rates and the historical and implied volatility of interest rates. In low interest rate environments, the Reporting Bank should also consider negative interest rate scenarios and the possibility of asymmetrical effects of negative interest rates on their assets and liabilities;

(c) consider the nature and sources of its IRRBB exposures, the time it would need to take action to reduce or unwind unfavourable IRRBB exposures, and its capability and willingness to withstand accounting losses in order to reposition its risk profile. The Reporting Bank should select scenarios that provide meaningful estimates of risk and include a range of shocks that is sufficiently wide to allow the Board or its delegates, as the case may be, to understand the risks inherent in the Reporting Bank's products and activities. When developing interest rate shock and stress scenarios for IRRBB, the Reporting Bank should –

[718G] This could include for example, traders, the treasury department, the finance department, the ALCO, the risk management and risk control departments and the Reporting Bank's economists.

(i) have scenarios which are sufficiently wide-ranging to identify parallel and non-parallel gap risk, basis risk and option risk. In many cases, static interest rate shocks may be insufficient to assess IRRBB exposure adequately. A Reporting Bank should ensure that the scenarios are both severe and plausible, in light of the existing level of interest rates and the interest rate cycle;

(ii) give special consideration to instruments or markets where concentrations exist, because those positions may be more difficult to liquidate or offset in a stressful market environment;

(iii) assess the possible interaction of IRRBB with its related risks, as well as other risks (for example, credit risk and liquidity risk);

(iv) assess the effect of adverse changes in the spreads of new assets and liabilities which are replacing those assets and liabilities maturing over the horizon of the forecast on their NII;

(v) where the Reporting Bank has significant option risk, include scenarios that capture the exercise of such options. For example, a Reporting Bank that has products with sold caps or floors should include scenarios that assess how the risk positions would change should those caps or floors move into the money. Given that the market value of options fluctuates with changes in the volatility of interest rates, a Reporting Bank should develop interest rate assumptions to measure its IRRBB exposures to changes in interest rate volatilities; and

(vi) specify the assumptions used in building its interest rate shock and stress scenarios such as the term structure of interest rates that will be incorporated and the basis relationship between yield curves and between rate indices. The Reporting Bank should also estimate how interest rates that are administered or managed (for example, prime rates or retail deposit rates, as opposed to those that are purely market-driven) might change, and should document how these assumptions are derived;

(d) incorporate into forward-looking scenarios –

(i) changes in portfolio composition due to factors under the control of the Reporting Bank (for example, its acquisition and production plans), as well as external factors (for example, changing competitive, legal or tax environments);

(ii) the introduction of new products where only limited historical data are available; and

(iii) new market information and new emerging risks that are not necessarily covered by historical stress episodes;

(e) perform qualitative and quantitative reverse stress tests[718H] in order to –

(i) identify interest rate scenarios that could severely threaten the Reporting Bank's capital and earnings; and

(ii) reveal vulnerabilities arising from its hedging strategies and the potential behavioural reactions of its customers.

5.27 In measuring IRRBB, a Reporting Bank shall ensure that its key behavioural and modelling assumptions are fully understood, conceptually sound and reasonable, consistent with historical experience, and documented.

5.28 The Reporting Bank should ensure that all behavioural and modelling assumptions in measuring IRRBB are rigorously tested and aligned with the Reporting Bank's business strategies.

5.29 A Reporting Bank shall –

(a) when assessing its IRRBB exposure, make judgments and assumptions[718I] about how an instrument's actual maturity or repricing behaviour may vary from the instrument's respective contractual terms because of behavioural optionalities, for the following products –

(i) fixed rate loans subject to prepayment risk;

(ii) fixed rate loan commitments[718J];

(iii) term deposits subject to early redemption risk;

(iv) NMDs;

(v) any other product that the Reporting Bank considers relevant;

718H Refer to Principle 9 of "Principles of sound stress testing practices and supervision" issued by the BCBS in May 2009.

718I Both economic value and earnings-based measures of IRRBB can be significantly impacted by a number of assumptions made for the purposes of risk quantification, namely –
(a) expectations for the exercise of interest rate options (explicit and embedded) by both the Reporting Bank and its customers under specific interest rate shock and stress scenarios;
(b) treatment of balances and interest flows arising from non-maturity deposits (NMDs);
(c) treatment of own equity in economic value measures; and
(d) the implications of accounting practices for IRRBB.

718J For fixed rate loan commitments, a Reporting Bank may sell options to retail customers (for example, prospective mortgage buyers or renewers) whereby, for a limited period, the customers can choose to draw down a loan at a committed rate. Unlike loan commitments to corporates, where drawdowns strongly reflect characteristics of automatic interest rate options, mortgage commitments (that is, pipelines) to retail customers are impacted by other drivers.

(b) assess exposures in each currency since yield curves vary from currency to currency and a Reporting Bank with positions denominated in different currencies may be exposed to IRRBB in each of those currencies. Where a Reporting Bank uses its own IMS pursuant to paragraph 5.19(a) or 5.19(c) of this Annex, a Reporting Bank with the necessary skills and sophistication, and with material multicurrency exposures, may choose to include, in its own IMS, methods to aggregate its IRRBB in different currencies using assumptions about the correlation between interest rates in different currencies;

(c) consider the materiality of the impact of behavioural optionalities within floating rate loans. For example, the Reporting Bank should consider the potential impact of the behaviour of prepayments arising from embedded caps and floors on the Reporting Bank's EVE;

(d) where a Reporting Bank uses its own IMS pursuant to paragraph 5.19(a) or 5.19(c) of this Annex, test the appropriateness of key behavioural assumptions, and document all changes to the assumptions of key parameters (for example, by comparing the economic value of equity measured under its own IMS, with the SA(IR) set out in Annex 10B). A Reporting Bank should periodically perform sensitivity analyses with reference to both economic value and earnings-based measures for key assumptions to monitor their impact on measured IRRBB; and

(e) ensure that the most significant assumptions underlying the system are documented and clearly understood by the Board or its delegates. The Reporting Bank should ensure that such documentation includes descriptions on how those assumptions could potentially affect the Reporting Bank's hedging strategies. A Reporting Bank should review significant measurement assumptions at least annually and more frequently during rapidly changing market conditions, as market conditions, competitive environments and strategies change over time. For example, if the competitive market has changed such that consumers now have lower transaction costs available to them for refinancing their residential mortgages, the Reporting Bank should consider that prepayments may become more sensitive to smaller reductions in interest rates.

5.30 Where the product is a fixed rate loan subject to prepayment risk mentioned in paragraph 5.29(a)(i) of this Annex, a Reporting Bank should –

(a) understand the nature of prepayment risk for its portfolios and make reasonable and prudent estimates of the expected prepayments; and

(b) document the assumptions underlying the estimates. This should include assumptions of how prepayment penalties or other contractual features affect the embedded optionality effect.

5.31 A Reporting Bank shall assess the expected average prepayment speed of a product that is a fixed rate loan subject to prepayment risk mentioned in paragraph 5.29(a)(i) of this Annex under each interest rate shock and stress scenario.

5.32 Where the product is a term deposit subject to early redemption risk[718K] referred to in paragraph 5.29(a)(iii) of this Annex, a Reporting Bank should document the classification scheme, whether a term deposit is deemed to be subject to redemption penalties or to other contractual features that preserve the cash flow profile of the instrument.

5.33 Where the product is an NMD referred to in paragraph 5.29(a)(iv) of this Annex, a Reporting Bank should document, monitor and regularly update key assumptions[718L] for NMD balances and behaviour used in its IMS. To determine the appropriate assumptions for its NMDs, a Reporting Bank should analyse its depositor base in order to identify the proportion of core deposits (that is, NMDs which are unlikely to reprice even under significant changes in interest rate environment). Assumptions should vary according to depositor characteristics (for example, retail or wholesale) and account characteristics (for example, transactional or non-transactional).

5.34 A Reporting Bank shall carefully consider how the exercise of behavioural options will vary under –

(a) interest rate shock and stress scenarios; and

(b) any other applicable dimension,

in respect of products set out in column (A) of Table 10A-1 and any other product with behavioural options.

5.35 In respect of the products set out in column (A) of Table 10A-1, the other dimensions referred to under paragraph 5.34(b) may include the dimensions set out in column (B) of Table 10A-1.

Table 10A-1 – Dimensions influencing the exercise of embedded behavioural options

(A) Product	**(B) Dimensions influencing the exercise of the embedded behavioural options**
Fixed rate loans subject to prepayment risk	Loan size, loan-to-value (LTV) ratio, borrower characteristics, contractual interest rates, seasoning, geographical location, original and remaining maturity, other historical factors, and other macroeconomic variables such as stock indices, unemployment rates, GDP, inflation and housing price indices.

[718K] An example of a term deposit subject to early redemption risk is one where the Reporting Bank attracts deposits with a contractual maturity term or with step-up clauses that enable the depositor at different time periods to modify the speed of redemption.

[718L] Behavioural assumptions for deposits that have no specific repricing date can be a major determinant of IRRBB exposures under the economic value and earnings-based measures.

Fixed rate loan commitments	Borrower characteristics, geographical location (including competitive environment and local premium conventions), customer relationship with bank as evidenced by cross-products, remaining maturity of the commitment, seasoning and remaining term of the mortgage.
Term deposits subject to early redemption risk	Deposit size, depositor characteristics, funding channel (for example, direct or brokered deposit), contractual interest rates, seasonal factors, geographical location and competitive environment, remaining maturity, other historical factors and other macroeconomic variables such as stock indices, unemployment rates, GDP, inflation and housing price indices.
Non-maturity deposits (NMDs)	Responsiveness of product rates to changes in market interest rates, current level of interest rates, spread between the Reporting Bank's offer rate and market rate, competition from other firms, the Reporting Bank's geographical location and demographic and other relevant characteristics of its customer base.

5.36 A Reporting Bank shall ensure that any measurement system and model used for the calculation of IRRBB –

(a) is based on accurate data; and

(b) is subject to appropriate documentation, testing and controls to give assurance on the accuracy of the calculation.

5.37 The Reporting Bank should do the following –

(a) for accurate and timely measurement of IRRBB for effective risk management and control, ensure that its risk measurement system is able to identify and quantify the major sources of IRRBB exposure. The Reporting Bank should select the most appropriate form of measurement system by considering the mix of its business lines and the risk characteristics of its activities;

(b) rely on more than one measure of risk, given that risk management systems tend to vary in how they capture the components of IRRBB. The Reporting Bank should use a variety of methodologies to quantify their IRRBB exposures under both the economic value and earnings-based measures, ranging from simple calculations based on static simulations using current holdings to more sophisticated dynamic modelling techniques that reflect potential future business activities;

(c) ensure that its management information system allows it to retrieve accurate IRRBB information in a timely manner and captures interest rate risk data on all the Reporting Bank's material IRRBB exposures. The Reporting Bank should also ensure that there is sufficient documentation of the major data sources used in the Reporting Bank's risk measurement process;

(d) use data inputs that are automated as much as possible to reduce administrative errors. The Reporting Bank should periodically review and test the data mapping against an approved model version, and should monitor the type of data extracts and set appropriate controls;

(e) ensure that, where cash flows are slotted into different time buckets (for example, for gap analyses) or assigned to different vertex points to reflect the different tenors of the interest rate curve, the slotting criteria is stable over time to allow for a meaningful comparison of risk figures over different periods.

5.38 A Reporting Bank shall ensure that its IMS –

(a) is able to calculate economic value and earnings-based measures of IRRBB, as well as other measures of IRRBB prescribed by the Authority, based on the interest rate shock and stress scenarios set out in paragraph 5.24 of this Annex; and

(b) is sufficiently flexible to incorporate any constraints imposed by the Authority on the Reporting Bank's internal risk parameter estimates.

5.39 A Reporting Bank shall ensure that its models used to measure IRRBB are comprehensive and covered by governance processes for model risk management, including a validation function that is independent of the development process. The Reporting Bank should –

(a) ensure that the validation of IRRBB measurement methods and assessment of corresponding model risk is included in a formal policy process that is reviewed and approved by the Board or its delegates. The Reporting Bank should specify the management roles and designate the parties responsible for the development, implementation and use of models in the policy. In addition, the Reporting Bank should specify and integrate, within the governance processes for model risk management, the model oversight responsibilities and policies including the development of initial and ongoing validation procedures, evaluation of results, approval, version control, exception, escalation, modification and decommission processes;

(b) have in place an effective IRRBB validation framework, which should include three core elements, namely –

(i) evaluation of conceptual and methodological soundness, including developmental evidence;

(ii) ongoing model monitoring, including process verification and benchmarking; and

(iii) outcomes analysis, including backtesting of key internal parameters (for example, stability of deposits, prepayments, early redemptions, pricing of instruments);

(c) address the expected initial and ongoing model validation activities, establish in the policy set out in sub-paragraph (a) a hierarchical process for determining model risk soundness based on both quantitative and qualitative dimensions such as size, impact, past performance and familiarity with the modelling technique employed;

(d) ensure that model risk management for IRRBB measures follows a holistic approach that begins with motivation, development and implementation by model owners and users. The Reporting Bank should ensure that the process for determining model inputs, assumptions, modelling methodologies and outputs is reviewed and validated independently of the development of IRRBB models, prior to the model receiving authorisation for usage. The Reporting Bank should present the review and validation results and any recommendations on model usage to the Board or its delegates for approval, and upon approval, subject the model to ongoing review, process verification and validation at a frequency that is consistent with the level of model risk determined and approved by the Reporting Bank;

(e) ensure that the ongoing validation process establishes a set of exception trigger events that obligate the model reviewers to notify the Board or its delegates in a timely fashion, in order to determine any corrective actions or restrictions on model usage. The Reporting Bank should designate clear version control authorisations, where appropriate, to model owners. With the passage of time and due to observations and new information gained over time, the Reporting Bank may modify or decommission an approved model. The Reporting Bank should have in place policies for model transition, including change and version control authorisations and documentation;

(f) include in the validation process model inputs or assumptions which may be sourced from IRRBB models developed by third-party vendors, related modelling processes or sub-models (both in-house and vendor-sourced). The Reporting Bank should document and explain model specification choices as part of the validation process;

(g) where a Reporting Bank purchases IRRBB models, ensure adequate documentation of its use of those models, including any specific customisation. If vendors provide input for market data, behavioural assumptions or model settings, the Reporting Bank should have a process in place to determine if those inputs are reasonable for its business and the risk characteristics of its activities; and

(h) ensure that its IA review the model risk management process as part of its annual risk assessment and audit plans, where such audit activity should not duplicate model risk management processes, but should review the integrity and effectiveness of the risk management system and the model risk management process.

5.40 A Reporting Bank shall ensure that the measurement outcomes of IRRBB and hedging strategies are reported to the Board or its delegates on a regular basis, at relevant levels of aggregation, by consolidation level and currency. The Reporting Bank should –

(a) report risk measures to the Board or its delegates regularly, and should compare current exposure with policy limits. In particular, the Reporting Bank should report the results of the periodic model reviews and audits as well as comparisons of past forecasts or risk estimates with actual results to inform the Board or its delegates of potential modelling shortcomings on a regular basis. The Reporting Bank should clearly identify portfolios that may be subject to significant mark-to-market movements within the Reporting Bank's management information system and subject such portfolios to oversight in line with any other portfolios exposed to market risk;

(b) ensure that the reports prepared for the Board or its delegates, as the case may be, include the following –

(i) summaries of the Reporting Bank's aggregate IRRBB exposures, and explanatory text that highlights the assets, liabilities, cash flows, and strategies that are driving the level and direction of IRRBB;

(ii) reports demonstrating the Reporting Bank's compliance with policies and limits;

(iii) key modelling assumptions such as NMD characteristics, prepayments on fixed rate loans and currency aggregation;

(iv) results of stress tests, including assessment of sensitivity to key assumptions and parameters;

(v) summaries of the reviews of IRRBB policies, procedures and adequacy of the measurement systems, including any findings of internal and external auditors, or other equivalent external parties (such as consultants); and

(c) ensure that reports detailing its IRRBB exposures are provided to the Board or its delegates, as the case may be, on a timely basis and reviewed regularly. The Reporting Bank should ensure that such IRRBB reports provide aggregate information as well as sufficient supporting detail to enable the Board or its delegates, as the case may be, to assess the sensitivity of the Reporting Bank to changes in market conditions, with particular reference to portfolios that may potentially be subject to significant mark-to-market movements. The Board or its delegates, as the case may be, should review the bank's IRRBB management policies and procedures in light of the reports, to ensure that they remain appropriate and sound. The Board or its delegates, as the case may be, should also ensure that analysis and risk management activities related to IRRBB are conducted by competent staff with technical knowledge and experience, consistent with the nature and scope of the Reporting Bank's activities.

Internal Assessment of Capital Adequacy for IRRBB

5.41 A Reporting Bank shall –

(a) evaluate its capital adequacy for IRRBB, which must be in line with its risk appetite, as part of its ICAAP approved by the Board;

(b) ensure that it has adequate capital and earnings that are commensurate with its level of short-term and long-term IRRBB exposures; and

(c) consider the potential risk that such exposures mentioned in sub-paragraph (b) may pose to its future financial performance.

5.42 For the purposes of evaluating its capital adequacy for IRRBB, a Reporting Bank should take the following into account –

(a) the size and tenor of internal limits on IRRBB exposures, and whether these limits are reached at the point of capital calculation;

(b) the effectiveness and expected cost of hedging open positions that are intended to take advantage of internal expectations of the future level of interest rates;

(c) the sensitivity of the internal measures of IRRBB to key modelling assumptions[718M];

(d) the impact of interest rate shock and stress scenarios set out in paragraph 5.24 of this Annex on positions priced off different interest rate indices;

(e) the impact on economic value and NII of mismatched positions in different currencies;

[718M] This includes the impact of key assumptions on ΔEVE such as the inclusion or exclusion of commercial margins, the Reporting Bank's actual equity allocation profile, the stability of NMDs and prepayment optionality.

(f) the impact of embedded losses;

(g) the distribution of capital relative to risks across different entities in the banking group, in addition to overall Group level capital adequacy;

(h) the drivers of the underlying risk;

(i) the circumstances under which the risk might crystallise.

5.43 The Reporting Bank should –

(a) ensure that the contribution of IRRBB to its overall internal capital assessment is based on the Reporting Bank's IMS outputs, taking account of key assumptions and risk limits. The Reporting Bank should also ensure that the overall level of capital is commensurate with its actual measured level of risk (including for IRRBB) and its risk appetite, and is duly documented in its ICAAP report;

(b) develop its own methodologies for capital allocation, based on its risk appetite. In determining the appropriate level of capital, a Reporting Bank should consider both the amount and the quality of capital needed;

(c) consider its capital adequacy for IRRBB in relation to the risks to economic value, given that such risks are embedded in the Reporting Bank's assets, liabilities and off-balance sheet items. For risks to future earnings, given the possibility that future earnings may be lower than expected, a Reporting Bank should consider capital buffers. The Reporting Bank should consider –

(i) the ΔEVE under a variety of interest rate shock and stress scenarios. Where the Reporting Bank's EVE is significantly sensitive to interest rate shock and stress scenarios, the Reporting Bank should assess the impact on its capital adequacy arising from financial instruments held at market value, and the potential impact in the case where banking book positions held at historical cost become subject to market valuation; and

(ii) the strength and stability of the earnings stream and the level of income needed to generate and maintain normal business operations. Where the Reporting Bank has a high level of IRRBB exposures, that could under a plausible range of market scenarios, result in the Reporting Bank reporting losses or curtailing normal dividend distribution and business operations, the Reporting Bank should ensure that it has sufficient capital to withstand the adverse impact of such events until it can implement mitigating actions such as reducing IRRBB exposures or increasing capital; and

(d) ensure that its evaluation of its capital adequacy for IRRBB as part of its ICAAP flows through to assessments of capital associated with business lines.

5.44 A Reporting Bank shall inform the Authority whenever there is any significant change to the Reporting Bank's IMS on IRRBB measurement or any policy change to its IRRBB management under its ICAAP.

5.45 A Reporting Bank shall include in its ICAAP report the outputs of its IMS, including the Reporting Bank's IRRBB exposures for EVE and NII using the interest rate shock scenarios set out in paragraph 5.24 of this Annex.

Supervisory Review

5.46 For the purpose of the Authority's supervisory review[718N], the Authority may require from a Reporting Bank the following information relating to the Reporting Bank's IRRBB –

(a) the modelling of NMDs for IMS purposes and the sensitivity of a Reporting Bank's economic value and earnings to changes in NMD assumptions;

(b) the impact of assumptions used regarding products with behavioural options;

(c) the treatment of own equity in internal calculations and the extent to which this impacts the ΔEVE number disclosed under Part XI of this Notice;

(d) repricing gaps of cash flows associated with their interest rate-sensitive assets, liabilities and off-balance sheet items (by significant currencies);

(e) exposures to automatic interest rate options;

(f) the types of yield curve used for IMS purposes;

(g) the level of ΔEVE if calculated using the SA(IR) set out in Annex 10B;

(h) economic value and earnings-based measures for interest rate shock and stress scenarios in addition to those prescribed in Annex 10C (including results based on banks' internally developed or other interest rate shock or stress scenarios).

5.47 A Reporting Bank that has been identified as an outlier bank by the Authority in accordance with paragraph 5.48 of this Annex shall be subject to further review by the Authority on the Reporting Bank's management of IRRBB and adequacy of capital relative to the Reporting Bank's IRRBB exposures.

5.48 For the purpose of determining if a Reporting Bank is an outlier bank, the Authority will compare the Reporting Bank's maximum ΔEVE calculated in accordance with paragraph 5.49 of this Annex, under the six interest rate shock scenarios set out in Annex 10C, with 15% of the Reporting Bank's Tier 1 capital.

5.49 A Reporting Bank shall compute and report to the Authority its ΔEVE on the following bases –

[718N] In its supervisory review, the Authority would consider the matters listed under paragraphs 80 to 85 of the "Standards - Interest Rate Risk in the Banking Book" issued by BCBS in April 2016.

(a) exclude its own equity from the computation of the exposure level;

(b) include all cash flows from all interest rate-sensitive assets[718O], liabilities and off-balance sheet items in the banking book in the computation of their exposure;

(c) discount cash flows using –

(i) a risk-free rate; or

(ii) where the Reporting Bank has included commercial margins and other spread components in its cash flows, a risk-free rate including such commercial margins and other spread components.

The Reporting Bank shall ensure that the risk-free rate used for discounting purposes is representative of a risk-free zero coupon rate[718P];

(d) calculate ΔEVE with the assumption of a run-off balance sheet, where existing banking book positions amortise and are not replaced by any new business.

5.50 Where the Authority is of the view that a Reporting Bank's management of IRRBB is inadequate or that the Reporting Bank has excessive IRRBB[718Q] relative to its capital or earnings, or its general risk profile, the Authority may require the Reporting Bank to take one or more of the following actions, within a specified time frame[718R] –

(a) reduce its IRRBB exposures (for example, by hedging);

(b) raise additional capital;

(c) set constraints on the internal risk parameters related to IRRBB used by the Reporting Bank;

(d) improve its IRRBB management framework.

5.51 Where the Authority determines that a Reporting Bank's IMS is deficient in its measurement of IRRBB, the Authority may require the Reporting Bank to improve its IMS or use the SA(IR) set out in Annex 10B to compute its ΔEVE.

5.52 For further guidance, a Reporting Bank should refer to "Standards – Interest rate risk in the banking book" issued by the BCBS in April 2016, and any other relevant publications issued by the BCBS and the Authority in this area.

718O Interest rate-sensitive assets are assets which are not deducted from CET1 capital and which exclude (i) fixed assets such as real estate or intangible assets and (ii) equity exposures in the banking book.

718P An example of an acceptable yield curve is a secured interest rate swap curve.

718Q In making this determination, the Authority may consider other factors than the outlier threshold set out in paragraph 5.48 of this Annex. This could include the case where a Reporting Bank's shocked ΔNII is such that the Reporting Bank may not have sufficient income to maintain its normal business conditions.

718R In imposing this time frame, the Authority may consider factors such as the prevailing financial and economic conditions, as well as the causes that led to a Reporting Bank's IRRBB exceeding the supervisory threshold.

Insertion of Annex 10B [Effective from 31 Dec 2018]

Annex 10B

STANDARDISED APPROACH FOR INTEREST RATE RISK IN THE BANKING BOOK (SA(IR))

Section 1: Overview

1.1 A Reporting Bank shall carry out the following steps to measure its IRRBB under SA(IR), based solely on the EVE –

(a) Step 1: Allocate interest rate-sensitive positions in the banking book set out in paragraph 2.2 of this Annex to one of the following three categories –

(i) amenable to standardisation;

(ii) less amenable to standardisation; or

(iii) not amenable to standardisation.

(b) Step 2: Slot cash flows arising from interest rate-sensitive positions in the banking book set out in paragraph 2.2 of this Annex that are amenable to standardisation based on their repricing maturities using the approach set out in paragraphs 2.8 to 2.12 of this Annex. The Reporting Bank shall exclude cash flows arising from positions less amenable to standardisation from this step. The Reporting Bank shall ignore the optionality of positions with embedded automatic interest rate options for the purposes of slotting of notional repricing cash flows[723]. The Reporting Bank shall slot cash flows arising from positions that are not amenable to standardisation using the approaches set out in paragraphs 3.1 to 3.7 of this Annex for NMDs and paragraphs 4.1 to 4.14 of this Annex for behavioural options respectively.

(c) Step 3: Determine the ΔEVE for the relevant interest rate scenarios for each currency, where ΔEVE is measured per currency for all six interest rate scenarios in accordance with paragraphs 6.1 and 6.2 of this Annex. In doing so, the Reporting Bank shall include the add-ons for changes in the value of automatic interest rate options (whether explicit or embedded), calculated using the approach in paragraphs 5.1 to 5.5 of this Annex, under each interest rate scenario on a per currency basis.

(d) Step 4: Calculate the ΔEVE under SA(IR) as the maximum of the worst aggregated reductions to EVE across the six supervisory interest rate shocks as set out in paragraph 6.3 of this Annex.

[723] The embedded automatic interest rate option is stripped out from the process of slotting notional repricing cash flows set out in paragraph 1.1(b) of this Annex and treated together with other automatic interest rate options as set out in paragraph 1.1(c) of this Annex.

Section 2: Components of SA(IR)

Cash Flow Bucketing

2.1 A Reporting Bank shall project all future notional repricing cash flows arising from the interest rate-sensitive positions[724] in the banking book onto –

(a) the time buckets as set out in Table 10B-1 according to their repricing dates; or

(b) the time bucket midpoints as set out in Table 10B-1, retaining the notional repricing cash flows' maturity. Where time bucket midpoints are used, the Reporting Bank shall split the notional repricing cash flows between two adjacent time bucket midpoints[725].

2.2 The interest rate-sensitive positions in the banking book mentioned in paragraph 2.1 of this Annex are –

(a) assets, excluding assets which are deducted from CET1 capital, fixed assets such as real estate or intangible assets, and equity exposures in the banking book;

(b) liabilities, including all non-remunerated deposits; and

(c) off-balance sheet items.

2.3 For the purposes of this Annex –

(a) "time bucket" means the time bucket set out in Table 10B-1;

(b) "time bucket midpoint" means the time bucket midpoints set out in Table 10B-1;

(c) "notional repricing cash flow" means –

(i) repayment of principal or part of it, at any time;

(ii) any repricing of principal where repricing is said to occur at the earliest date at which the Reporting Bank or its counterparty is entitled to unilaterally change the interest rate, or at which the rate on a floating rate instrument changes automatically in response to a change in an external benchmark; or

(iii) any interest payment on a tranche of principal that has not yet been repaid or repriced; and

[724] For the avoidance of doubt, CET1 Capital is excluded.

[725] For example, for a notional repricing cash flow of $100 with a maturity of 3Y, the cashflow is to be split into the adjacent time bucket midpoints of 2.5Y and 3.5Y, while retaining the dollar-weighted average maturity of the notional repricing cash flow. An amount of $50 is to be allocated to the time bucket midpoint of 2.5Y and the remaining $50 to the time bucket midpoint of 3.5Y.

(d) "repricing date" means the date of each repayment, repricing or interest payment.

2.4 A Reporting Bank may choose whether to deduct commercial margins and other spread components from the notional repricing cash flows, using a prudent and transparent methodology.

2.5 Where a Reporting Bank has chosen not to deduct commercial margins and other spread components of interest payments from the notional repricing cash flows, the Reporting Bank shall slot the commercial margins and other spread components of interest payments on a tranche of principal that has not yet been repaid and which do not reprice until their contractual maturity, irrespective of whether the non-amortised principal has been repriced or not.

Table 10B-1 – Maturity schedule with 19 time buckets for notional repricing cash flows repricing at t^{CF}

Short-term rates			Medium-term rates			Long-term rates		
k	Time bucket (M: months, Y: years)	Time bucket midpoint (years)	k	Time bucket (M: months, Y: years)	Time bucket midpoint (years)	k	Time bucket (M: months, Y: years)	Time bucket midpoint (years)
1	Overnight	0.0028	9	$2Y < t^{CF} \le 3Y$	2.5	14	$7Y < t^{CF} \le 8Y$	7.5
2	Overnight $< t^{CF} \le 1M$	0.0417	10	$3Y < t^{CF} \le 4Y$	3.5	15	$8Y < t^{CF} \le 9Y$	8.5
3	$1M < t^{CF} \le 3M$	0.1667	11	$4Y < t^{CF} \le 5Y$	4.5	16	$9Y < t^{CF} \le 10Y$	9.5
4	$3M < t^{CF} \le 6M$	0.375	12	$5Y < t^{CF} \le 6Y$	5.5	17	$10Y < t^{CF} \le 15Y$	12.5
5	$6M < t^{CF} \le 9M$	0.625	13	$6Y < t^{CF} \le 7Y$	6.5	18	$15Y < t^{CF} \le 20Y$	17.5
6	$9M < t^{CF} \le 1Y$	0.875				19	$t^{CF} > 20Y$	25
7	$1Y < t^{CF} \le 1.5Y$	1.25						
8	$1.5Y < t^{CF} \le 2Y$	1.75						

Process for Slotting and Decomposing Banking Book Instruments

2.6 Paragraphs 2.8 to 2.14 of this Annex set out the process for slotting and decomposing banking book instruments for –

(a) fixed rate positions or floating rate positions that are amenable to standardisation[726];

(b) positions that are less amenable to standardisation; and

(c) positions that are not amenable to standardisation.

2.7 For the purposes of this Annex –

726 Positions amenable to standardisation would also include positions with embedded automatic interest rate options.

(a) "fixed rate positions" mean positions which generate cash flows that are certain till the point of contractual maturity[727]; and

(b) "floating rate positions" mean positions generate cash flows that are not predictable past the next repricing date other than that the present value would be reset to par.

Process for Positions that are Amenable to Standardisation

2.8 The Reporting Bank shall –

(a) in respect of fixed rate positions, allocate repricing cash flows either to time buckets or time bucket midpoints based on contractual maturity of such cash flows; and

(b) in respect of floating rate positions, treat such positions as a series of coupon payments until the next repricing and a par notional cash flow at the time bucket or time bucket midpoints closest to the next reset date, with no additional slotting of notional repricing cash flows to later time buckets or time bucket midpoints (other than the spread component which is not repriced).

2.9 Where a Reporting Bank allocates repricing cash flows based on time bucket midpoints for fixed rate positions, the Reporting Bank shall allocate, all coupon cash flows and periodic or final principal repayments to the two adjacent time bucket midpoints closest to the contractual maturity.

2.10 Where a Reporting Bank allocates repricing cash flows based on time buckets midpoints for floating rate positions, the Reporting Bank shall allocate all coupon and notional repricing cash flows to the two adjacent time bucket midpoints closest to the next reset date.

2.11 A Reporting Bank shall ignore the optionality (whether sold or bought) arising from positions with embedded automatic interest rate options for the purposes of slotting notional repricing cash flows[728] under paragraph 2.8 of this Annex, and shall treat the stripped-out embedded automatic interest rate options as if they are explicit automatic interest rate options.

2.12 A Reporting Bank may, with the Authority's approval, categorise other positions as being amenable to standardisation and ignore any optionality associated with such positions if the Reporting Bank can demonstrate that such optionality is of immaterial consequence.

[727] Examples are fixed rate loans without embedded prepayment options, term deposits without redemption risk and other amortising products such as mortgage loans.

[728] For example, a floating rate loan or debt security with a floor shall be treated as if there were no floor; hence, it shall be treated as if it was fully repriced at the next reset date, and its full outstanding balance slotted into the corresponding time band. Similarly, a callable bond issued by a bank at a fixed yield shall be treated as if it matured at its longest contractual term, ignoring the call option.

Process for Positions that are Less Amenable to Standardisation[729]

2.13 A Reporting Bank shall use the methodology provided in paragraphs 5.1 to 5.5 of this Annex to treat explicit automatic interest rate options[730] and embedded automatic interest rate options that are separated or stripped out from the Reporting Bank's assets or liabilities.

Process for Positions that are Not Amenable to Standardisation

2.14 A Reporting Bank shall use the methodology provided in paragraphs 3.1 to 4.14 of this Annex for positions not amenable to standardisation. Positions not amenable to standardisation include –

(a) NMDs;

(b) fixed rate loans subject to prepayment risk; and

(c) term deposits subject to early redemption risk.

Section 3: Treatment of NMDs

3.1 A Reporting Bank shall carry out the following steps in the order set out below for the treatment of NMDs –

(a) segment its NMDs according to the nature of the deposit and depositor in accordance with paragraph 3.2 of this Annex;

(b) identify, for each NMD category, the core and non-core deposits in accordance with paragraphs 3.3 and 3.4 of this Annex, up to the caps on proportion of core deposits specified in Table 10B-2;

(c) determine an appropriate cash flow slotting for each NMD category in accordance with paragraphs 3.5 to 3.7 of this Annex and the average maturity limits specified in Table 10B-2.

NMD Categories

3.2 A Reporting Bank shall –

(a) segment NMDs into the retail and wholesale NMD categories set out in Table 10B-2;

[729] For positions that are less amenable to standardisation, a common feature is optionality that makes the timing of notional repricing cash flows uncertain. Such optionality introduces a non-linearity, which suggests that delta-equivalent approximations are imprecise for large interest rate shock scenarios.

[730] An example of a product with embedded automatic interest rate options is a floating rate mortgage loan with embedded caps and/or floors. Notional repricing cash flows for these loans are treated as fixed rate loans until the next repricing date, thereby ignoring the option, which is treated like a separate automatic interest rate option.

(b) treat deposits placed with it by a natural person as retail deposits, and deposits from legal entities, sole proprietorships or partnerships as wholesale deposits;

(c) treat deposits made by small business customers[731] and managed as retail exposures as retail deposits;

(d) where regular transactions are carried out of the account of a small business customer and managed as retail exposure, classify such retail deposits as being held in a transactional account[732]; and

(e) classify all other retail deposits as being held in a non-transactional account.

Separation of NMDs

3.3 A Reporting Bank shall distinguish between the stable and non-stable parts of each NMD category using observed volume changes over the past 10 years. The stable NMD portion refers to the portion that is found to remain undrawn with a high degree of likelihood.

3.4 A Reporting Bank shall estimate its level of core deposits based on the proportion of stable NMDs which are unlikely to reprice even under significant changes in the interest rate environment and subject to the cap as shown in Table 10B-2 for each NMD category. The Reporting Bank shall estimate non-core NMDs as the remainder of NMDs not treated as core deposits.

Cash Flow Slotting

3.5 A Reporting Bank shall slot NMDs into the appropriate time bucket or time bucket midpoint.

3.6 A Reporting Bank shall treat the non-core deposits mentioned in paragraph 3.4 of this Annex as overnight deposits and accordingly slot such non-core deposits into the overnight time bucket or overnight time bucket midpoint.

731 "Small business customers" are defined in line with the definition of loans extended to small businesses in footnote 124 of Part VII that are managed as retail exposures and are generally considered as having similar interest rate risk characteristics to retail accounts provided the total aggregated liabilities raised from one small business customer is less than S$2 million (on a consolidated basis where applicable). Where a bank does not have any exposure to a small business customer that would enable it to use the definition under footnote 124 of Part VII, the bank may include such a deposit in this category provided that the total aggregated liabilities raised from the customer is less than S$2 million (on a consolidated basis where applicable) and the deposit is managed as a retail deposit. This means that the bank treats such deposits in its internal risk management systems consistently over time and in the same manner as other retail deposits, and that the deposits are not individually managed in a way comparable to larger corporate deposits.

732 Examples of transactional retail deposits are ones where salaries are automatically credited or when the deposit is non-interest bearing. For non-interest bearing deposits, a Reporting Bank may introduce a specific category for non-remunerated deposits, subject to the Authority's approval.

3.7 A Reporting Bank shall determine the appropriate cash flow slotting procedure for each category of core deposits, up to the maximum average maturity for each category as specified in Table 10B-2.

Table 10B-2: Caps on Core Deposits and Average Maturity by Category

NMD category	Cap on proportion of core deposits (%)	Cap on average maturity of core deposits (years)
Retail / Transactional	90	5
Retail / Non-transactional	70	4.5
Wholesale	50	4

Section 4: Treatment of Positions with Behavioural Options other than NMDs

4.1 The treatment set out in paragraphs 4.2 to 4.14 of this Annex applies only to behavioural options related to retail customers. In the case where a wholesale customer has a behavioural option that may change the pattern of notional repricing cash flows, a Reporting Bank shall use the methodology provided in paragraph 5.5 of this Annex.

Positions with Behavioural Options other than NMDs

4.2 In the case of fixed rate loans subject to prepayments and term deposits subject to early redemption risk, the customer has an option, which, if exercised, will alter the timing of a Reporting Bank's cash flows. The customer's exercise of the option is, among other factors, influenced by changes in interest rates. In the case of a fixed rate loan, the customer has an option to repay the loan early, that is to prepay; and for a fixed-term deposit, the customer may have the option to withdraw the deposit before the scheduled date.

4.3 A Reporting Bank shall calculate the optionality of positions with behavioural options other than NMDs.

4.4 In paragraph 4.3 of this Annex, "optionality of positions with behavioural options other than NMDs" means the amount ascertained by the formula A x B, where –

(a) A is the baseline estimate of loan prepayments and early withdrawal of fixed-term deposits given the prevailing term structure of interest rates; and

(b) B is the scenario-dependent scalar that reflects the likely behavioural changes in the exercise of the options.

4.5 A Reporting Bank shall –

(a) determine the value of A referred to in paragraph 4.4(a) of this Annex; and

(b) where the Reporting Bank adopts the SA(IR) under paragraph 5.19(b) of Annex 10A, obtain the Authority's prior approval of the value of A.

Fixed Rate Loans Subject to Prepayment Risk

4.6 Any prepayments, or any part thereof, for which the economic cost is not charged to the borrower, is referred to as uncompensated prepayment.

4.7 For any loan product where the economic cost of prepayments is never charged, or charged only for prepayments above a certain threshold, a Reporting Bank shall use the steps set out in paragraphs 4.8 to 4.10 of this Annex to assign notional repricing cash flows.

4.8 A Reporting Bank shall compute the CPR for each portfolio as –

$$CPR_{i,c}^{p} = \min(1, \gamma_i \cdot CPR_{0,c}^{p})$$

where –

(a) $CPR_{i,c}^{p}$ is the CPR for a portfolio *p* of homogenous prepayment-exposed loans denominated in currency *c* under an interest rate shock scenario *i* as set out in Table 10B-3;

(b) $CPR_{0,c}^{p}$ is the constant baseline CPR[733] under the current interest rate yield curve of the portfolio *p* of homogenous prepayment-exposed loans denominated in currency *c*. The Reporting Bank shall determine $CPR_{0,c}^{p}$ based on the prevailing term structure of interest rates; and

(c) γ_i is a multiplier applied for scenario *i* as given in Table 10B-3.

Table 10B-3: CPRs under the Shock Scenarios

Scenario number (i)	Interest rate shock scenarios	γ_i (scenario multiplier)
1	Parallel up	0.8
2	Parallel down	1.2
3	Steepener	0.8
4	Flattener	1.2
5	Short rate up	0.8
6	Short rate down	1.2

4.9 A Reporting Bank shall reflect the prepayments on the fixed rate loans in the relevant cash flows (for example scheduled payments on the loans, prepayments and interest payments[734]), as follows –

(a) where time buckets are used –

$$CF_{i,c}^{p}(k) = CF_{i,c}^{S}(k) + CPR_{i,c}^{p} \cdot N_{i,c}^{p}(k-1)\text{; or}$$

[733] Alternatively, the baseline CPR may also vary over the life of each loan in the portfolio. In that case, it is denoted as $CPR(k)_{0,c}^{p}$ for each time bucket *k* or $CPR(t_k)_{0,c}^{p}$ for each time bucket midpoint t_k.

[734] The Reporting Bank may separate such payments into scheduled payments adjusted for prepayment and uncompensated prepayments.

(b) where time bucket midpoints are used –

$$CF_{i,c}^{p}(t_k) = CF_{i,c}^{S}(t_k) + CPR_{i,c}^{p} \cdot N_{i,c}^{p}(t_{k-1}),$$

where –

(i) $CF_{i,c}^{p}(k)$ and $CF_{i,c}^{p}(t_k)$ refers to the notional repricing cashflows arising from a portfolio *p* of homogenous prepayment-exposed loans denominated in currency *c* under an interest rate shock scenario *i* as set out in Table 10B-3;

(ii) $CF_{i,c}^{S}(k)$ and $CF_{i,c}^{S}(t_k)$ refers to the scheduled interest and principal repayment for each interest rate shock scenario *i* and currency *c*;

(iii) *k and* t_k refers to the time bucket and time bucket midpoint respectively, that the scheduled interest and principal repayment is slotted into;

(iv) $N_{i,c}^{p}(k-1)$ and $N_{i,c}^{p}(t_{k-1})$ denotes the notional outstanding of portfolio *p* at time bucket *k-1* and time bucket midpoint t_{k-1} respectively, for each interest rate scenario *i* and currency *c*; and

(v) The base cash flows (that is given the current interest rate yield curve and base CPR) are given by *i*=0.

4.10 Where a Reporting Bank has in place annual limits on uncompensated prepayments, it shall apply these annual limits in the relevant cash flows referred to in paragraph 4.9 of this Annex.

Term Deposits Subject to Early Redemption Risk

4.11 A Reporting Bank shall treat term deposits as being subject to early redemption risk, subject to paragraph 4.12 of this Annex.

4.12 A Reporting Bank may treat term deposits as fixed rate liabilities and slot the notional repricing cash flows of such deposits into the time buckets or time bucket midpoints up to their corresponding contractual maturity dates if the Reporting Bank can show to the satisfaction of the Authority that –

(a) the depositor has no legal right to withdraw the deposit; or

(b) an early withdrawal results in a significant penalty that at least compensates for the loss of interest between the date of withdrawal and the contractual maturity date and the economic cost of breaking the contract[735].

4.13 A Reporting Bank shall compute the TDRR for each portfolio as –

[735] However, penalties often do not reflect such an economic calculation but are instead based on a simpler formula such as a percentage of accrued interest. In such cases, there is potential for changes to profit or loss arising from differences between the penalty charged and the actual economic cost of early withdrawal.

$$TDRR_{i,c}^{p} = \min(1, u_i \cdot TDRR_{0,c}^{p})$$

where –

(a) $TDRR_{i,c}^{p}$ is the TDRR that is applicable to each homogenous portfolio *p* of term deposits in currency *c* for each interest rate shock scenario *i* set out in Table 10B-4;

(b) $TDRR_{0,c}^{p}$ is the baseline TDRR under the current interest rate yield curve that is applicable to each homogenous portfolio *p* of term deposits in currency *c* and is to be determined by the Reporting Bank; and

(c) u_i is the scalar multiplier applied for interest rate shock scenario *i* as given in Table 10B-4.

Table 10B-4: TDRR Scalars under the Shock Scenarios

Scenario number (i)	Interest rate shock scenarios	u_i (Scalar multiplier)
1	Parallel up	1.2
2	Parallel down	0.8
3	Steepener	0.8
4	Flattener	1.2
5	Short rate up	1.2
6	Short rate down	0.8

4.14 A Reporting Bank shall calculate the notional repricing cash flows for term deposits which are expected to be redeemed early under any interest rate shock scenario *i* in accordance with the formula below, and slot such cash flows into the overnight time bucket (k=1) or time bucket midpoint (t_1) as follows –

(a) where time buckets are used –

$$CF_{i,c}^{p}(1) = TD_{0,c}^{p} \cdot TDRR_{i,c}^{p}; \text{ or}$$

(b) where time bucket midpoints are used –

$$CF_{i,c}^{p}(t_1) = TD_{0,c}^{p} \cdot TDRR_{i,c}^{p}$$

where –

(i) $CF_{i,c}^{p}(1)$ refers to the notional repricing cashflows arising from each homogenous portfolio *p* of term deposits in currency *c* for each interest rate shock scenario *i* set out in Table 10B-4, which are expected to be redeemed early and slotted into the overnight time bucket;

(ii) $CF_{i,c}^{p}(t_1)$ refers to the notional repricing cashflows arising from each homogenous portfolio p of term deposits in currency c for each interest rate shock scenario *i* set out in Table 10B-4, which are expected to be redeemed early and slotted into the overnight time bucket midpoint; and

(iii) $TD^{p}_{0,c}$ refers to the outstanding amount of term deposits for portfolio *p* and currency *c*.

Section 5: Automatic Interest Rate Options

5.1 A Reporting Bank shall calculate an add-on for sold automatic interest rate options, whether explicit or embedded[736]. A Reporting Bank may calculate an add-on for all bought automatic interest rate options or only for bought automatic interest rate options used for hedging sold automatic interest rate options.

5.2 For the purposes of paragraph 5.1 of this Annex, a Reporting Bank shall calculate the add-on based on the following –

(a) for each sold automatic option *o* in currency *c*, the value change denoted $\Delta FVAO^{o}_{i,c}$ is calculated for each interest rate shock scenario *i*. The value change is given by –

(i) an estimate of the value of the option to the option holder, given –

(A) a yield curve in currency *c* under the interest rate shock scenario *i*; and

(B) a relative increase in the implicit volatility of 25%;

minus

(ii) the value of the sold option to the option holder, given the yield curve in currency *c* at the valuation date;

(b) for each bought automatic interest rate option *q* in currency *c*, the Reporting Bank shall determine the change in value of the option, $\Delta FVAO^{q}_{i,c}$, between interest rate shock scenario *i* and the current interest rate term structure combined with a relative increase in the implicit volatility of 25%;

(c) the Reporting Bank's total measure for automatic interest rate option risk, $KAO_{i,c}$, under interest rate shock scenario *i* in currency *c* is calculated as –

$$KAO_{i,c} = \sum_{o=1}^{n_c} \Delta FVAO^{o}_{i,c} - \sum_{q=1}^{m_c} \Delta FVAO^{q}_{i,c}$$

where $n_c (m_c)$ is the number of sold (bought) options in currency *c*.

[736] The most important interest rate options that are likely to occur in the banking book are caps and floors, which are often embedded in banking products. Swaptions, such as prepayment options on non-retail products, may also be treated as automatic interest rate options as, in cases where such options are held by sophisticated financial market counterparties, the option holder will almost certainly exercise the option if it is in their financial interest to do so.

5.3 For the purposes of paragraphs 5.2(a) and 5.2(b) of this Annex, the Reporting Bank shall –

(a) calculate the value of the option to the option holder based on an internally-selected methodology; and

(b) where the Reporting Bank adopts the SA(IR) under paragraph 5.19(b) of Annex 10A, obtain the Authority's prior approval of the methodology.

5.4 Where a Reporting Bank calculates an add-on only for bought automatic interest rate options that are used for hedging sold automatic interest rate options, the Reporting Bank shall, in respect of remaining bought interest rate options, add any change in market value that is reflected in regulatory capital to the total automatic interest rate option risk measure $KAO_{i,c}$.

5.5 For the purposes of paragraphs 5.2 to 5.4 of this Annex, the Reporting Bank shall treat any behavioural option positions with wholesale customers that may change the pattern of notional repricing cash flows as embedded automatic interest rate options[737]. A Reporting Bank may treat wholesale term deposits as fixed rate liabilities and slot their notional repricing cashflows into the time buckets or time bucket midpoints up to their corresponding contractual maturity dates if the Reporting Bank can demonstrate to the satisfaction of the Authority that –

(a) the depositor has no legal right to withdraw the deposit; or

(b) an early withdrawal results in a significant penalty that at least compensates for the loss of interest between the date of withdrawal and the contractual maturity date and the economic cost of breaking the contract[735].

Section 6: Calculation of the Standardised EVE Measure

6.1 A Reporting Bank shall calculate the loss in economic value of equity, $\Delta EVE_{i,c}$ under scenario *i* and currency *c* for each currency with material exposures, that is, currencies that account for more than 5% of its banking book assets or liabilities, as follows –

[737] An example of such an option would be a puttable fixed coupon bond issued by the Reporting Bank in the wholesale market, for which the owner has the right to sell the bond back to the Reporting Bank at a fixed price at any time.

(a) slot all notional repricing cash flows into their respective time buckets $k \in \{1,2,\ldots,K\}$ or time bucket midpoints $t_k, k \in \{1,2,\ldots,K\}$ for each scenario *i*. Within a given time bucket *k* or time bucket midpoint t_k, the Reporting Bank shall net[738] all positive and negative notional repricing cash flows to form a single long or short position, with the netted parts removed from the calculation. This process applied across all time buckets or time bucket midpoints leads to a set of notional repricing cash flows $CF_{i,c}(k)$ or $CF_{i,c}(t_k), k \in \{1,2,\ldots,K\}$[739];

(b) weigh the net notional repricing cash flows in each time bucket *k* or time bucket midpoints t_k calculated in sub-paragraph (a) above by $DF_{i,c}(t_k)$ a continuously compounded discount factor –

$$DF_{i,c}(t_k) = \exp(-R_{i,c}(t_k) \cdot t_k)$$

where –

(i) $R_{i,c}(t_k)$ is the post-shock risk-free rate or risk-free rate including commercial margins and other spreads (only if the Reporting Bank has included commercial margins and other spread components in its cash flows) in currency *c* under interest rate shock scenario *i* as set out in Annex 10C; and

(ii) t_k is the midpoint of time bucket *k*.

(c) sum the risk-weighted net positions computed in sub-paragraph (b) above to determine $EVE_{i,c}^{nao}$, the EVE in currency *c* under scenario *i* (excluding automatic interest rate positions) –

(i) where time buckets are used –

$$EVE_{i,c}^{nao} = \sum_{k=1}^{K} \mathrm{CF}_{i,c}(k) \cdot DF_{i,c}(t_k);\text{ or}$$

(ii) where time bucket midpoints are used –

$$EVE_{i,c}^{nao} = \sum_{k=1}^{K} \mathrm{CF}_{i,c}(t_k) \cdot DF_{i,c}(t_k);$$

(d) obtain the ΔEVE in currency *c* associated with scenario *i* by subtracting $EVE_{i,c}^{nao}$ from the EVE under the current interest rate term structure $EVE_{0,c}^{nao}$ and by adding the total measure for automatic interest rate risk $KAO_{i,c}$, as follows -

(i) where time buckets are used –

$$\Delta EVE_{i,c} = \sum_{k=1}^{K} \mathrm{CF}_{0,c}(k) \cdot DF_{0,c}(t_k) - \sum_{k=1}^{K} \mathrm{CF}_{i,c}(k) \cdot DF_{i,c}(t_k) + KAO_{i,c};\text{ or}$$

738 Intra-bucket mismatch risk arises as notional repricing cash flows with different maturity dates, but falling within the same time bucket or time bucket midpoint, are assumed to match perfectly. This is mitigated by the high number of time buckets available.

739 Depending on the approach the Reporting Bank takes for NMDs, prepayments and product with other embedded behavioral options, the notional repricing cash flows may vary by scenario *i* (scenario-dependent cash flow products).

(ii) where time bucket midpoints are used –

$$\Delta EVE_{i,c} = \sum_{k=1}^{K} \mathrm{CF}_{0,c}(t_k) \cdot DF_{0,c}(t_k) - \sum_{k=1}^{K} \mathrm{CF}_{i,c}(t_k) \cdot DF_{i,c}(t_k) + KAO_{i,c};$$

6.2 A Reporting Bank shall ensure that the risk-free rate used for discounting purposes is representative of a risk-free zero coupon rate[740].

6.3 A Reporting Bank shall compute the standardised EVE risk measure by aggregating the EVE losses $\Delta EVE_{i,c} > 0$ under a given interest rate scenario *i*, and taking the maximum loss across all interest rate shock scenarios –

$$\text{Standardised EVE risk measure} = \max_{i \in \{1,2,\ldots,6\}} \left\{ \max\left(0; \sum_{c:\Delta\mathrm{EVE}_{i,c}>0} \underbrace{\Delta\mathrm{EVE}_{i,c}}_{loss\ in\ currency\ c}\right)\right\}$$

[740] An example of an acceptable yield curve is a secured interest rate swap curve.

Insertion of Annex 10C [Effective from 31 Dec 2018]

Annex 10C

STANDARDISED INTEREST RATE SHOCK SCENARIOS

1 A Reporting Bank shall apply the interest rate shock scenarios –

(a) as set out in paragraphs 2(a) to (f) of this Annex to calculate parallel and non-parallel gap risks for EVE; and

(b) as set out in paragraphs 2(a) and (b) of this Annex for the calculation of NII,

in respect of each currency for which the Reporting Bank has material positions[741].

2 The interest rate shock scenarios referred to in paragraph 1 of this Annex are –

(a) parallel shock up;

(b) parallel shock down;

(c) steepener shock (short rates down and long rates up);

(d) flattener shock (short rates up and long rates down);

(e) short rates shock up; and

(f) short rates shock down.

3 The instantaneous interest rate shocks, $\overline{R}_{shocktype,c}$ to the risk-free rate for each shock type (parallel, short and long) and for each currency *c*, are provided in Table 10C-1 and given in basis points.

Table 10C-1: Specified Size of Interest Rate Shocks $\overline{R}_{shocktype,c}$

	Argentina Peso (ARL)	Australian Dollar (AUD)	Brazilian Real (BRL)	Canadian Dollar (CAD)	Swiss Franc (CHF)	Chinese Yuan (CNY)	Euro (EUR)
Parallel	400	300	400	200	100	250	200
Short	500	450	500	300	150	300	250
Long	300	200	300	150	100	150	100

	British Pound (GBP)	Hong Kong Dollar (HKD)	Indonesian Rupiah (IDR)	Indian Rupee (INR)	Japanese Yen (JPY)	Korean Won (KRW)	Mexican Peso (MXN)
Parallel	250	200	400	400	100	300	400
Short	300	250	500	500	100	400	500
Long	150	100	350	300	100	200	300

[741] Currencies that account for more than 5% of its banking book assets or liabilities

	Russian Ruble (RUB)	Saudi Riyal (SAR)	Swedish Krona (SEK)	Singapore Dollar (SGD)	Turkish Lira (TRY)	United States Dollar (USD)	South African Rand (ZAR)
Parallel	400	200	200	150	400	200	400
Short	500	300	300	200	500	300	500
Long	300	150	150	100	300	150	300

4 For currencies not specified in Table 10C-1, a Reporting Bank shall use the following steps to derive their instantaneous interest rate shocks –

(a) Step 1: generate a 16-year time series of daily interest rates for the currencies not available in Table 10C-1 from the year 2000 (3 January 2000) to the year 2015 (31 December 2015), or based on such other historical period that is approved by the Authority. The Reporting Bank shall determine the average local percentile of the rate series by calculating the average rate across all daily rates in time buckets 3M, 6M, 1Y, 2Y, 5Y, 7Y, 10Y, 15Y and 20Y.

(b) Step 2: apply the baseline global interest rate shock parameters specified in Table 10C-2 to the average long-term rates derived in sub-paragraph (a) to obtain the interest rate shocks by currency for the parallel, short and long segments of the yield curve.

Table 10C-2: Baseline global interest rate shock parameters

Parallel	60%
Short	85%
Long	40%

(c) Step 3: apply the following caps and floors to the interest rate shocks derived in sub-paragraph (b) above to obtain the final set of instantaneous interest rate shocks, $\overline{R}_{shocktype,c}$ for each shock type (parallel, short and long) and for each currency c –

(i) parallel – floor of 100bps, Cap of 400bps;

(ii) short – floor of 100bps, Cap of 500bps; and

(iii) long – floor of 100bps, Cap of 300bps.

5 A Reporting Bank shall maintain relevant documents and proper audit trails for the derivation of instantaneous shock rates for currencies not specified in Table 10C-1 to facilitate reviews by the Authority.

6 Subject to paragraph 7 of this Annex, a Reporting Bank shall calculate the interest rate shocks and apply such shocks to each of the six interest rate shock scenarios referred to in paragraph 2 of this Annex as follows –

(a) parallel shock for currency c, $\Delta R_{parallel,c}(t_k)$, that refers to a constant parallel shock up or down across all time buckets –

$$\Delta R_{parallel,c}(t_k) = \pm\bar{R}_{parallel,c}$$

where –

(i) $\bar{R}_{parallel,c}$ refers to the instantaneous interest rate shock for currency c and the parallel shock type specified in paragraph 3 of this Annex or, in the case of currencies not specified in Table 10C-1, paragraph 4(c)(i) of this Annex;

(ii) t_k refers to the midpoint (in time) of the k^{th} bucket;

(b) short rate shock for currency c, $\Delta R_{short,c}(t_k)$, that refers to a shock up or down that is greatest at the shortest tenor midpoint –

$$\Delta R_{short,c}(t_k) = \pm\bar{R}_{short,c} \cdot S_{short}(t_k) = \pm\bar{R}_{short,c} \cdot e^{\frac{-t_k}{x}}$$

where –

(i) $\bar{R}_{short,c}$ refers to the instantaneous interest rate shock for currency c and the short shock type computed in paragraph 3 of this Annex or, in the case of currencies not specified in Table 10C-1, paragraph 4(c)(ii) of this Annex; and

(ii) $S_{short}(t_k)$ refers to the shaping scalar and is defined as $(e^{\frac{-t_k}{x}})$, where $x = 4$, and e refers to the exponential function. The shaping scalar diminishes towards zero at the tenor of the longest point in the term structure[742,743];

(c) long rate shock for currency c[744], $\Delta R_{long,c}(t_k)$, that refers to a shock up or down that is greatest at the longest tenor midpoint –

$$\Delta R_{long,c}(t_k) = \pm\bar{R}_{long,c} \cdot S_{long}(t_k) = \pm\bar{R}_{long,c} \cdot (1 - e^{\frac{-t_k}{x}})$$

where –

(i) $\bar{R}_{long,c}$ refers to the instantaneous interest rate shock for currency c and the long shock type computed in paragraph 3 of this Annex or, in the case of currencies not specified in Table 10C-1, paragraph 4(c)(iii) of this Annex; and

(ii) $S_{long}(t_k)$ is related to the shaping scalar referred to in sub-paragraph (b)(ii) via the following relationship: $S_{long}(t_k) = 1 - S_{short}(t_k)$;

742 The value of x in the denominator of the function $e^{\frac{-t_k}{x}}$ controls the rate of decay of the shock.

743 t_k is the midpoint (in time) of the k^{th} bucket. There are 19 buckets in the standardised framework, but the analysis may be generalised to any number of buckets.

744 The long rate shock is only used for the computing steepener and flattener shocks set out in paragraph 6(d) of this Annex.

(d) steepener shock, $\Delta R_{steepener,c}(t_k)$, and flattener shock, $\Delta R_{flattener,c}(t_k)$, for currency c that involves rotations to the term structure of the interest rates where both the long and short rates are shocked to derive the steepener and flattener interest rate scenarios respectively. The shift in interest rates at each tenor midpoint is obtained by applying the following formulas to those shocks[745] –

$$\Delta R_{steepener,c}(t_k) = -0.65 \cdot \left|\Delta R_{short,c}(t_k)\right| + 0.9 \cdot \left|\Delta R_{long,c}(t_k)\right|$$

$$\Delta R_{flattener,c}(t_k) = +0.8 \cdot \left|\Delta R_{short,c}(t_k)\right| - 0.6 \cdot \left|\Delta R_{long,c}(t_k)\right|$$

7 For the avoidance of doubt, where the post-shock interest rates under the six interest rate shock scenarios set out in paragraph 2 of this Annex is negative, a Reporting Bank shall not floor such post-shock interest rates at zero or any negative lower bound.

745 In all cases, $\Delta R_{short,c}(t_1)$ and $\Delta R_{long,c}(t_1)$ cannot exceed 500 basis points, and $\Delta R_{short,c}(t_k)$ and $\Delta R_{long,c}(t_k)$ cannot exceed 300 basis points.

Amendments to Part XI [All amendments to Part XI are effective from 1 Jan 2019]

PART XI: PUBLIC DISCLOSURE REQUIREMENTS

Division 2: General Requirements

Sub-division 2: Frequency and Timing of Disclosures

Amendments to Paragraphs 11.2.3 to 11.2.5

11.2.3 A Reporting Bank shall make the disclosures required under –

(a) Sub-divisions 2 to 7 and 10 to 13 of Division 3 of this Part according to the frequency of disclosure for each disclosure requirement set out in Table 11-1~~, except for the disclosures required under Table 11-45 which a Reporting Bank shall make on a quarterly basis~~;

(b) Sub-division 8 of Division 3 of this Part on an annual basis; and

(c) Sub-division 9 of Division 3 of this Part at least on an annual basis and where such disclosures are made only on an annual basis, explain why this is appropriate. To enhance market discipline, the Reporting Bank is encouraged to make more frequent quantitative disclosures, e.g. on a semi-annual basis.

(d) [Deleted by MAS Notice 637 (Amendment No. 3) 2017]

[MAS Notice 637 (Amendment No. 3) 2017]

11.2.4 For disclosures which are required to be made ~~on a quarterly or semi-annual basis~~ for a reporting period ending otherwise than at the close of an annual reporting period in this Part, a Reporting Bank which issues quarterly financial statements shall ~~publish the information~~make such disclosure concurrently with the publication of its quarterly financial statements, and in any case no later than 45 days after the end of ~~each quarter~~the reporting period. A Reporting Bank which does not issue quarterly financial statements shall make such disclosure ~~publish the information~~ no later than 45 days after the end of ~~each quarter~~ the reporting period.

11.2.5 For disclosures which are required to be made ~~annually~~ for a reporting period ending at the close of an annual reporting period in this Part, a Reporting Bank which issues an annual report shall ~~publish the information~~ make such disclosure concurrently with the publication of its annual report, and in any case no later than 4 months after the end of ~~each financial year~~ the reporting period. A Reporting Bank which does not issue an annual report shall make such disclosure ~~publish the information~~ no later than 4 months after the end of ~~each financial year~~ the reporting period.

Sub-division 3: Location and Form of Disclosures

[800] [Deleted by MAS Notice 637 (Amendment No. 3) 2017]

Amendments to Paragraph 11.2.12

Disclosure requirements in ~~Table 11-45 and~~ Sub-divisions 8 and 9 of Division 3 of this Part

11.2.12 For the disclosure requirements in ~~Table 11-45 and~~ Sub-divisions 8 and 9 of Division 3 of this Part, a Reporting Bank has the discretion to determine the form of the disclosures required in this Part, and may choose to use either graphical or such other forms or both, that the Reporting Bank deems appropriate to assist users in forming an opinion on the risk profile and capital adequacy of the Reporting Bank.

[MAS Notice 637 (Amendment No. 3) 2017]

Division 3: Specific Disclosure Requirements

Sub-division 1: Introduction

Amendments to Table 11-1

Table 11-1: Summary of disclosure requirements

	Tables	**Fixed format**	**Flexible format**	**Quarterly**	**Semi-annually**	**Annually**	**Implementation date**
Sub-division 2: Overview of key prudential metrics, risk management and RWA	Table 11-1A: Key Metrics	✓		✓			1 January 2018
	Table 11-2: Risk Management Approach		✓			✓	1 January 2017
	Table 11-3: Overview of RWA	✓		✓			1 January 2017
	Table 11-3B: Overview of RWA	✓		✓			31 December 2018
Sub-division 3: Linkages between financial statements and regulatory exposures	Table 11-4: Differences between Accounting and Regulatory Scopes of Consolidation and Mapping of Financial Statement Categories with Regulatory Risk Categories		✓			✓	1 January 2018
	Table 11-5: Main Sources of Differences between Regulatory Exposure Amounts and Carrying Amounts in Financial Statements		✓			✓	1 January 2018
	Table 11-6: Qualitative Disclosure of Differences between Carrying Amounts in Financial Statements and Regulatory Exposure Amounts		✓			✓	1 January 2018
	Table 11-6A: Prudent Valuation Adjustments	✓				✓	31 December 2018
Sub-division 4: Credit Risk	Table 11-7: General Qualitative Disclosures on Credit Risk		✓			✓	1 January 2017
	Table 11-8: Credit Quality of Assets	✓			✓		1 January 2017

	Tables	Fixed format	Flexible format	Quarterly	Semi-annually	Annually	Implementation date
	Table 11-9: Changes in Stock of Defaulted Loans and Debt Securities	✓			✓		1 January 2017
	Table 11-10: Additional Disclosures related to the Credit Quality of Assets		✓			✓	1 January 2017
	Table 11-11: Qualitative Disclosures related to CRM Techniques		✓			✓	1 January 2017
	Table 11-12: Overview of CRM Techniques	✓			✓		1 January 2018
	Table 11-13: Qualitative Disclosures on the use of external credit ratings under the SA(CR)		✓			✓	1 January 2017
	Table 11-14: SA(CR) and SA(EQ) - Credit Risk Exposure and CRM Effects	✓			✓		1 January 2017
	Table 11-15: SA(CR) and SA(EQ) – Exposures by Asset Classes and Risk Weights	✓			✓		1 January 2017
	Table 11-16: Qualitative Disclosures for IRBA Models		✓			✓	1 January 2017
	Table 11-17: IRBA - Credit Risk Exposures by Portfolio and PD Range	✓			✓		1 January 2017
	Table 11-18: IRBA - Effect on RWA of Credit Derivatives used as CRM	✓			✓		1 January 2017
	Table 11-19: IRBA– RWA Flow Statement for Credit Risk Exposures	✓		✓			1 January 2018

	Tables	Fixed format	Flexible format	Quarterly	Semi-annually	Annually	Implementation date
	Table 11-20: IRBA – Backtesting of PD per Portfolio		✓			✓	1 January 2017
	Table 11-21: IRBA - Specialised Lending and Equities under the Simple Risk Weight Method		✓		✓		1 January 2017
Sub-division 5: CCR	Table 11-22: Qualitative Disclosures related to CCR		✓			✓	1 January 2017
	Table 11-23: Analysis of CCR Exposure by Approach	✓			✓		1 January 2017
	Table 11-24: CVA Risk Capital Requirements	✓			✓		1 January 2017
	Table 11-25: Standardised Approach - CCR Exposures by Portfolio and Risk Weights	✓			✓		1 January 2017
	Table 11-26: IRBA - CCR Exposures by Portfolio and PD Range	✓			✓		1 January 2017
	Table 11-27: Composition of Collateral for CCR Exposure		✓		✓		1 January 2018
	Table 11-28: Credit Derivative Exposures		✓		✓		1 January 2017
	Table 11-29: RWA Flow Statements under the CCR Internal Models Method	✓		✓			1 January 2017
	Table 11-30: Exposures to Central Counterparties	✓			✓		1 January 2018
Sub-division 6: Securitisation	Table 11-31: Qualitative Disclosures related to Securitisation Exposures		✓			✓	1 January 2017

	Tables	Fixed format	Flexible format	Quarterly	Semi-annually	Annually	Implementation date
	Table 11-32: Securitisation Exposures in the Banking Book		✓		✓		1 January 2017
	Table 11-33: Securitisation Exposures in the Trading Book		✓		✓		1 January 2017
	Table 11-34: Securitisation Exposures in the Banking Book and associated Regulatory Capital Requirements – A Reporting Bank acting as Originator or as Sponsor	✓			✓		1 January 2017
	Table 11-35: Securitisation Exposures in the Banking book and associated Regulatory Capital Requirements – A Reporting Bank acting as Investor	✓			✓		1 January 2017
Sub-division 7: Market Risk	Table 11-36: Qualitative Disclosures related to Market Risk		✓			✓	1 January 2017
	Table 11-37: Qualitative Disclosures related to IMA		✓			✓	1 January 2017
	Table 11-38: Market Risk under Standardised Approach	✓			✓		1 January 2017
	Table 11-39: RWA Flow Statements of Market Risk Exposures under IMA	✓		✓			1 January 2017
	Table 11-40: IMA Values for Trading Portfolios	✓			✓		1 January 2017
	Table 11-41: Comparison of VaR Estimates with Gains or Losses		✓		✓		1 January 2017

	Tables	Fixed format	Flexible format	Quarterly	Semi-annually	Annually	Implementation date
Sub-division 10: Remuneration	Table 11-44: Remuneration Policy		✓			✓	31 December 2017
	Table 11-44A: Remuneration Awarded during the Financial Year		✓			✓	31 December 2017
	Table 11-44C: Special Payments		✓			✓	31 December 2017
	Table 11-44E: Deferred Remuneration		✓			✓	31 December 2017
Sub-division 11: Composition of Capital	Table 11B-1: Composition of Regulatory Capital	✓			✓		1 January 2018
	Table 11C-1: Reconciliation of Regulatory Capital to Balance Sheet		✓		✓[800A]		31 December 2017
	Table 11D-1: Main Features of Regulatory Capital Instruments		✓		✓		31 December 2017
Sub-division 12: Leverage Ratio	Table 11F-1: Leverage Ratio Summary Comparison Table	✓		✓[800B]			31 December 2017
	Table 11G-1: Leverage Ratio Common Disclosure Template	✓		✓			31 December 2017

[800A] The frequency of disclosure may, with the prior approval of the Authority, be made with at least the same frequency as the publication of the Reporting Bank's financial statements.

[MAS Notice 637 (Amendment No. 3) 2017]

[800B] The frequency of disclosure may, with the prior approval of the Authority, be made with at least the same frequency as the publication of the Reporting Bank's financial statements.

[MAS Notice 637 (Amendment No. 3) 2017]

	Tables	Fixed format	Flexible format	Quarterly	Semi-annually	Annually	Implementation date
Sub-division 13: Macroprudential Supervisory Measures	Table 11-46: Geographical Distribution of Credit Exposures Used in the Countercyclical Capital Buffer		✓		✓		31 December 2017
	Table 11-47: Disclosure of G-SIB Indicators		✓			✓	31 December 2018

Sub-division 11: Composition of Capital

Deletion of Paragraph 11.3.19 and Table 11-45

~~11.3.19 A Reporting Bank shall disclose all items set out in Table 11-45 on a quarterly basis.~~

~~[MAS Notice 637 (Amendment No. 3) 2017]~~

~~Table 11-45: Key Capital Figures~~

~~Quantitative Disclosures~~	~~(a)~~	~~Total RWA and minimum capital requirements at the Group level. These shall be based on the floor-adjusted total RWA which incorporates the floor adjustment on total RWA set out in Table 11-3A(m).~~
	~~(b)~~	~~CET1 Capital, Tier 1 Capital, Eligible Total Capital, CET1 CAR, Tier 1 CAR and Total CAR at the Group level. The CAR figures shall be based on the floor-adjusted total RWA which incorporates the floor adjustment on total RWA set out in Table 11-3A(m).~~
	~~(c)~~	~~Total RWA, CET1 CAR, Tier 1 CAR and Total CAR for each significant[807] banking subsidiary[808]. In the case of a significant local subsidiary, the required disclosures shall be based on the floor-adjusted total RWA which incorporates the floor adjustment on total RWA set out in Table 11-3A(m). In the case of a significant overseas subsidiary, the required disclosures shall incorporate any Pillar 1 floor adjustments in accordance with the capital adequacy rules that are applied to the subsidiary in the overseas jurisdiction.~~

~~[MAS Notice 637 (Amendment No. 3) 2017]~~

~~[807] A significant banking subsidiary may be determined in several ways, for example, in terms of revenue contribution to the banking group.~~

~~[808] A Reporting Bank shall provide disclosures in relation to a significant subsidiary on a Solo basis, but may choose to disclose such information on a sub consolidated basis providing that capital adequacy requirements are imposed on this basis and that an explanatory note to this effect is provided by the Reporting Bank. In the case of a significant overseas subsidiary, the required disclosures may be made on the basis of the capital adequacy rules that are applied to the subsidiary in the overseas jurisdiction, provided that this is disclosed in an explanatory note that includes a description of the basis of the calculation and the approaches applied to each major risk type in the overseas jurisdiction. Such disclosures are appropriate in order to recognise the limitations of transfer of funds or capital within the Group.~~

Sub-division 13: Macroprudential Supervisory Measures

Amendments to Paragraph 11.3.40 and Table 11-47 (existing), and addition of Tables 11-47 (new) and 11-47A

11.3.40 A Reporting Bank shall disclose all items set out in ~~Table~~ Tables 11-46 and 11-47.

Table 11-46A~~7~~: Explanatory Notes to Geographical Distribution of Credit Exposures Used in the Countercyclical Capital Buffer

Definitions	
(a)	*RWA for private sector credit exposures*: This is in accordance with paragraph 4.1.16(b).
(b)	*Country*: Country in which the Reporting Bank has relevant private sector credit exposures, and which has set a countercyclical capital buffer rate greater than zero that was applicable during the reporting period covered by the template set out in Table 11-46.
(c)	*Sum*: Sum of RWA for private sector credit exposures, in jurisdictions with a non-zero countercyclical buffer rate.
(d)	*Country-specific Countercyclical buffer requirement*: This is the requirement that is applicable at the reporting date, calculated in accordance with paragraph 4.1.16(a).
(e)	*Bank-specific countercyclical buffer requirement*: This is in accordance with paragraph 4.1.15.
(f)	*Total*: Total of RWA for private sector credit exposures, across all jurisdictions to which the bank is exposed, including jurisdictions with no countercyclical buffer rate or with a countercyclical buffer rate set at zero, and value of the bank specific countercyclical capital buffer rate and resulting countercyclical buffer amount.
(g)	*Countercyclical capital buffer amount*: amount of CET1 Capital held to meet the countercyclical capital buffer requirement determined in accordance with paragraphs 4.1.14 to 4.1.20.
Linkages across tables	
(h)	Amount in [Table 11-46:Total/~~d~~c] is equal to [Table 11-1A:9/a] for the semi-annual disclosure of Table 11-1A, and to [Table 11-1A:9/b] in the quarterly disclosure of Table 11-1A.
(i)	Amount in [Table 11-46:Total/~~d~~c] is equal to [11B-2:66/a].

Table 11-47: Disclosure of G-SIB Indicators

Purpose	Provide an overview of the indicators for assessing the systemic importance of global banks.

Scope of application	The template is mandatory for Reporting Banks where the Reporting Bank (i) has been classified as a G-SIB[812B] in the previous year; (ii) has a leverage ratio exposure measure[812C] exceeding EUR 200 billion; or (iii) has been included in the BCBS' G-SIB assessment sample by the Authority based on supervisory judgment.[812D] For application of the threshold of EUR 200 billion, Reporting Banks shall use the applicable exchange rate information provided on the BCBS website at www.bis.org/bcbs/gsib/. The disclosure itself is made in the Reporting Bank's own currency.
Content	At least the 12 indicators used in the assessment methodology of the G-SIB framework.[812E]
Frequency	Annual, or in circumstances when a Reporting Bank is required to restate figures to reflect final data submitted to the BCBS[812F]. This template shall also be included in a Reporting Bank's financial year-end Pillar 3 report.
Format	Flexible. The information disclosed shall be fully consistent with the data submitted to the Authority for subsequent remittance to the BCBS in the context of its annual data collection exercise for the assessment and identification of G-SIBs. Where Reporting Banks disclose the full breakdown of the indicators, such disclosure shall take place using the template and related instructions that sample Reporting Banks use to report their data for the BCBS' data collection exercise or as required by the Authority.[812G]
Accompanying narrative	A Reporting Bank shall indicate the annual reference date of the information reported as well as the date of first public disclosure. A Reporting Bank shall include a web link to the disclosure of the previous G-SIB assessment exercise. A Reporting Bank may supplement the template with a narrative commentary to explain any relevant qualitative characteristic deemed necessary for understanding the quantitative data. This information may include explanations about the use of estimates with a short explanation as regards the method used, mergers or modifications of the legal structure of the entity subjected to the reported data, the bucket to which the Reporting Bank was allocated and changes in HLA requirements, or reference to the BCBS website for data on denominators, cutoff scores and buckets.

[812B] The list of G-SIBs will be designated annually based on the BCBS' methodology for assessing the systemic importance of G-SIBs.
[812C] For G-SIB assessment purposes, the applicable leverage ratio exposure measure definition is contained in the Basel III leverage ratio standard of January 2014.
[812D] See paragraphs 26 and 42 of BCBS, *Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement*, July 2013, www.bis.org/publ/bcbs255.htm.
[812E] See BCBS, *Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement*, July 2013, www.bis.org/publ/bcbs255.htm.
[812F] Restatements are only necessary if considered so by the Authority or on voluntary basis.
[812G] The data template and reporting instructions can be found at: www.bis.org/bcbs/gsib/index.htm.

	Regardless of whether Table 11-47 is included in the annual Pillar 3 report, a Reporting Bank's annual Pillar 3 report as well as all the interim Pillar 3 reports shall include a reference to the website where current and previous disclosures of Table 11-47 can be found.

	Category	Individual indicator	Values
1	Cross-jurisdictional activity	Cross-jurisdictional claims	
2		Cross-jurisdictional liabilities	
3	Size	Total exposures as defined for use in the Basel III leverage ratio	
4	Interconnectedness	Intra-financial system assets	
5		Intra-financial system liabilities	
6		Securities outstanding	
7	Substitutability / financial institution infrastructure	Assets under custody	
8		Payments activity	
9		Underwritten transactions in debt and equity markets	
10	Complexity	Notional amount of OTC derivatives	
11		Level 3 assets	
12		Trading and available-for-sale securities	

Table 11-47A: Explanatory Notes to Disclosure of G-SIB Indicators

Definitions and instructions	
(a)	The template shall be completed according to the instructions and definitions for the corresponding rows in force at the disclosure's reference date, which is based on the BCBS' G-SIB identification exercise.

Amendments to Annex 11B

COMPOSITION OF CAPITAL

[MAS Notice 637 (Amendment No. 3) 2017]

A Reporting Bank shall disclose its capital position using the template set out in Table 11B-1. ~~after the transition period for the phasing-in of regulatory adjustments set out in paragraphs 6.1.3, 6.2.3 and 6.3.3 ends on 1 January 2018.[814]~~ A Reporting Bank shall exclude the rows in italics from the disclosure template after all ineligible capital instruments have been fully phased out in accordance with paragraph 6.5.3 of the Notice.

[MAS Notice 637 (Amendment No. 3) 2017]

A Reporting Bank is required to complete column (b) to show the source of every major input, which is to be cross-referenced to the corresponding rows in Table 11C. This is Step 3 as required under the three-step approach to reconciliation as explained and illustrated in paragraph 11.3.23(c) and Annex 11C. Table 11B-2 sets out the explanation of each row of Table 11B-1.

[MAS Notice 637 (Amendment No. 3) 2017]

Table 11B-1: Composition of Regulatory Capital

Purpose	To provide a breakdown of the constituent elements of a Reporting Bank's capital.
Scope of application	The table is mandatory for all Reporting Banks at the consolidated level.
Content	Breakdown of regulatory capital according to the scope of regulatory consolidation.
Frequency	Semi-annually
Format	Fixed
Accompanying narrative	A Reporting Bank shall explain any significant changes over the semi-annual reporting period and the key drivers of such changes.

		(a)	(b)
		Amount	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
Common Equity Tier 1 capital: instruments and reserves			
1	Paid-up ordinary shares and share premium (if applicable)		(g)
2	Retained earnings		

~~[814] A Reporting Bank shall report deductions from capital as positive numbers, and additions to capital as negative numbers.~~

3[#]	Accumulated other comprehensive income and other disclosed reserves		
4	*Directly issued capital subject to phase out from CET1 (only applicable to non-joint stock companies)*		
5	Minority interest that meets criteria for inclusion		
6	**Common Equity Tier 1 capital before regulatory adjustments**		
Common Equity Tier 1 capital: regulatory adjustments			
7	Valuation adjustment pursuant to Part VIII of MAS Notice 637		
8	Goodwill, net of associated deferred tax liability		(a) minus (d)
9[#]	Intangible assets, net of associated deferred tax liability		(b) minus (e)
10[#]	Deferred tax assets that rely on future profitability		
11	Cash flow hedge reserve		
12	Shortfall of TEP relative to EL under IRBA		
13	Increase in equity capital resulting from securitisation transactions		
14	Unrealised fair value gains/losses on financial liabilities and derivative liabilities arising from changes in own credit risk		
15	Defined benefit pension fund assets, net of associated deferred tax liability		
16	Investments in own shares		
17	Reciprocal cross-holdings in ordinary shares of financial institutions		
18	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake		
19	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries) (amount above 10% threshold)		
20[#]	Mortgage servicing rights (amount above 10% threshold)		(c) minus (f) minus 10% threshold

21#	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of associated deferred tax liability)		
22	Amount exceeding the 15% threshold		
23	of which: investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)		
24#	of which: mortgage servicing rights		
25#	of which: deferred tax assets arising from temporary differences		
26	National specific regulatory adjustments		
26A	PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630		
26B	Capital deficits in subsidiaries and associates that are regulated financial institutions		
26C	Any other items which the Authority may specify		
27	Regulatory adjustments applied in calculation of CET1 Capital due to insufficient AT1 Capital to satisfy required deductions		
28	**Total regulatory adjustments to CET1 Capital**		
29	**Common Equity Tier 1 capital (CET1)**		
Additional Tier 1 capital: instruments			
30	AT1 capital instruments and share premium (if applicable)		(h)
31	of which: classified as equity under the Accounting Standards		
32	of which: classified as liabilities under the Accounting Standards		
33	*Transitional: Ineligible capital instruments (pursuant to paragraphs 6.5.3 and 6.5.4)*		
34	AT1 capital instruments issued by fully-consolidated subsidiaries that meet criteria for inclusion		
35	*of which: instruments issued by subsidiaries subject to phase out*		
36	**Additional Tier 1 capital before regulatory adjustments**		
Additional Tier 1 capital: regulatory adjustments			

37	Investments in own AT1 capital instruments		
38	Reciprocal cross-holdings in AT1 capital instruments of financial institutions		
39	Investments in AT1 capital instruments of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake		
40	Investments in AT1 capital instruments of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)		
41	National specific regulatory adjustments which the Authority may specify		
42	Regulatory adjustments applied in calculation of AT1 Capital due to insufficient Tier 2 Capital to satisfy required deductions		
43	**Total regulatory adjustments to Additional Tier 1 capital**		
44	**Additional Tier 1 capital (AT1)**		
45	**Tier 1 capital (T1 = CET1 + AT1)**		
Tier 2 capital: instruments and provisions			
46	Tier 2 capital instruments and share premium (if applicable)		
47	*Transitional: Ineligible capital instruments (pursuant to paragraphs 6.5.3 and 6.5.4)*		
48	Tier 2 capital instruments issued by fully-consolidated subsidiaries that meet criteria for inclusion		
49	*of which: instruments issued by subsidiaries subject to phase out*		
50	Provisions		
51	**Tier 2 capital before regulatory adjustments**		
Tier 2 capital: regulatory adjustments			
52	Investments in own Tier 2 instruments		
53	Reciprocal cross-holdings in Tier 2 capital instruments of financial institutions		

54	Investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake		
54a#	Investments in other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake: amount previously designated for the 5% threshold but that no longer meets the conditions		
55	Investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)		
56	National specific regulatory adjustments which the Authority may specify		
57	**Total regulatory adjustments to Tier 2 capital**		
58	**Tier 2 capital (T2)**		
59	**Total capital (TC = T1 + T2)**		
60	**Floor-adjusted total risk weighted assets**		
Capital ratios (as a percentage of floor-adjusted risk weighted assets)			
61	**Common Equity Tier 1 CAR**		
62	**Tier 1 CAR**		
63	**Total CAR**		
64	Bank-specific buffer requirement		
65	of which: capital conservation buffer requirement		
66	of which: bank specific countercyclical buffer requirement		
67	of which: G-SIB and/or D-SIB buffer requirement (if applicable)		
68	Common Equity Tier 1 available after meeting the Reporting Bank's minimum capital requirements		
National minima			
69	Minimum CET1 CAR		
70	Minimum Tier 1 CAR		
71	Minimum Total CAR		
Amounts below the thresholds for deduction (before risk weighting)			

72	Investments in ordinary shares, AT1 capital, ~~and~~ Tier 2 capital and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake		
73	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)		
74	Mortgage servicing rights (net of associated deferred tax liability)		
75	Deferred tax assets arising from temporary differences (net of associated deferred tax liability)		
Applicable caps on the inclusion of provisions in Tier 2			
76	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)		
77	Cap on inclusion of provisions in Tier 2 under standardised approach		
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)		
79	Cap for inclusion of provisions in Tier 2 under internal ratings-based approach		
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)			
80	*Current cap on CET1 instruments subject to phase out arrangements*		
81	*Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)*		
82	*Current cap on AT1 instruments subject to phase out arrangements*		
83	*Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)*		
84	*Current cap on T2 instruments subject to phase out arrangements*		
85	*Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)*		

Items marked with a hash [#] are elements where a more conservative definition has been applied relative to those set out under the Basel III capital standards.

Table 11B-2: Explanatory Notes to Composition of Regulatory Capital

Explanatory Notes	
1	This is the sum of components calculated in accordance with paragraph 6.1.1(a) and 6.1.1(b) of the Notice.
2	This is as defined under paragraph 6.1.1(c) of the Notice.
3	This is the sum of components calculated in accordance with paragraph 6.1.1(d) and 6.1.1(e) of the Notice.
4	This is only applicable to non-joint stock companies.
5	This is as defined under paragraph 6.1.1(f) of the Notice.
6	This is the sum of rows 1 to 5.
7	This is as defined under paragraph 6.1.3(n) of the Notice.
8	This is as defined under paragraph 6.1.3(a) of the Notice.
9	This is as defined under paragraph 6.1.3(b) of the Notice.
10	This is as defined under paragraph 6.1.3(c) of the Notice.
11	This is as defined under paragraph 6.1.3(d) of the Notice.
12	This is as defined under paragraph 6.1.3(e) of the Notice.
13	This is as defined under paragraph 6.1.3(f) of the Notice.
14	This is as defined under paragraph 6.1.3(g) of the Notice.
15	This is as defined under paragraph 6.1.3(h) of the Notice.
16	This is as defined under paragraph 6.1.3(i) of the Notice.
17	This is as defined under paragraph 6.1.3(j) of the Notice.
18	This is as defined under paragraph 6.1.3(o) of the Notice.
19	This is as defined under paragraph 6.1.3(p) of the Notice.
20	Not applicable. This is the amount of mortgage servicing rights which is subject to threshold deduction in accordance with paragraphs 87 to 88 of Basel III. Mortgage servicing rights are required to be fully deducted.
21	Not applicable. This is the amount of deferred tax assets arising from temporary differences which is subject to threshold deduction in accordance with paragraphs 87 to 88 of Basel III. Deferred tax assets arising from temporary differences are required to be fully deducted.
22	This is the total amount by which the three threshold items exceed the 15% threshold, excluding amounts reported in rows 19 to 21, calculated in accordance with paragraph 6.1.3(p)(i)(B) of the Notice.
23	The amount reported in row 22 that relates to investments in the ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries at the Solo and Group levels).
24	Not applicable. This is the amount reported in row 22 that relates to mortgage servicing rights. Mortgage servicing rights are required to be fully deducted.
25	Not applicable. This is the amount reported in row 22 that relates to deferred tax assets arising from temporary differences. Deferred tax assets arising from temporary differences are required to be fully deducted.
26	This is the sum of rows 26A to 26C.
26A	This is as defined under paragraph 6.1.3(l) of the Notice.
26B	This is as defined under paragraph 6.1.3(m) of the Notice.
26C	This is as defined under paragraph 6.1.3(q) of the Notice.
27	This is as defined under paragraph 6.1.3(r) of the Notice.

Explanatory Notes	
28	This is the total regulatory adjustments to CET1 Capital, to be calculated as the sum of rows 7 to 22 plus rows 26 and 27.
29	This is CET1 Capital, to be calculated as row 6 minus row 28.
30	This is the sum of components calculated in accordance with paragraphs 6.2.1(a) and 6.2.1(b) of the Notice.
31	The amount in row 30 classified as equity under the Accounting Standards.
32	The amount in row 30 classified as liabilities under the Accounting Standards.
33	This is the sum of capital instruments directly issued by the Reporting Bank that no longer qualify as AT1 Capital calculated in accordance with paragraphs 6.5.3 and 6.5.4 of the Notice.
34	This is as defined under paragraph 6.2.1(c) of the Notice.
35	The amount reported in row 34 that relates to instruments subject to phase out from AT1 Capital in accordance with the requirements of paragraphs 6.5.3 and 6.5.4 of the Notice.
36	This is the sum of rows 30, 33 and 34.
37	This is as defined under paragraph 6.2.3(a) of the Notice.
38	This is as defined under paragraph 6.2.3(b) of the Notice.
39	This is as defined under paragraph 6.2.3(d) of the Notice.
40	This is as defined under paragraph 6.2.3(e) of the Notice.
41	This is as defined under paragraph 6.2.3(f) of the Notice.
42	This is as defined under paragraph 6.2.3(g) of the Notice.
43	This is the sum of rows 37 to 42.
44	This is Additional Tier 1 Capital, to be calculated as row 36 minus row 43.
45	This is Tier 1 Capital, to be calculated as row 29 plus row 44.
46	This is the sum of components calculated in accordance with paragraph 6.3.1(a) and 6.3.1(b) of the Notice.
47	This is the sum of capital instruments directly issued by the Reporting Bank that no longer qualify as Tier 2 Capital calculated under paragraph 6.5.3 and 6.5.4 of the Notice.
48	This is as defined under paragraph 6.3.1(c) of the Notice.
49	The amount reported in row 48 that relates to instruments subject to phase out from Tier 2 Capital in accordance with the requirements of paragraphs 6.5.3 and 6.5.4 of the Notice.
50	This is the sum of components calculated in accordance with paragraphs 6.3.1(d) and 6.3.1(e) of the Notice.
51	This is the sum of rows 46 to 48 and row 50.
52	This is as defined under paragraph 6.3.3(a) of the Notice.
53	This is as defined under paragraph 6.3.3(b) of the Notice.
54	This is as defined under paragraph 6.3.3(d) of the Notice.
54a	Investments in other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake, previously designated for the 5% threshold but no longer meeting the conditions under paragraph 6.3.3(d)(iii) of the Notice, measured on a gross long basis. The amount to be deducted will be the amount of other TLAC liabilities designated to the 5% threshold but not sold within 30 business days, no longer held in the trading book or now exceeding the 5% threshold (e.g. in the instance of decreasing CET1 capital). Amounts designated to this threshold may not subsequently be moved to the 10% threshold.
55	This is as defined under paragraph 6.3.3(e) of the Notice.

Explanatory Notes	
56	This is as defined under paragraph 6.3.3(f) of the Notice.
57	This is the sum of rows 52 to 56.
58	This is Tier 2 Capital, to be calculated as row 51 minus row 57.
59	This is Total capital, to be calculated as row 45 plus row 58.
60	This is the floor-adjusted total risk weighted assets of the Reporting Bank, after incorporating the floor adjustment set out in Table 11-3A(m).
61	This is CET1 CAR, to be calculated as row 29 divided by row 60 (expressed as a percentage).
62	This is Tier 1 CAR, to be calculated as row 45 divided by row 60 (expressed as a percentage).
63	This is Total CAR, to be calculated as row 59 divided by row 60 (expressed as a percentage).
64	This is the bank-specific buffer requirement (minimum CET1 requirement plus capital conservation buffer requirement plus countercyclical buffer requirement plus G-SIB and/or D-SIB buffer requirement, expressed as a percentage of risk weighted assets). This is to be calculated as the sum of (i) the minimum CET1 requirement calculated in accordance with paragraph 4.1.4; (ii) the capital conservation buffer requirement calculated in accordance with paragraphs 4.1.5 to 4.1.13; (iii) the bank-specific countercyclical buffer requirement calculated in accordance with paragraphs 4.1.14 to 4.1.25; and (iv) the buffer requirement for G-SIBs and/or D-SIBs (if applicable)[815]. This row will show the CET1 CAR below which the Reporting Bank will become subject to constraints on distributions.
65	The amount in row 64 (expressed as a percentage of risk weighted assets) that relates to the capital conservation buffer).
66	The amount in row 64 (expressed as a percentage of risk weighted assets) that relates to the bank-specific countercyclical buffer requirement.
67	The amount in row 64 (expressed as a percentage of risk weighted assets) that relates to the Reporting Bank's G-SIB and/or D-SIB requirement, where relevant.
68	This is to be calculated as the CET1 of the Reporting Bank (as a percentage of floor-adjusted risk weighted assets), less any CET1 capital used to meet the Reporting Bank's CET1, Tier 1 and Total capital requirements.
69	A Reporting Bank shall report the minimum CET1 CAR requirement applicable at that reporting date [pursuant to paragraph 4.1.4 of the Notice.]
70	A Reporting Bank shall report the minimum Tier 1 CAR requirement applicable at that reporting date [pursuant to paragraph 4.1.4 of the Notice.]
71	A Reporting Bank shall report the minimum Total CAR requirement applicable at that reporting date [pursuant to paragraph 4.1.4 of the Notice.]
72	This is the Reporting Bank's investments in the ordinary shares, AT1 Capital, ~~and~~ Tier 2 Capital and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake, the total amount of such holdings that are not reported in row 18, row 39, ~~and~~ row 54 and row 54a.
73	This is the Reporting Bank's investments in the ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries at the Solo and Group levels), the total amount of such holdings that are not reported in row 19 and row 23.
74	Not applicable. This is the amount of mortgage servicing rights not reported in row 20 and row 24.

[815] This is set out in the BCBS' publication on "Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement" (revised July 2013).

Explanatory Notes	
75	Not applicable. This is the amount of deferred tax assets arising from temporary differences not reported in row 21 and row 25.
76	This is the provisions eligible for inclusion in Tier 2 Capital in respect of exposures subject to SA(CR), calculated in accordance paragraph 6.3.1(d) of the Notice, prior to the application of the cap.
77	This is the cap on inclusion of provisions in Tier 2 Capital in respect of exposures subject to SA(CR), calculated in accordance paragraph 6.3.1(d) of the Notice.
78	This is the provisions eligible for inclusion in Tier 2 Capital in respect of exposures subject to IRBA, calculated in accordance paragraph 6.3.1(e) of the Notice, prior to the application of the cap.
79	This is the cap for inclusion of provisions in Tier 2 Capital in respect of exposures subject to IRBA, calculated in accordance paragraph 6.3.1(e) of the Notice.
80	This is only applicable to non-joint stock companies. This is the current cap on CET1 capital instruments subject to transitional arrangements.
81	This is only applicable to non-joint stock companies. This is the amount excluded from CET1 Capital due to cap (excess over cap after redemptions and maturities).
82	This is the cap on ineligible AT1 capital instruments subject to transitional arrangements, see paragraph 6.5.3 of the Notice.
83	This is the amount excluded from AT1 Capital due to cap (excess over cap after redemptions and maturities), see paragraph 6.5.3 of the Notice.
84	This is the current cap on ineligible Tier 2 capital instruments subject to transitional arrangements, see paragraph 6.5.3 of the Notice.
85	This is the amount excluded from Tier 2 Capital due to cap (excess over cap after redemptions and maturities), see paragraph 6.5.3 of the Notice.

[MAS Notice 637 (Amendment No. 3) 2017]

Deletion of Part XIA [All amendments to Part XIA are effective from 1 Jan 2019]

~~PART XIA:~~
~~PUBLIC DISCLOSURE AND SUBMISSION REQUIREMENTS FOR ASSESSING GLOBAL SYSTEMICALLY IMPORTANT BANKS (G-SIBs)~~

~~Division 1: Scope of Application~~

~~11A.1.1 A Reporting Bank that is required to comply with this Part shall do so at the Group level, in accordance with paragraph 3.1.1(b) of Part II.~~

~~[MAS Notice 637 (Amendment) 2016]~~

~~11A.1.1A A Reporting Bank need not comply with the requirements in this Part if –~~

~~(a) its holding or ultimate holding company is incorporated outside Singapore;~~

~~(b) it is a subsidiary of another Reporting Bank, which is subject to the requirements in this Part; or~~

~~(c) it is a subsidiary of a financial holding company which is subject to requirements similar to that set out in this Part.~~

~~[MAS Notice 637 (Amendment) 2014]~~
~~[MAS Notice 637 (Amendment) 2016]~~

~~Division 2: General Requirements~~

~~11A.1.2 Where a Reporting Bank –~~

~~(a) has a leverage ratio exposure measure[819] exceeding EUR 200 billion[820]; or~~

~~(b) has been designated by the BCBS as a global systemically important bank[821] in the preceding financial year,~~

~~the Reporting Bank shall disclose the indicators set out in Annex 11A-A of this Part[822], and submit to the Authority the full set of data required by the BCBS' data collection exercise[823] to assess the systemic importance of banks at a global level.~~

~~819 For the purpose of paragraph 11A.1.2, a Reporting Bank shall refer to the definition of "leverage ratio exposure measure" as determined by the BCBS for assessing the systemic importance of G-SIBs.~~

~~820 A Reporting Bank shall use the year-end exchange rate provided by the BCBS for revaluing the exposure measure for the bank's leverage ratio in terms of Euro. This year end exchange rate can be found at: www.bis.org/bcbs/gsib/index.htm.~~

~~821 The list of G-SIBs will be designated annually based on the BCBS' methodology for assessing the systemic importance of G-SIBs.~~

~~822 A Reporting Bank shall refer to "Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement" issued by the BCBS in July 2013, and any other relevant publications issued by the BCBS for an understanding of the twelve indicators used in the assessment methodology for global systemic importance.~~

~~823 The data template and reporting instructions can be found at: www.bis.org/bcbs/gsib/index.htm.~~

~~[MAS Notice 637 (Amendment) 2016]~~

~~11A.1.3 [Deleted by MAS (Amendment) Notice (2016)]~~

~~11A.1.4 Notwithstanding paragraph 11A.1.2, the Authority may, by notice in writing to any Reporting Bank, require the Reporting Bank to –~~

~~(a) disclose the indicators in accordance with paragraph 11A.1.2; and~~

~~(b) submit the data to the Authority in accordance with paragraph 11A.1.2,~~

~~and the Reporting Bank shall comply with any such requirement imposed by the Authority.~~

~~[MAS Notice 637 (Amendment) 2016]~~

~~Division 3: Location, Timing and Form of Disclosures~~

~~11A.1.5 A Reporting Bank shall disclose the information required in this Part in either its published financial statements or, at a minimum, provide a direct link in its published financial statements to the complete disclosures on its website or on publicly available regulatory reports.~~

~~11A.1.6 A Reporting Bank shall disclose the indicators based on positions as at the end of each financial year[824]. A Reporting Bank shall make the required disclosure no later than the earlier of four months after the financial year-end and the end of the month of July immediately following the financial year-end.~~

~~11A.1.7 The Authority shall have the discretion to determine the form of the disclosures required in this Part, and may require a Reporting Bank to disclose the full breakdown of the indicators as set out in the template that banks use for the data collection exercise in paragraph 11A.1.2.~~

~~[MAS Notice 637 (Amendment) 2013]~~

~~[824] The Authority may allow a Reporting Bank whose financial year ends on a date other than 31 December to report indicator values based on their positions as at 31 December.~~

~~Annex 11A-A~~

~~G-SIB ASSESSMENT DISCLOSURES~~

~~Table 11A-A-1 – Indicators used for assessing systemic importance of G-SIBs~~

~~Category~~	**~~Individual indicator~~**
~~Cross-jurisdictional activity~~	~~Cross-jurisdictional claims~~
	~~Cross-jurisdictional liabilities~~
~~Size~~	~~Total exposures as defined for use in the Basel III leverage ratio~~
~~Interconnectedness~~	~~Intra-financial system assets~~
	~~Intra-financial system liabilities~~
	~~Securities outstanding~~
~~Substitutability/financial institution infrastructure~~	~~Assets under custody~~
	~~Payments activity~~
	~~Underwritten transactions in debt and equity markets~~
~~Complexity~~	~~Notional amount of OTC derivatives~~
	~~Level 3 assets~~
	~~Trading and available-for-sale securities~~

~~[MAS Notice 637 (Amendment) 2013]~~

Amendments to Part XII

PART XII: REPORTING SCHEDULES

Insertion of reference to new Reporting Schedule 5G in Table 12-1 [Effective from 31 Dec 2018]

Division 1: Introduction

12.1.1 A Reporting Bank shall submit to the Authority, information relating to its capital adequacy calculated according to the requirements and guidelines of this Notice in the format of the reporting schedules set out in Annexes 12A to 12E and such other reporting schedules as the Authority may specify. A summary of the reporting schedules in Annexes 12A to 12E is set out in the Table 12-1 below.

Table 12-1: Summary of Reporting Schedules in Annexes 12A to 12E

Section		Annex/Schedule
1	**Capital Adequacy Reporting Schedules**	**Annex 12A**
	Statement of CET1 CAR, Tier 1 CAR and Total CAR	Schedule 1A
	Capital Treatment of Allowances [MAS Notice 637 (Amendment No. 2) 2012]	Schedule 1B
	Leverage Ratio [MAS Notice 637 (Amendment) 2014, with effect from 31 December 2015]	Schedule 1C
	Countercyclical Buffer [MAS Notice 637 (Amendment No. 2) 2017]	Schedule 1D
2	**Credit Risk Reporting Schedules**	**Annex 12B**
	Summary of Credit RWA	Schedule 2
2-1	**SA(CR)**	Schedule 2-1A
2-2	**F-IRBA for Wholesale Asset Class**	
	Sovereign Asset Sub-Class	Schedule 2-2A
	Bank Asset Sub-Class	Schedule 2-2B
	Corporate Asset Sub-Class	Schedule 2-2C
	Corporate Small Business Asset Sub-Class	Schedule 2-2D
	SL Asset Sub-Class : IPRE	Schedule 2-2E
	SL Asset Sub-Class : PF/OF/CF	Schedule 2-2F
	HVCRE Asset Sub-Class	Schedule 2-2G
	Exposures Subject to Double Default Framework	Schedule 2-2H
2-3	**A-IRBA for Wholesale Asset Class**	
	Sovereign Asset Sub-Class	Schedule 2-3A
	Bank Asset Sub-Class	Schedule 2-3B
	Corporate Asset Sub-Class	Schedule 2-3C

Section		Annex/Schedule
	Corporate Small Business Asset Sub-Class	Schedule 2-3D
	SL Asset Sub-Class : IPRE	Schedule 2-3E
	SL Asset Sub-Class : PF / OF / CF	Schedule 2-3F
	HVCRE Asset Sub-Class	Schedule 2-3G
	Exposures Subject to Double Default Framework	Schedule 2-3H
2-4	**Supervisory Slotting Criteria**	Schedule 2-4A
2-5	**IRBA for Retail Asset Class**	
	Residential Mortgage Asset Sub-Class	Schedule 2-5A
	QRRE Asset Sub-Class	Schedule 2-5B
	Other Retail Exposures Asset Sub-Class (Excluding Exposures to Small Business)	Schedule 2-5C
	Other Retail Small Business Exposures Asset Sub-Class	Schedule 2-5D
2-6	**Equity Exposures**	
	SA(EQ)	Schedule 2-6A
	IRBA(EQ)	Schedule 2-6B
2-7	**Securitisation Exposures**	
	Securitisation	Schedule 2-7
	[MAS Notice 637 (Amendment No. 2) 2017]	
2-8	**Unsettled Transactions**	Schedule 2-8A
	[MAS Notice 637 (Amendment No. 2) 2014]	
3	**Market Risk Reporting Schedules**	**Annex 12C**
	Summary of Market RWA	Schedule 3
3-1	**SA(MR)**	
	Interest Rate Risk	Schedule 3-1A
	Interest Rate Risk (General Market Risk)	Schedule 3-1B
	Equity Risk	Schedule 3-1C
	Foreign Exchange Risk	Schedule 3-1D
	Commodities Risk	Schedule 3-1E
	Options Position Risk	Schedule 3-1F
3-2	**IMA**	Schedule 3-2A
4	**Operational Risk Reporting Schedules**	**Annex 12D**
	Summary of Operational RWA	Schedule 4
	BIA, SA(OR), ASA, AMA	Schedule 4-1A
	Operational Loss Details	Schedule 4-2A
5	**Other Reporting Schedules**	**Annex 12E**
	Off-Balance Sheet Exposures (Excluding Derivative Transactions and Securitisation Exposures)	Schedule 5A

Section		Annex/Schedule
	OTC Derivative Transactions and Credit Derivatives	Schedule 5B
	Inflows into and Outflows from Asset Sub-classes due to Credit Protection	Schedule 5C
	Credit Valuation Adjustments	Schedule 5D
	Eligible Financial Collateral and Eligible IRBA Collateral	Schedule 5E
	Exposures to CCPs	Schedule 5F
	Interest Rate Risk in the Banking Book	Schedule 5G
	[MAS Notice 637 (Amendment No. 2) 2014]	

Amendments to Schedule 1A [Effective from 1 Jan 2019]

MAS NOTICE 637: CAPITAL ADEQUACY REPORTING SCHEDULES **Annex 12A**
SCHEDULE 1A

STATEMENT OF CET1 CAR, TIER 1 CAR AND TOTAL CAR

Name of the Reporting Bank:

Statement as at:

Scope of Reporting: Solo/Group
(indicate as appropriate)

	Amounts	Amounts subject to pre-Basel III treatment
	(In S$ million)	

Part A: CET1, AT1 and Tier 2 Capital

Common Equity Tier 1 capital: instruments and reserves

1 Paid-up ordinary shares and share premium (if applicable)

2 Retained earnings

3 Accumulated other comprehensive income and other disclosed reserves

of which: 45% of revaluation surpluses and accumulated revaluation gains

4 Directly issued capital subject to phase out from CET1
(only applicable to non-joint stock companies)

5 Minority interest that meets criteria for inclusion

6 **Common Equity Tier 1 capital before regulatory adjustments**

Common Equity Tier 1 capital: regulatory adjustments

7 Valuation adjustment pursuant to Part VIII

8 Goodwill, net of associated deferred tax liability

9 Intangible assets, net of associated deferred tax liability

10 Deferred tax assets that rely on future profitability

11 Cash flow hedge reserve

12 Shortfall of TEP relative to EL under IRBA

13 Increase in equity resulting from securitisation transactions

13A Net exposures to credit-enhancing interest-only strips

14 Unrealised fair value gains/losses on financial liabilities and derivative liabilities
arising from changes in own credit risk

15 Defined benefit pension fund assets, net of associated deferred tax liability

16 Investments in own shares

of which: Direct investments, net of qualifying short positions

of which: Indirect investments, net of qualifying short positions

17 Reciprocal cross-holdings in ordinary shares of financial institutions

18 Investments in ordinary shares of unconsolidated financial institutions
in which Reporting Bank does not hold a major stake

Total ~~capital~~ holdings of capital instruments and other TLAC liabilities:

(i) Gross direct, indirect and synthetic holdings in banking/trading books
including qualifying offsetting short positions

(ii) Underwriting positions held for more than five working days

(iii) Maximum amount that could be paid out on guarantees or capital
enhancements arising from capital support provided to financial institutions

of which: ordinary share holdings of
unconsolidated financial institutions incorporated in Singapore

10% of common equity pursuant to paragraph 6.1.3(o)(i)

Total ~~capital~~ holdings of capital instruments and other TLAC liabilities in excess of 10% of common equity

Proportion of ordinary share holdings to total ~~capital~~ holdings of capital instruments and other TLAC liabilities

19 Investments in ordinary shares of unconsolidated financial institutions in which Reporting Bank holds a major stake
approved under s32 of Banking Act (incl insurance subsidiaries)
(amount above 10% threshold)

Investments in aggregate

(i) Gross direct, indirect and synthetic holdings in banking/trading books
including qualifying offsetting short positions

(ii) Underwriting positions held for more than five working days

(iii) Maximum amount that could be paid out on guarantees or capital
enhancements arising from capital support provided to financial institutions

10% of common equity pursuant to paragraph 6.1.3(p)(i)

20 Mortgage servicing rights (amount above 10% threshold)

21 Deferred tax assets arising from temporary differences
(amount above 10% threshold, net of related tax liability)

22 Amount exceeding the 15% threshold

23 of which: investments in ordinary shares of unconsolidated financial institutions in which Reporting Bank holds a major stake
approved under s32 of Banking Act (incl insurance subsidiaries)

24 of which: mortgage servicing rights

25 of which: deferred tax assets arising from temporary differences

25A 15% of CET1 Capital

26 National specific regulatory adjustments

26A PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630

26B Capital deficits in subsidiaries and associates that are regulated financial institutions

26C Any other items which the Authority may specify

27 Regulatory adjustments applied in calculation of CET1 Capital due to insufficient AT1 Capital to satisfy required deductions

28 **Total regulatory adjustments to CET1 Capital**

29 **Common Equity Tier 1 capital (CET1)**

Additional Tier 1 capital: instruments

30 AT1 capital instruments and share premium (if applicable)

31 of which: classified as equity under the Accounting Standards

32 of which: classified as liabilities under the Accounting Standards

33 Transitional: Ineligible capital instruments (pursuant to paragraphs 6.5.3 and 6.5.4)

34 AT1 capital instruments issued by fully-consolidated subsidiaries that meet criteria for inclusion

35 of which: instruments issued by subsidiaries subject to phase out

36 **Additional Tier 1 capital before regulatory adjustments**

Additional Tier 1 capital: regulatory adjustments

37 Investments in own AT1 capital instruments

of which: Direct investments, net of qualifying short positions

of which: Indirect investments, net of qualifying short positions

38 Reciprocal cross-holdings in AT1 capital instruments of financial institutions

39 Investments in AT1 capital instruments of unconsolidated financial institutions in which Reporting Bank does not hold a major stake

(i) AT1 capital instrument holdings of unconsolidated financial institutions incorporated in Singapore

(ii) Total ~~capital~~ holdings of capital instruments and other TLAC liabilities in excess of 10% of common equity

(iii) Proportion of AT1 capital instrument holdings to total ~~capital~~ holdings of capital instruments and other TLAC liabilities

40 Investments in AT1 capital instruments of unconsolidated financial institutions in which Reporting Bank holds a major stake approved under s32 of Banking Act (incl insurance subsidiaries)

(i) Gross direct, indirect and synthetic holdings in banking/trading books including qualifying offsetting short positions

(ii) Underwriting positions held for more than five working days

41 National specific regulatory adjustments

41A Any other items which the Authority may specify

41B Regulatory adjustments applied to AT1 Capital in respect of amounts subject to pre-Basel III treatment

of which:

(i) Goodwill, net of associated deferred tax liability

(ii) Intangible assets, net of associated deferred tax liability

(iii) Deferred tax assets that rely on future profitability

(iv) Cash flow hedge reserve

(v) Increase in equity resulting from securitisation transactions

(vi) Unrealised fair value gains/losses on financial liabilities and derivative liabilities arising from changes in own credit risk

(vii) Shortfall of TEP relative to EL under IRBA

(viii) PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630

(ix) Capital deficits in subsidiaries and associates that are regulated financial institutions

(x) Investments in ordinary shares of unconsolidated financial institutions in which Reporting Bank holds a major stake approved under s32 of Banking Act (incl insurance subsidiaries)

(xi) Investments in Tier 2 capital instruments of unconsolidated financial institutions in which Reporting Bank holds a major stake approved under s32 of Banking Act (incl insurance subsidiaries)

42 Regulatory adjustments applied in calculation of AT1 Capital due to insufficient Tier 2 Capital to satisfy required deductions

43 **Total regulatory adjustments to Additional Tier 1 capital**

44 **Additional Tier 1 capital (AT1)**

45 **Tier 1 capital (T1 = CET1 + AT1)**

Tier 2 capital: instruments and provisions

46 Tier 2 capital instruments and share premium (if applicable)

47 Transitional: Ineligible capital instruments (pursuant to paragraphs 6.5.3 and 6.5.4)

48 Tier 2 capital instruments issued by fully-consolidated subsidiaries that meet criteria for inclusion

49 of which: instruments issued by subsidiaries subject to phase out

50 Provisions

51 **Tier 2 capital before regulatory adjustments**

Tier 2 capital: regulatory adjustments

52 Investments in own Tier 2 instruments

of which: Direct investments, net of qualifying short positions

of which: Indirect investments, net of qualifying short positions

53 Reciprocal cross-holdings in Tier 2 capital instruments of financial institutions

54 Investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which Reporting Bank does not hold a major stake

(i) Total holdings of Tier 2 capital instruments ~~holdings~~ and other TLAC liabilities of unconsolidated financial institutions incorporated in Singapore

(ii) Total ~~capital~~ holdings of capital instruments and other TLAC liabilities in excess of 10% of common equity

(iii) Proportion of total holdings of Tier 2 capital instruments ~~holdings~~ and other TLAC liabilities
to total ~~capital~~ holdings of capital instruments and other TLAC liabilities

54A Investments in other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake:
amount previously designated for the 5% threshold but that no longer meets the conditions

55 Investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions
in which Reporting Bank holds a major stake approved under s32 of Banking Act (incl insurance subsidiaries)

(i) Gross direct, indirect and synthetic holdings in banking/trading books
including qualifying offsetting short positions

(ii) Underwriting positions held for more than five working days

56 National specific regulatory adjustments

56A Any other items which the Authority may specify

56B Regulatory adjustments applied to Tier 2 Capital in respect of amounts
subject to pre-Basel III treatment

of which:

(i) Shortfall of TEP relative to EL under IRBA

(ii) PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630

(iii) Capital deficits in subsidiaries and associates that are regulated financial institutions

(iv) Investments in ordinary shares of unconsolidated financial institutions in which Reporting Bank holds a major stake
approved under s32 of Banking Act (incl insurance subsidiaries)

~~(vii)~~(v) Investments in AT1 capital instruments of unconsolidated financial institutions in which Reporting Bank holds a
major stake approved under s32 of Banking Act (incl insurance subsidiaries)

57 **Total regulatory adjustments to Tier 2 capital**

58 **Tier 2 capital (T2)**

59 **Total capital (TC = T1 + T2)**

60 **Total risk weighted assets after floor adjustment**

Capital ratios (as a percentage of risk weighted assets)

61 **Common Equity Tier 1 CAR**

62 **Tier 1 CAR**

63 **Total CAR**

64 **Bank-specific buffer requirement**

65 of which: capital conservation buffer requirement

66 of which: bank specific countercyclical buffer requirement

67 of which: G-SIB buffer requirement (if applicable)

68 **Common Equity Tier 1 available to meet buffers**

National minima

69 Minimum CET1 CAR

70 Minimum Tier 1 CAR

71 Minimum Total CAR

Amounts below the thresholds for deduction (before risk weighting)

72 Investments in ordinary shares, AT1 capital, ~~and~~ Tier 2 capital and other TLAC liabilities of unconsolidated financial institutions
in which the bank does not hold a major stake

of which:

(i) CET1 capital instrument holdings

(ii) AT1 capital instrument holdings

(iii) Tier 2 capital instrument holdings

(iv) Other TLAC liabilities (excluding those designated for the 5% threshold described in paragraphs 6.3.3(d)(iii) under Part VI)

(v) Other TLAC liabilities (designated for the 5% threshold described in paragraphs 6.3.3(d)(iii) under Part VI)

73 Investments in ordinary shares of unconsolidated financial institutions in which Reporting Bank holds a major stake
approved under s32 of Banking Act (incl insurance subsidiaries)

74 Mortgage servicing rights (net of related tax liability)

75 Deferred tax assets arising from temporary differences (net of related tax liability)

Applicable caps on the inclusion of provisions in Tier 2

76 Provisions eligible for inclusion in Tier 2 in respect of exposures
subject to standardised approach (prior to application of cap)

77 Cap on inclusion of provisions in Tier 2 under standardised approach

78 Provisions eligible for inclusion in Tier 2 in respect of exposures
subject to internal ratings-based approach (prior to application of cap)

79 Cap for inclusion of provisions in Tier 2 under internal ratings-based approach

PE/VC investments and investments in unconsolidated major stake companies that are not financial institutions

80 Portion of Reporting Bank's individual PE/VC investments and investments in unconsolidated major stake companies that are not financial
institutions and exceed 15% of Eligible Total Capital

80A of which: PE/VC investments

80B of which: Investments in unconsolidated major stake companies that are not financial institutions

80C 15% of Eligible Total Capital

81 Portion of Reporting Bank's aggregate ~~For individual~~ PE/VC investments and investments in unconsolidated major stake companies that are not financial institutions ~~which do not exceed 15% of Eligible Total Capital, the portion of the aggregate of such investments that exceeds~~ which exceed 60% of Eligible Total Capital

81A 60% of Eligible Total Capital

Capital instruments subject to phase-out arrangements
(only applicable between 1 Jan 2013 and 1 Jan 2022)

82 Current cap on CET1 instruments subject to phase out arrangements

83 Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)

83A Nominal amount of ineligible AT1 instruments as at 1 Jan 2013

84 Current cap on AT1 instruments subject to phase out arrangements

85 Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)

85A Nominal amount of ineligible T2 instruments as at 1 Jan 2013

86 Current cap on T2 instruments subject to phase out arrangements

87 Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)

[MAS Notice 637 (Amendment) 2017]
[MAS Notice 637 (Amendment No. 2) 2017]

STATEMENT OF CET1 CAR, TIER 1 CAR AND TOTAL CAR

Name of the Reporting Bank:	
Statement as at:	
Scope of Reporting:	Group

88. Capital Instruments issued by Fully-Consolidated Subsidiaries that meet Criteria for Inclusion in Regulatory Capital
(pursuant to paragraphs 6.1.4, 6.2.4, 6.2.5, 6.3.4 and 6.3.5)

(In S$ million)

				Subsidiary 1 (Name)	**Subsidiary 2** (Name)	**Total** (Sum across all subsdiaries)
(a)		CET1 Capital of subsidiary, net of regulatory adjustments				
	(i)	paid-up amount, reserves, retained earnings owned by Reporting Bank, gross of all regulatory adjustments				
	(ii)	paid-up amount, reserves, retained earnings owned by third party investors gross of all regulatory adjustments				
(b)		Tier 1 Capital of subsidiary, net of regulatory adjustments (after applying the provision in paragraph 6.5.3)				
	(i)	paid-up amount, reserves, retained earnings owned by Reporting Bank, gross of all regulatory adjustments				
	(ii)	paid-up amount, reserves, retained earnings owned by third party investors gross of all regulatory adjustments				
(c)		Eligible Total Capital of subsidiary, net of regulatory adjustments (after applying the provision in paragraph 6.5.3)				
	(i)	paid-up amount, reserves, retained earnings owned by Reporting Bank, gross of all regulatory adjustments				
	(ii)	paid-up amount, reserves, retained earnings owned by third party investors gross of all regulatory adjustments				
(d)		Total risk-weighted assets of subsidiary				
(e)		Consolidated risk-weighted assets attributable to the subsidiary				
(f)		CET1 Capital				
	(i)	Surplus CET1 Capital	8~~6~~8(a) - 9% x lower of 8~~6~~8(d) and 8~~6~~8(e)			
	(ii)	Surplus CET1 Capital attributable to third party investors	8~~6~~8(f)(i) x 8~~6~~8(a)(ii)/[sum of 8~~6~~8(a)(i) and 8~~6~~8(a)(ii)]			
	(iii)	CET1 capital held by third party investors less surplus attributable to third party investors	8~~6~~8(a)(ii) - 8~~6~~8(f)(ii)			
(g)		Tier 1 Capital				
	(i)	Surplus Tier 1 Capital	8~~6~~8(b) - 10.5% x lower of 8~~6~~8(d) and 8~~6~~8(e)			
	(ii)	Surplus Tier 1 Capital attributable to third party investors	8~~6~~8(g)(i) x 8~~6~~8(b)(ii)/[sum of 8~~6~~8(b)(i) and 8~~6~~8(b)(ii)]			
	(iii)	Tier 1 capital held by third party investors less surplus attributable to third party investors	8~~6~~8(b)(ii) - 8~~6~~8(g)(ii)			
(h)		Eligible Total Capital				
	(i)	Surplus Eligible Total Capital	8~~6~~8(c) - 12.5% x lower of 8~~6~~8(d) and 8~~6~~8(e)			
	(ii)	Surplus Eligible Total Capital attributable to third party investors	8~~6~~8(h)(i) x 8~~6~~8(c)(ii)/[sum of 8~~6~~8(c)(i) and 8~~6~~8(c)(ii)]			
	(iii)	Total capital held by third party investors less surplus attributable to third party investors	8~~6~~8(c)(ii) - 8~~6~~8(h)(ii)			
(i)		CET1 Capital of subsidiary to be included in consolidated CET1 Capital	8~~6~~8(f)(iii)			
(j)		Tier 1 Capital of subsidiary to be included in consolidated AT1 Capital	8~~6~~8(g)(iii) - 8~~6~~8(i)			
(k)		Eligible Total Capital of subsidiary to be included in consolidated Tier 2 Capital	8~~6~~8(h)(iii) - 8~~6~~8(i) - 8~~6~~8(j)			

[MAS Notice 637 (Amendment) 2016]

Part B: Capital Floors where a Reporting Bank has adopted the IRBA		Solo (In S$ million)	Group
1.	**Approach used for Capital Floor Calculation** Basel I / Current SA Basel I means the rules in MAS Notice 637 in force immediately before 1 Jan 2008 Current SA means the approach described in paragraph 5.1.3A		
2.	**Adjustment factor (%)**		
3.	**Capital Resources Requirement using approach used for capital floors**		
	Total Capital Resources Requirement x adjustment factor		
	(i) Minimum total CAR applicable to the bank multiplied by ~~10% of~~ the RWA calculated using approach used for capital floors		
	(ii) Adjustments for deductions and provisions referred to in paragaph 5.1.6(a) or (b), as the case may be		
	(iii) Total Capital Resources Requirement (i) + (ii)		
4.	**Capital Resources Requirement using rules in this Notice**		
	Total Capital Resources Requirement		
	(i) Minimum total CAR applicable to the bank multiplied by ~~10% of~~ the RWA calculated using rules in this Notice		
	(ii) Regulatory adjustments in CET1, AT1 Capital and Tier 2 Capital referred to in MAS Notice 637, Part V, paragraph 5.1.6(b)		

Where the amount calculated under item 3 is higher than the amount calculated under item 4, the Reporting Bank shall include a floor adjustment to RWA in item 4 of Part C, in accordance with paragraph 5.1.3C.

Part C: Total Risk Weighted Assets		Solo (In S$ million)	Group
1.	**Credit RWA** calculated under the		
(a)	SA(CR), SA(EQ)		
(b)	IRBA, IRBA(EQ)		
(c)	SEC-IRBA, SEC-ERBA, SEC-SA, and RWA from Securitisation Exposures to which the SEC-IRBA, SEC-ERBA, and SEC-SA cannot be applied		
(d)	CVA RWA		
(e)	CCP RWA		
(f)	RWA pursuant to paragraph 6.1.3(p)(iii)		
	Total Credit RWA		

[MAS Notice 637 (Amendment No. 2) 2017]

		Solo (In S$ million)	Group
2.	**Market RWA** calculated under the		
(a)	SA(MR)		
(b)	IMA		
	Total Market RWA		
3.	**Operational RWA** calculated under the		
(a)	BIA		
(b)	SA(OR)		
(c)	ASA		
(d)	AMA		
	Total Operational RWA		
4.	**Total RWA**		
(a)	Total RWA before floor adjustment		
(b)	Floor adjustment to RWA (if any)		
(c)	Total RWA after floor adjustment		

[MAS Notice 637 (Amendment) 2017]

Amendments to Schedule 5E

MAS NOTICE 637: OTHER REPORTING SCHEDULES **Annex 12E**
SCHEDULE 5E

ELIGIBLE FINANCIAL COLLATERAL AND ELIGIBLE IRBA COLLATERAL

Name of the Reporting Bank:

Statement as at:

Scope of Reporting:

Table 5E-Collateral for the IRBA and SEC-IRBA
(In S$ million)

		IRBA Asset Sub-Class							SEC-IRBA	
		Sovereign Asset Sub-class	Bank Asset Sub-class	Corporate Asset Sub-class	Corporate Small Business Asset Sub-class	SL Asset Sub-class (IPRE)	SL Asset Sub-class (PF/OF/CF)	HVCRE Asset Sub-class	Securitisation	Subtotal
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i = a+b+c+d+e+f+g+h)
1.	**Eligible Financial Collateral under FC(CA)**									
(a)	Cash (including certificates of deposit and other similar instruments) on deposit with the Reporting Bank									
(b)	Gold									
(c)	Debt Security (excluding structured note)									
(d)	Equity Security (including convertible bonds)									
(e)	Debt security which is a structured note									
(f)	Unit in a collective investment scheme									
	Sub-Total for Eligible Financial Collateral under FC(CA)									
2.	**Eligible IRBA Collateral**									
(a)	Eligible CRE									
(b)	Eligible RRE									
(c)	Eligible Receivables									
(d)	Eligible Physical Collateral - Industrial properties									
(e)	Eligible Physical Collateral - Land in Singapore									
(f)	Eligible Physical Collateral - Land in another jurisdiction									
(g)	Eligible Physical Collateral - Ships									
(h)	Eligible Physical Collateral - Aircrafts									
(i)	Eligible Physical Collateral - Commodities									
~~(i)~~(j)	Eligible Physical Collateral - others									
	Sub-Total for Eligible IRBA Collateral									
	Total for Collateral for the IRBA and SEC-IRBA									

[MAS Notice 637 (Amendment No. 2) 2014]

[MAS Notice 637 (Amendment No. 2) 2017]

Insertion of Schedule 5G [Effective from 31 Dec 2018]

MAS NOTICE 637: OTHER REPORTING SCHEDULES
SCHEDULE 5G

Annex 12E

INTEREST RATE RISK IN THE BANKING BOOK

Name of the Reporting Bank:

Statement as at:

Scope of Reporting:

(In S$ million)

1 Computation of IRRBB for the Reporting Bank using own IMS in whole or in part (pursuant to paragraph 5.19(a), 5.19(c) or 5.20 of Annex 10A)

(a) Change in Economic Value of Equity (in accordance with paragraph 5.49 of Annex 10A)

Interest rate shock scenario	Material Currencies (Currencies that account for more than 5% of banking book assets or liabilities)						Aggregate (across all material currencies)
	Currency 1	*Currency 2*	*Currency 3*	...	...	...	
Parallel up							
Parallel down							
Steepener							
Flattener							
Short rate up							
Short rate down							
Maximum impact							

(b) Change in Net Interest Income (as measured by the Reporting Bank's IMS in accordance with paragraph 5.45 of Annex 10A)

Interest rate shock scenario	Material Currencies (Currencies that account for more than 5% of banking book assets or liabilities)						Aggregate (across all material currencies)
	Currency 1	*Currency 2*	*Currency 3*	...	...	...	
Parallel up							
Parallel down							
Maximum impact							

(c) Did the Reporting Bank make assumptions about the correlations of different currencies when aggregating the change in economic value of equity and net interest income across material currencies for Panels 1(a) and 1(b) respectively?

If so, please provide a description of the methodology and assumptions used.

2 Computation of IRRBB for the Reporting Bank using SA(IR) wholly, pursuant to paragraph 5.19(b) or 5.20 of Annex 10A)

(a) Change in Economic Value of Equity (in accordance with paragraph 5.49 of Annex 10A)

Interest rate shock scenario	Material Currencies (Currencies that account for more than 5% of banking book assets or liabilities)						Aggregate (across all material currencies)
	Currency 1	*Currency 2*	*Currency 3*	...	...	...	
Parallel up							
Parallel down							
Steepener							
Flattener							
Short rate up							
Short rate down							
Maximum impact							

3 Adoption of SA(IR)

(a) Did the Reporting Bank adopt the SA(IR):

(i) wholly as its IMS, in accordance with paragraph 5.19(b) of Annex 10A? Yes / No

(ii) in part, as its IMS, in accordance with paragraph 5.19(c) of Annex 10A? Yes / No

(b) If the Reporting Bank adopted the SA(IR) in part, please indicate the paragraphs of Annex 10B of MAS Notice 637 that the bank adopted.