

Market Risk

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A. Guidelines for Measuring Risk

683(i). Market risk is defined as the risk of losses in on and off-balance-sheet positions arising from movements in market prices. The risks subject to this requirement are:

- The risks pertaining to interest rate-related instruments and equities in the trading book;
- Foreign exchange risk throughout the banking corporation.

1. Scope and coverage of the capital charges

683(ii). The capital charges for interest rate-related instruments and equities will apply to the current trading book items prudently valued by banking corporations, according to Paragraphs 685 to 689(iv) below and to Proper Conduct of Banking Business Directive number 209. The definition of trading book is set out in Paragraphs 685 to 689(iii) below.

The capital charges in respect of instruments relating to interest rates and to equities shall not apply if the following conditions hold:

- a. The trading book business does not ordinarily exceed 5% of the corporation's total business.
- b. The total positions of the trading book do not ordinarily exceed NIS 120 million.
- c. Trading book business does not exceed 6% of the corporation's total business, and the total positions of the trading book do not exceed NIS 160 million.

In order to calculate the ratios of the trading book business to the corporation's total business, both the balance sheet business and the off-balance-sheet business should be summed. For this purpose, bonds will be taken at their market value or their par value, equities will be taken at their market value, and derivatives will be taken at their market value or the par value of their underlying assets. Long positions and short positions will be summed without regard to their signs.

In a situation in which the banking corporation deviates from one of the restrictions listed in conditions a. and b. above for more than 10 business days, or from the restriction described in condition c., it must report this to the Banking Supervision Department.

- 683(iii). The capital charges for foreign exchange risk will apply to banking corporations' total currency positions, subject to some discretion to exclude structural foreign exchange positions. It is understood that some of these positions will be reported and hence evaluated at market value, but some may be reported and evaluated at book value.

The banking corporation is forbidden to take a position in commodities risk at the expense of its nostro. The banking corporation is entitled to buy and sell financial derivative instruments on commodities prices for its customers solely in the framework of agency activity.

- 683(iv). Deleted.

- 683(v). In the same way as for credit risk, the capital requirements for market risk are to apply on a worldwide consolidated basis. Where appropriate, banking and financial entities in a group that is running a global consolidated book and whose capital is being assessed on a global basis will be permitted to report short and long positions in exactly the same instrument (e.g., currencies, equities or bonds), on a net basis, no matter where they are booked.¹¹¹ Moreover, the offsetting rules as set out in this directive may also be applied on a consolidated basis. Nonetheless, there will be circumstances in which the Supervisor demands that the individual positions be taken into the measurement system without any offsetting or netting against positions in the remainder of the group. This may be needed,

¹¹¹ The positions of less than wholly owned subsidiaries will be subject to the generally accepted accounting principles in the country where the parent company is supervised.

for example, where there are obstacles to the quick repatriation of profits from a foreign subsidiary, or where there are legal and procedural difficulties in carrying out the timely management of risks on a consolidated basis.

Moreover, the Supervisor will retain the right to continue to monitor the market risks of individual entities on a non-consolidated basis to ensure that significant imbalances within a group do not escape supervision, and that banking corporations do not pass positions on reporting dates in such a way as to escape measurement.

684. (Deleted)

685. A trading book consists of positions in financial instruments held either with trading intent or in order to hedge other elements of the trading book. To be eligible for trading book capital treatment, financial instruments must either be free of any restrictive covenants on their tradability or able to be hedged completely. In addition, positions should be frequently and accurately managed and valued, and the portfolio should be actively managed.

686. A financial instrument is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity. Financial instruments include both primary financial instruments (or cash instruments) and derivative financial instruments. A financial asset is any asset that is cash, the right to receive cash or another financial asset, the contractual right to exchange financial assets on potentially favorable terms, or an equity instrument. A financial liability is the contractual obligation to deliver cash or another financial asset, or to exchange financial liabilities under conditions that are potentially unfavorable.

687. Positions held with trading intent are those held intentionally for short-term resale and/or with the intent of benefiting from actual or expected short-

term price movements or to lock in arbitrage profits, and may include, for example, proprietary positions, positions arising from client servicing (e.g., matched principal broking), and market making.

687(i). Banking corporations must have clearly defined policies and procedures for determining which exposures to include in, and to exclude from, the trading book for purposes of calculating their regulatory capital, to ensure compliance with the criteria for a trading book set forth in this Section and taking into account the banking corporation's risk management capabilities and practices. Compliance with these policies and procedures must be fully documented and subject to periodic internal audit.

687(ii). These policies and procedures should, at a minimum, address the general considerations listed below. The list below is not intended to provide a series of tests that a product or group of related products must pass to be eligible for inclusion in the trading book. Rather, the list provides a minimum set of key points that must be addressed by the policies and procedures for overall management of a firm's trading book:

- The activities the banking corporation considers to be trading and as constituting part of the trading book for regulatory capital purposes;
- The extent to which an exposure can be marked-to-market daily by reference to an active, liquid two-way market;
- For exposures that are marked-to-model, the extent to which the banking corporation can:
 - (i) Identify the material risks of the exposure;
 - (ii) Hedge the material risks of the exposure and the extent to which hedging instruments would have an active, liquid two-way market;
 - (iii) Derive reliable estimates for the key assumptions and parameters used in the model.

- The extent to which the banking corporation can and is required to generate valuations for the exposure that can be validated externally in a consistent manner;
- The extent to which legal restrictions or other operational requirements would impede the banking corporation's ability to effect an immediate liquidation of the exposure;
- The extent to which the banking corporation is required to, and can, actively risk manage the exposure within its trading operations; and
- The extent to which the banking corporation may transfer risk or exposures between the banking and the trading books, and criteria for such transfers.

688. The following will be the basic requirements for positions eligible to receive trading book capital treatment.

- A clearly documented trading strategy for the position/instrument or portfolios, approved by senior management (which would include an expected holding horizon).
- Clearly defined policies and procedures for the active management of the position, which must include:
 - Positions are managed on a trading desk;
 - Position limits are set and the banking corporation monitors them for appropriateness;
 - Dealers have the autonomy to enter into/manage the position within agreed limits and according to the agreed strategy;
 - Positions are marked to market at least daily and when marking to model, the parameters must be assessed on a daily basis;
 - Positions are reported to senior management as an integral part of the banking corporation's risk management process; and
 - Positions are actively monitored with reference to market information sources (assessment should be made of the market

liquidity or the ability to hedge positions or the portfolio risk profiles). This would include assessing the quality and availability of market inputs to the valuation process, level of market turnover, sizes of positions traded in the market, etc.

- Clearly defined policy and procedures to monitor the positions against the banking corporation's trading strategy, including the monitoring of turnover and stale positions in the banking corporation's trading book.

689. (Deleted)

689(i). When a banking corporation hedges a banking book credit risk exposure using a credit derivative booked in its trading book (i.e., using an internal hedge), the banking book exposure is not deemed to be hedged for capital purposes unless the bank purchases from an eligible third party protection provider a credit derivative meeting the requirements of Paragraph 191 of Proper Conduct of Banking Business Directive number 203 vis-à-vis the banking book exposure. Where such third party protection is purchased and is recognized as a hedge of a banking book exposure for regulatory capital purposes, neither the internal nor the external credit derivative hedge should be included in the trading book for regulatory capital purposes.

689(ii). Positions in the banking corporation's own eligible regulatory capital instruments are deducted from capital. Positions in eligible regulatory capital instruments of other banking corporations, securities firms, and other financial entities, as well as intangible assets, will receive the same treatment as that set down by the Supervisor for such assets held in the banking book, which in many cases is deduction from capital. Where a banking corporation demonstrates that it is an active market maker, the Supervisor may establish a dealer exception for holdings of capital instruments of other banking corporations, securities firms, and other financial entities in the trading book.

In order to qualify for the dealer exception, the banking corporation must have adequate systems and controls surrounding the trading of eligible regulatory capital instruments of financial institutions.

689(iii). Term trading-related repo-style transactions that a banking corporation accounts for in its banking book may be included in the banking corporation's trading book for regulatory capital purposes, so long as all such repo-style transactions are included. For this purpose, trading-related repo-style transactions are defined as only those that meet the requirements of Paragraphs 687 and 688, when both legs are in the form of either cash or securities includable in the trading book. Regardless of where they are booked, all repo-style transactions are subject to a banking book counterparty credit risk charge.

689(iv). For the purposes of this Directive, "correlation trading portfolio" incorporates securitization exposures and n^{th} -to-default credit derivatives that meet the following criteria:

- The positions are not resecuritization positions and are not derivatives of securitization exposures that do not provide a pro rata share in the proceeds of a securitization tranche (this therefore excludes options on a securitization tranche or a synthetically leveraged super-senior tranche); and
- All reference entities are single-name products, including single-name credit derivatives, for which a liquid two-way market exists. This includes commonly traded indices based on these reference entities. 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 settled at such price within a relatively short time, conforming to trade custom.

Positions which reference an underlying asset that would be treated as a retail exposure, a residential mortgage exposure or a commercial mortgage exposure under the standardized approach to credit risk are not included in the correlation trading portfolio. Positions which reference a claim on a special purpose entity are also not included.

A banking corporation may also include in the correlation trading portfolio positions that hedge the positions described above and which are neither securitization exposures nor nth-to-default credit derivatives, and where a liquid two-way market as described above exists for the instrument or its underlying assets.

2. *Prudent Valuation Guidance*

Paragraphs 690–701 have been integrated into Proper Conduct of Banking Business Directive number 209.

3. *Methods of Measuring Market Risks*

701(i). In measuring their market risks, a choice between two broad methodologies (described in Paragraphs 709 to 718(lxix) and 718(lxx) to 718(xcix), respectively) will be permitted, subject to the Supervisor’s approval. One alternative will be to measure the risks in a standardized manner, using the measurement frameworks described in Paragraphs 709 to 718(lxix) below. Paragraphs 709 to 718(lv) deal with the three risks addressed in this section, i.e., interest rate, equity position, and foreign exchange. Paragraphs 718(lvi) to 718(lxix) set out a number of possible methods for measuring the price risk in options of all kinds. The capital charge under the standardized measurement method will be the measures of risk obtained from Paragraphs 709 to 718(lxix), summed arithmetically.

701(ii). The alternative methodology, which is subject to the fulfillment of certain conditions and the use of which is therefore conditional upon the explicit

approval of the Banking Supervision Department, is set out in Paragraphs 718(lxx) to 718(xcix). This method allows banking corporations to use risk measures derived from their own internal risk management models, subject to seven sets of conditions, namely:

- Certain general criteria concerning the adequacy of the risk management system;
- Qualitative standards for internal oversight of the use of models, notably by management;
- Guidelines for specifying an appropriate set of market risk factors (i.e., the market interest rates and prices that affect the value of banking corporations' positions);
- Quantitative standards setting out the use of common minimum statistical parameters for measuring risk;
- Guidelines for stress testing;
- Validation procedures for external oversight of the use of models;
- Rules for banking corporations that use a mixture of models and the standardized approach.

701(iii). The standardized methodology uses a "building-block" approach, in which specific risk and the general market risk arising from debt and equity positions are calculated separately. The focus of most internal models is a banking corporation's general market risk exposure, typically leaving specific risk (i.e., exposures to specific issuers of debt securities or equities¹¹²) to be measured through separate credit risk measurement systems. Banking corporations using models shall be subject to capital charges for the specific risk not captured by their models. Accordingly, a separate capital charge for

¹¹² Specific risk includes the risk that an individual debt or equity security moves by more or less than the general market in day-to-day trading (including periods when the whole market is volatile) and event risk (where the price of an individual debt or equity security moves precipitously relative to the general market, e.g., on a takeover bid or some other shock event. Such events would also include the risk of "default").

specific risk will apply to each banking corporation using a model, to the extent that the model does not capture specific risk. The capital charge for banking corporations that are modeling specific risk is set out in Paragraphs 718(lxxxvii) to 718(xcviii) of this directive.¹¹³

701(iv). In measuring the price risk in options under the standardized approach, where a number of alternatives with varying degrees of sophistication are provided (see Paragraphs 718(lvi) to 718(lxix)), supervisory authorities will apply the rule that the more a banking corporation is engaged in writing options, the more sophisticated its measurement method needs to be. In the longer term, banking corporations that are significant traders in options will be expected to move to comprehensive value-at-risk (VaR) models, and will become subject to the full range of quantitative and qualitative standards set out in Paragraphs 718(lxx) to 718(xcix).

701(v). The Supervisor expects each banking corporation subject to a capital charge for market risk to monitor and report the level of risk against which a capital requirement is to be applied. The banking corporation's overall minimum capital requirement will be:

- a. The credit risk requirements laid down in the Proper Conduct of Banking Business Directives, excluding debt and equity securities in the trading book, but including the credit counterparty risk on all over-the-counter derivatives, whether in the trading or the banking books; plus
- b. The capital charges for operational risk described in Paragraphs 644-683 of Proper Conduct of Banking Business Directive number 206; plus
- c. Either the capital charges described in Paragraphs 709 to 718(lxix), summed arithmetically; or
- d. The measure of market risk derived from the models approach set out in Paragraphs 718(lxx) to 718(xcix); or

¹¹³ (Deleted).

e. A mixture of (c) and (d) summed arithmetically.

701(vi). All transactions, including forward sales and purchases, shall be included in the calculation of capital charges as from the date on which they were signed. Although regular reporting will in principle take place only at intervals (in most countries quarterly), banking corporations are expected to manage the market risk in their trading book in such a way that the capital requirements are being met on a continuous basis, i.e. at the close of each business day. The supervisory authorities have at their disposal a number of effective measures to ensure that banking corporations do not "window-dress" by showing significantly lower market risk positions on reporting dates. Banking corporations will also, of course, be expected to maintain strict risk management systems to ensure that intra-day exposures are not excessive. If a banking corporation fails to meet the capital requirements, the Banking Supervision Department shall ensure that the banking corporation takes immediate measures to rectify the situation.

4. *Treatment of Counterparty Credit Risk in the Trading Book*

702. Banking corporations will be required to calculate the counterparty credit risk charge for OTC derivatives and repo-style and other transactions booked in the trading book separately from the capital charge for general market risk and specific risk.¹¹⁴ The risk weights to be used in this calculation must be consistent with those used for calculating the capital requirements in the banking book. Thus, banking corporations using the standardized approach in the banking book will use the standardized approach risk weights in the trading book.

¹¹⁴ The treatment for unsettled foreign exchange and securities trades is set forth in Paragraph 88 of Proper Conduct of Banking Business Directive 203.

703. In the trading book, for repo-style transactions, all instruments included in the trading book may be used as eligible collateral. Those instruments which fall outside the banking book definition of eligible collateral shall be subject to a haircut at the level applicable to non-main index equities listed on recognized exchanges (as noted in Paragraph 151 of Proper Conduct of Banking Business Directive 203). Consequently, for instruments that count as eligible collateral in the trading book, but not in the banking book, the haircuts must be calculated for each individual security.
704. The calculation of the counterparty credit risk capital charge for collateralized OTC derivative transactions is the same as the rules prescribed for such transactions booked in the banking book.
705. The calculation of the counterparty capital charge for repo-style transactions will be conducted using the rules in Paragraphs 147 to 181(i) of Proper Conduct of Banking Business Directive 203.

Credit Derivatives

706. (Deleted)
707. The counterparty credit risk capital charge for single name credit derivative transactions in the trading book will be calculated using the following potential future exposure add-on factors:

	Protection Buyer	Protection Seller
Total Return Swap		
“Qualifying” reference obligation	5%	5%
“Non-qualifying” reference obligation	10%	10%
Credit Default Swap		
“Qualifying” reference obligation	5%	5%**

“Non-qualifying” reference obligation	10%	10%**
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There will be no difference depending on residual maturity.

The definition of “qualifying” is the same as for the “qualifying” category for the treatment of specific risk under the standardized measurement method in Paragraphs 711(i) to 711(ii).

** The protection seller of a credit default swap shall only be subject to the add-on factor where it is subject to close-out upon the insolvency of the protection buyer while the underlying asset is still solvent. Add-on should then be capped to the amount of unpaid premium.

708. Where the credit derivative is a first-to-default transaction, the add-on will be determined by the lowest credit quality underlying asset in the basket, i.e. if there are any non-qualifying items in the basket, the non-qualifying reference obligation add-on should be used. For second and subsequent to default transactions, underlying assets should continue to be allocated according to the credit quality, i.e. the second lowest credit quality will determine the add-on for a second-to-default transaction, etc.

5. *Transitional Arrangements*

- 708(i). Banking corporations will, on a transitional basis, be free to use a combination of the standardized measurement method and the internal models approach to measure their market risks. As a general rule, any such "partial" models should cover a complete risk category (e.g. interest rate risk or foreign exchange risk), i.e. a combination of the two methods will not be permitted within the same risk category.¹¹⁵ However, as most banking corporations are at present still implementing or further improving their risk management models, the committee believes that the banking corporations should be given—even within risk categories—some flexibility in including all their

¹¹⁵ This does not, however, apply to pre-processing techniques used to simplify the calculation and whose results become subject to the standardized methodology.

operations on a worldwide basis; this flexibility will be subject to approval by the Banking Supervision Department and reviewed by the committee in the future (the Banking Supervision Department will take precautions against "cherry-picking" between the standardized approach and the models approach within a risk factor category). Banking corporations that adopt the modeling alternative for any single risk category will be expected over time to include all their operations, subject to the exceptions mentioned below, and to move towards a comprehensive model (i.e. one which captures all market risk categories). Banking corporations which adopt a model will not be permitted, save in exceptional circumstances, to revert to the standardized approach. Notwithstanding these general principles, even banking corporations using comprehensive models to measure their market risk may still incur risks in positions that are not captured by their internal trading risk management models, for example, in remote locations, in minor currencies, or in negligible business areas.¹¹⁶ Any such risks that are not included in a model should be separately measured and reported using the methodologies described in Paragraphs 709 to 718(xviii) below.

B. The Capital Requirement

1. *The Definition of Capital*

708(ii). The definition of capital to be used for market risk purposes is set out in Paragraphs 49(xiii) and 48(xiv) of Proper Conduct of Banking Business Directive 202.

¹¹⁶ (Deleted).

708(iii). In calculating eligible capital, it will be necessary first to calculate the banking corporation's minimum capital requirement for credit and operational risks, and only afterwards its market risk requirement, to establish how much Tier 1 and Tier 2 capital is available to support market risk. Eligible capital will be the sum of the whole of the banking corporation's Tier 1 capital, plus all of its Tier 2 capital under the limits imposed in Paragraph 49(iii) of Proper Conduct of Banking Business Directive 202. Tier 3 capital will be regarded as eligible only if it can be used to support market risks under the conditions set out in Paragraphs 49(xxi) and 49(xxii). The quoted capital ratio will thus represent capital that is available to meet credit risk, operational risk, and market risk. Where a banking corporation has Tier 3 capital, within the limits set out in Paragraph 49(xxi), that is not at present supporting market risks, it may report that excess as unused but eligible Tier 3, alongside its standard ratio.

C. Market Risk- The Standardized Measurement Method

1. Interest Rate Risk

709 (Deleted).

709(i). This section describes the standard framework for measuring the risk of holding or taking positions in debt securities and other interest rate-related instruments in the trading book. The instruments covered include all fixed-rate and floating-rate debt securities and instruments that behave like them, including non-convertible preference shares.¹¹⁷ Convertible bonds, i.e. debt issues or preference shares that are convertible, at a stated price, into common shares of the issuer, will be treated as debt securities if they trade like debt securities and as equities if they trade like equities.

¹¹⁷ Traded mortgage securities and mortgage derivative products possess unique characteristics because of the risk of pre-payment. Accordingly, for the time being, no common treatment will apply to these securities, which will be dealt with at national discretion. A security that is the subject of a repurchase or a securities lending agreement will be treated as if it were still owned by the lender of the security, i.e. it will be treated in the same manner as other securities positions.

The banking corporation shall state in its policy document and procedures how it will determine whether the convertible bonds trade like a debt security or like an equity.

The basis for dealing with derivative products is considered in Paragraphs 718(ix) to 718(xviii) below.

709(ii). The minimum capital requirement is expressed in terms of two separately calculated charges, one applying to the "*specific risk*" of each security, whether it is a short or a long position, and the other to the interest rate risk in the portfolio (termed "*general market risk*"), where long and short positions in different securities or instruments can be offset. A banking corporation must, however, determine the specific risk capital charge for the correlation trading portfolio as follows: The banking corporation calculates (i) the total specific risk capital charges that would apply just to the net long positions from the net long correlation trading exposures combined, and (ii) the total specific risk capital charges that would apply just to the net short positions from the net short correlation trading exposures combined. The larger of these total amounts is then the specific risk capital charge for the correlation trading portfolio.

709(ii)(1) During a transitional period until December 31, 2013, a banking corporation may exclude positions in securitization instruments and nth-to-default credit derivatives which are not included in the correlation trading portfolio from the calculation according to Paragraph 709(ii), and determine the specific risk capital charges as follows: The banking corporation calculates (i) the total specific risk capital charge that would apply just to the net long positions in these instruments in the trading book, and (ii) the total specific risk capital charge that would apply just to the net short positions in these instruments in the trading book. The larger of these total amounts is then the specific risk capital charge for these positions in the trading book. This calculation must

be undertaken separately from the calculation for the correlation trading portfolio.

(i) *Specific Risk*

709(iii). The capital charge for a specific risk is designed to protect against an adverse movement in the price of an individual security owing to factors related to the individual issuer. In measuring the risk, offsetting will be restricted to matched positions in the identical issue (including positions in derivatives). Even if the issuer is the same, no offsetting will be permitted between different issues, since differences in coupon rates, liquidity, call features, etc. mean that prices may diverge in the short run.

Specific risk capital charges for issuer risk

710. The new capital charges for the "government" and "other" categories will be as follows:

Categories	External Credit Assessment	Specific Risk Capital Requirement
Government	AAA to AA-	0%
	A+ to BBB-	0.25% (residual term to final maturity 6 months or less)
		1.00% (residual term to final maturity greater than 6 and up to and including 24 months)
		1.60% (residual term to final maturity exceeding 24 months)
	BB+ to B-	8.00%
	Below B-	12.00%
	Unrated	8.00%
Qualifying		0.25% (residual term to final maturity 6 months or less)
		1.00% (residual term to final maturity greater than 6 and up to and including 24 months)
		1.60% (residual term to final maturity exceeding 24 months)

Other	<p>Similar to the capital charges for the credit risk of an corporate borrower with no investment rating under the standardized approach for credit risk in Proper Conduct of Banking Business Directive 203</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">BB+ to BB-</td> <td style="text-align: right;">8.00%</td> </tr> <tr> <td>Below BB-</td> <td style="text-align: right;">12.00%</td> </tr> <tr> <td>Unrated</td> <td style="text-align: right;">8.00%</td> </tr> </table>	BB+ to BB-	8.00%	Below BB-	12.00%	Unrated	8.00%
BB+ to BB-	8.00%						
Below BB-	12.00%						
Unrated	8.00%						

710(i). The category "government" will include all forms of government¹¹⁸ paper, including bonds, treasury bills and other short-term instruments.

711. A 0% risk weight can be applied to securities of the Israeli government and the Bank of Israel that are denominated and financed in NIS.

When a supervisory authority in another country sets a reduced risk weight for securities of the sovereign in that country, the same risk weight can be applied to the weighting of the securities of that sovereign that were issued and financed in the local currency, provided that the country is an OECD member and is rated A- or better.

711(i). The "qualifying" category includes:

Bonds rated investment grade¹¹⁹ under the standardized approach to credit risk, and which were issued or guaranteed by:

- A Public Sector Entity, as defined in Paragraph 57 of Proper Conduct of Banking Business Directive 203;
- A multilateral development bank, as defined in Paragraph 59 of Proper Conduct of Banking Business Directive 203;

¹¹⁸ (Deleted).

¹¹⁹ (Deleted).

- A banking corporation, as defined in Paragraph 60 of Proper Conduct of Banking Business Directive 203, except for securities used as an equity instrument for the issuing corporation;
- A securities firm, as defined in Paragraph 65 of Proper Conduct of Banking Business Directive 203, except for securities used as an equity instrument for the issuing corporation.

Bonds rated investment grade by at least two credit rating agencies recognized by the Banking Supervision Department, **or** rated investment grade by one recognized credit rating agency and rated investment grade by an additional credit rating agency.

711(ii). (Deleted).

712. (Deleted).¹²⁰

Specific risk rules for non-qualifying issuers

712(i). Instruments issued by a non-qualifying issuer will receive the same specific risk requirement as a non-investment grade corporate borrower under the standardized approach for credit risk in Proper Conduct of Banking Business Directive 203.

712(ii). However, since this may in certain cases considerably underestimate the specific risk for debt instruments having a high yield-to-redemption relative to government bonds, the Supervisor reserves the right, at his discretion:

- To apply a higher specific risk requirement to such instruments; and/or
- To disallow offsetting for the purposes of defining the extent of general market risk between such instruments and any other debt instruments.

Specific risk rules for positions covered under the securitization framework

¹²⁰ (Deleted).

- 712(iii). The specific risk of securitization positions, as defined in Paragraphs 538–542 of Proper Conduct of Banking Business Directive 205, which are held in the trading book is to be calculated according to the method used for such positions held in the banking book unless specified otherwise below. In this regard, the risk weight has to be calculated as specified below and applied to the net positions in securitization instruments in the trading book. The total specific risk capital charge for n^{th} -to-default credit derivatives is to be calculated according to Paragraph 718, and the total specific risk capital charge for securitization exposures is to be calculated according to Paragraph 709(ii).
- 712(iv). The specific risk capital charges for positions covered under the standardized approach for securitization exposures are defined in the table below. These requirements must be applied by banking corporations using the standardized approach for credit risk. For positions with a long-term rating of B+ or below and a short-term rating other than A-1/P-1, A-2/P-2 or A-3/P-3, a risk weight of 1250% (capital charge of 100%), as defined in Section 561 of Proper Conduct of Banking Business Directive number 205, is required. A risk weight of 1250% (capital charge of 100%) is also required for unrated positions with the exception of the circumstances described in Paragraphs 571 to 575 of Proper Conduct of Banking Business Directive number 205. The operational requirements for the recognition of external credit assessments outlined in Paragraph 565 of Proper Conduct of Banking Business Directive number 205 shall also apply.

Specific risk capital charges under the standardized approach based on external credit ratings

External credit assessment	AAA to AA-A-1/P-1	A+ to A-A-2/P-2	BBB+ to BBB-A-3/P-3	BB+ to BB-	Below BB- and below A-3/P-3 or unrated
Securitization Exposure	1.6%	4%	8%	28%	Deduction from capital
Resecuritization Exposure	3.2%	8%	18%	52%	Deduction from capital

712(v). Deleted.

712(vi). The specific risk capital charges for unrated positions covered under the securitization framework as defined in Paragraphs 538–542 of Proper Conduct of Banking Business Directive number 205 will be calculated in the following manner, and subject to the Supervisor's Approval.

(a) Deleted.

(b) Deleted.

(c) The capital charges can be calculated as 8% of the weighted-average risk weight that would be applied to the securitized exposures under the standardized approach, multiplied by the concentration ratio. If the concentration ratio is equal to or greater than 12.5, the position must be risk-weighted at 1250% (capital charge of 100%) in accordance with that stated in Section 561 of Proper Conduct of Banking Business Directive number 205. The concentration ratio is equal to the sum of the nominal amounts of all the tranches divided by the sum of the nominal amounts of the tranches junior to or pari passu with the tranche in which the position is held including that tranche itself.

The resulting specific risk capital charge shall not be lower than any specific risk capital charge applicable to a more senior rated tranche. If the banking corporation is unable to determine the specific risk capital charge as described above or prefers not to apply the treatment described above to a position, it must risk weight the position at a rate of 1250% (capital charge of 100%).

712(vii). A position subject to a risk weight of 1250% (capital charge of 100%) according to Sections 712(iv) to 712(vi) may be excluded from the calculation of the capital charge for general market risk.

Limitation of the specific risk capital charge to the maximum possible loss

712(viii). Banking corporations may limit the capital charge for an individual position in a credit derivative or securitization instrument to maximum possible loss. For a short risk position, this limit may be calculated as a change in value due to the underlying assets immediately becoming default risk-free. For a long risk position, the maximum possible loss may be calculated as the change in value in the event that all the underlying assets were to default with zero recoveries. The maximum possible loss must be calculated for each individual position.

Specific risk capital charges for positions hedged by credit derivatives

713. Full allowance will be recognized when the values of two legs (i.e. long and short) always move in the opposite direction and broadly to the same extent. This would be the case in the following situations:

- (a) The two legs consist of completely identical instruments, or
- (b) A long cash position is hedged by a total rate of return swap (or vice versa) and there is an exact match between the reference obligation and the underlying asset exposure (i.e., the cash position).¹²¹

In these cases, no specific risk capital requirement applies to both sides of the position.

714. An 80% offset will be recognized when the values of two legs (i.e. long and short) always move in the opposite direction but not always to the same extent. This would be the case when a long cash position is hedged by a credit default swap or a credit linked note (or vice versa) and there is an exact match in terms of the reference obligation, the maturity of both the reference

¹²¹ The maturity of the swap itself may be different from that of the underlying asset exposure.

obligation and the credit derivative, and the currency of the underlying asset exposure. In addition, key features of the credit derivative contract (e.g. credit event definitions, settlement mechanisms) should not cause the price movement of the credit derivative to materially deviate from the price movements of the cash position. To the extent that the transaction transfers risk (i.e. taking account of restrictive payout provisions, such as fixed payouts and materiality thresholds), an 80% specific risk offset will be applied to the side of the transaction with the higher capital charge, while the specific risk requirement on the other side will be zero.

715. Partial allowance will be recognized when the values of the two legs (i.e. long and short) usually move in the opposite direction. This would be the case in the following situations:
- a. The position is captured in Paragraph 713 under (b), but there is an asset mismatch between the reference obligation and the underlying exposure. Nonetheless, the position meets the requirements in Paragraph 191 (g) of Proper Conduct of Banking Business Directive 203.
 - b. The position is captured in Paragraph 713 under (a) or 714 but there is a currency or maturity mismatch¹²² between the credit protection and the underlying asset.
 - c. The position is captured in Paragraph 714 but there is an asset mismatch between the cash position and the credit derivative. However, the underlying asset is included in the (deliverable) obligations in the credit derivative documentation.
716. In each of these cases in Paragraphs 713 to 715, the following rule applies: Rather than adding the specific risk capital requirements for each side of the

¹²² Currency mismatches should feed into the normal reporting of foreign exchange risk.

transaction (i.e., the credit protection and the underlying asset) only the higher of the two capital requirements will apply.

717. In cases not captured in Paragraphs 713 to 715, a specific risk capital charge will be assessed against both sides of the position.

718. An n^{th} -to-default credit derivative is a contract where the payoff is based on the default of the n^{th} asset in a basket of underlying reference instruments. Once the n^{th} default occurs the transaction terminates and is settled.

(a) The specific risk capital charge for a first-to-default credit derivative is the lesser of: (i) the sum of the specific risk capital charges for the individual reference credit instruments in the basket, and (ii) the maximum possible credit event payment under the contract. Where the banking corporation has a risk position in one of the reference credit instruments underlying a first-to-default credit derivative and this credit derivative hedges the banking corporation's risk position, the banking corporation will be permitted to reduce with respect to the hedged amount both the specific risk capital charge for the reference credit instrument and that part of the specific risk capital charge for the credit derivative that relates to this particular reference credit instrument. Where a banking corporation has multiple risk positions in reference credit instruments underlying a first-to-default credit derivative, this offset will be permitted only for that underlying reference credit instrument having the lowest specific risk capital charge.

(b) The specific risk capital charges for an n^{th} -to-default credit derivative, where n is greater than one, is the lesser of: (i) the sum of the specific risk capital charges for the individual reference credit instruments in the basket, but disregarding the $(n-1)$ obligations with the lowest specific risk capital charges; and (ii) the maximum possible credit event payment under the contract. For n^{th} -to-default credit derivatives where n is greater than 1, no offset of the specific risk capital charge with any underlying reference credit

instrument will be permitted. With that, if (n-1) reference assets have already failed, or if protection has been obtained for assets 1 to (n-1), then the offset described in Section 718(a) will be permitted.

(c) If an n^{th} -to-default credit derivative (including first-to-default) is externally rated, then the protection seller must calculate the specific risk capital charge using the rating of the derivative and apply the respective securitization risk weights as detailed in Section 712(iv).

(d) The capital charge against each net n^{th} -to-default credit derivative position applies irrespective of whether the banking corporation has a long or short position, i.e., obtains or provides protection.

(ii) *General Market Risk*

718(i). The capital requirements for general market risk are designed to capture the risk of loss arising from changes in market interest rates. A banking corporation is permitted to choose between two principal methods of measuring the risk: a "maturity" method and a "duration" method. In each method, the capital charge is the sum of four components:

- The net short or long position in the whole trading book;
- A small proportion of the matched positions in each time-band (the "*vertical disallowance*");
- A larger proportion of the matched positions across different time-bands (the "*horizontal disallowance*");
- A net capital charge for positions in options, where appropriate (see Paragraphs 718(lxvi) to 718(lxix)).

718(ii). Separate maturity ladders should be used for each currency, and capital charges should be calculated for each currency separately and then summed, with no offsetting between positions of opposite sign.

The capital charge for interest rate risk in the shekel sectors—both CPI-indexed and unindexed—will be calculated according to a single maturity ladder. However, the banking corporation must take into account, in the framework of Proper Conduct of Banking Business Directive 211 (Evaluating Capital Adequacy), the capital for the risk inherent in interest rate movement in the shekel sectors.

718(iii). In the **maturity method** (see Paragraph 718(vii) for the duration method), long or short positions in debt securities and other sources of interest rate exposures, including derivative instruments, are slotted into a maturity ladder comprising thirteen time-bands (or fifteen time-bands in case of low coupon instruments). Fixed rate instruments should be allocated according to the residual term to maturity and floating-rate instruments according to the residual term to the next re-pricing date. Opposite positions of the same amount in the same issues (but not different issues by the same issuer), whether actual or notional, can be omitted from the directives concerning interest rates (the term-to-maturity method for interest rate exposures), as well as closely matched swaps, forwards, futures and FRAs that meet the conditions set out in Paragraphs 718(xiii) and 718(xiv) below.

718(iv). The first step in the calculation is to weight the positions in each time-band by a factor designed to reflect the price sensitivity of those positions to assumed changes in interest rates. The weights for each time-band are set out in the table below. Zero-coupon bonds and deep-discount bonds (defined as bonds with a coupon of less than 3%) should be slotted according to the time-bands set out in the second column of the table.

Maturity Method: Time Bands and Weights

Coupon of 3% or more	Coupon of less than 3%	Risk weight	Assumed change in yield
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ONLY THE HEBREW VERSION IS BINDING

1 month or less	1 month or less	0.00%	1.00
1-3 months	1-3 months	0.20%	1.00
3-6 months	3-6 months	0.40%	1.00
6-12 months	6-12 months	0.70%	1.00
1-2 years	1-1.9 years	1.25%	0.90
2-3 years	1.9-2.8 years	1.75%	0.80
3-4 years	2.8-3.6 years	2.25%	0.75
4-5 years	3.6-4.3 years	2.75%	0.75
5-7 years	4.3-5.7 years	3.25%	0.70
7-10 years	5.7-7.3 years	3.75%	0.65
10-15 years	7.3-9.3 years	4.50%	0.60
15-20 years	9.3-10.6 years	5.25%	0.60
Over 20 years	10.6-12 years	6.00%	0.60
	12-20 years	8.00%	0.60
	Over 20 years	12.50%	0.60

718(v). The next step in the calculation is to offset the weighted longs and shorts in each time-band, resulting in a single short or long position for each band. Since, however, each band would include different instruments and different maturities, a 10% capital charge to reflect basis risk and gap risk will be imposed on the smaller of the weighted offsetting positions, be it long or short. Thus, if the sum of the weighted long positions in a time-band is \$100 million and the sum of the weighted short positions is \$90 million, the so-called "vertical disallowance" for that time-band would be 10% of \$90 million (i.e. \$9.0 million).

718(vi). The result of the above calculations is to produce two sets of weighted positions, the net long or short positions in each time-band (\$10 million long in the example above) and the vertical disallowances, which have no sign. In addition, however, banking corporations will be allowed to conduct two rounds of "horizontal offsetting", first between the net positions in each of

three zones (zero to one year, one year to four years and four years and over),¹²³ and subsequently between the net positions in the three different zones. The offsetting will be subject to a scale of disallowances expressed as a fraction of the matched positions, as set out in the table below. The weighted long and short positions in each of three zones may be offset, subject to the matched portion attracting a disallowance factor that is part of the capital charge. The residual net position in each zone may be carried over and offset against opposite positions in other zones, subject to a second set of disallowance factors.

¹²³ The zones for coupons less than 3% are 0 to 1 year, 1 to 3.6 years, and 3.6 years and over.

Horizontal Disallowance

Zones¹²⁴	Time Band	Within the Zone	Between Adjacent Zones	Between Zones 1 and 3
Zone 1	0-1 months	40%	40%	100%
	1-3 months			
Zone 2	3-6 months	30%	40%	
	6-12 months			
	1-2 years			
Zone 3	2-3 years	30%	40%	
	3-4 years			
	4-5 years			
	5-7 years			
	7-10 years			
	10-15 years			
15-20 years				
	Over 20 years			

718(vii). Under the alternative **duration method**, banking corporations with the necessary capability may, with the Supervisor’s consent, use a more accurate method of measuring all of their general market risk by calculating the price sensitivity of each position separately. Banking corporations must select and use the method on a continuous basis (unless a change in method is approved by the Supervisor) and will be subject to monitoring by the Banking Supervision Department of the systems used. The mechanics of this method are as follows:

- First calculate the price sensitivity of each instrument in terms of a change in interest rates of between 0.6 and 1.0 percentage points, depending on the maturity of the instrument (see the table below);

¹²⁴ The zones for coupons less than 3% are 0 to 1 year, 1 to 3.6 years, and 3.6 years and over.

- Slot the resulting sensitivity measures into a duration-based ladder with the 15 time-bands set out in the table below;
- Subject long and short positions in each time-band to a 5% vertical disallowance designed to capture basis risk;
- Carry forward the net positions in each time-band for horizontal offsetting, subject to the disallowances set out in the table in Paragraph 718(vi) above.

Duration Method: Time Bands and Assumed Changes in Yield

	Assumed Change in Yield		Assumed Change in Yield
Zone 1		Zone 3	
1 month or less	1.00	3.6-4.3 years	0.75
1-3 months	1.00	4.3-5.7 years	0.70
3-6 months	1.00	5.7-7.3 years	0.65
6-12 months	1.00	7.3-9.3 years	0.60
		9.3-10.6 years	0.60
Zone 2		10.6-12 years	0.60
1.0-1.9 years	0.90	12-20 years	0.60
1.9-2.8 years	0.80	Over 20 years	0.60
2.8-3.6 years	0.75		

718(viii). Deleted.

(iii) *Interest Rate Derivatives*

718(ix). The measurement system should include all interest rate derivatives and off-balance-sheet instruments in the trading book that react to changes in interest rates, (e.g. forward rate agreements (FRAs), other forward contracts, bond futures, interest rate and cross-currency swaps, and forward foreign exchange positions). Options can be treated in a variety of ways, as described in

Paragraphs 718(lvi) to 718(lxix) below. A summary of the rules for dealing with interest rate derivatives is set out in Paragraph 718(xviii) below.

Calculation of Positions

718(x). The derivatives should be converted into positions in the relevant underlying asset, and become subject to specific and general market risk capital charges as described above. In order to calculate the standard formula described above, the amounts reported should be the market value of the principal amount of the underlying asset or of the notional underlying asset resulting from the prudent valuation guidance in accordance with the guidelines of Proper Conduct of Banking Business Directive number 209.¹²⁵

Futures and Forward Contracts, Including Forward Rate Agreements

718(xi). These instruments are treated as a combination of a long and a short position in a notional government security. The maturity of a future or an FRA will be the period until delivery or exercise of the contract, plus - where applicable - the life of the underlying instrument. For example, a long position in a June three-month interest rate future (taken in April) is to be reported as a long position in a government security with a maturity of five months and a short position in a government security with a maturity of two months. Where a range of deliverable instruments may be delivered to fulfill the contract, the banking corporation has flexibility to select which deliverable security goes into the maturity or duration ladder but should take into account any conversion factor defined by the exchange rate. In the case of a future on a corporate bond index, positions will be included at the market value of the notional underlying portfolio of securities.

¹²⁵ For instruments where the apparent notional amount differs from the effective notional amount, banking corporations must use the effective notional amount.

Swaps

718(xii). Swaps will be treated as two notional positions in government securities with relevant maturities. For example, an interest rate swap under which a banking corporation is receiving a floating rate interest and paying a fixed rate will be treated as a long position in a floating rate instrument of maturity equivalent to the period until the next interest fixing and a short position in a fixed-rate instrument of maturity equivalent to the residual life of the swap. For swaps that pay or receive a fixed or floating interest rate against some other reference price, e.g. a stock index, the interest rate component should be slotted into the appropriate repricing maturity category, with the equity component being included in the equity framework. The separate legs of cross-currency swaps are to be reported in the relevant maturity ladders for the currencies concerned.

*Calculation of capital charges for derivatives under the standardized methodology**Allowable offsetting of matched positions*

718(xiii). Banking corporations may exclude from the interest rate maturity framework altogether (for both specific and general market risk) long and short positions (both actual and notional) in identical instruments with exactly the same issuer, coupon, currency and maturity. A matched position in a future or forward and its corresponding underlying asset may also be fully offset,¹²⁶ and thus excluded from the calculation. When the future or the forward comprises a range of deliverable instruments, offsetting of positions in the future or forward contract and its underlying asset is only permissible in cases where there is a readily identifiable underlying security that is most profitable for the trader with a short position to deliver. The price of this security, sometimes called the "cheapest-to-deliver", and the price of the future or forward contract should in such cases move in close alignment.

¹²⁶ The leg representing the time-to-expiry of the future should, however, be reported.

No offsetting will be allowed between positions in different currencies; the separate legs of cross-currency swaps or forward foreign exchange deals are to be treated as notional positions in the relevant instruments and included in the appropriate calculation for each currency.

718(xiv). In addition, opposite positions in the same category of instruments¹²⁷ can in certain circumstances be regarded as matched, and allowed to offset fully. To qualify for this treatment, the positions must relate to the same underlying instruments, be of the same nominal value, and be denominated in the same currency.¹²⁸ In addition:

- (i) **For futures:** offsetting positions in the notional or underlying instruments to which the futures contract relates must be for identical products, and mature within seven days of each other;
- (ii) **For swaps and FRAs:** the reference interest rate (for floating rate positions) must be identical and the coupon closely matched (i.e. within 15 basis points); and
- (iii) **For swaps, FRAs and forwards:** the next interest-fixing date or, for fixed coupon positions or forwards, the residual maturity, must comply with the following limits:
 - Less than one month hence: the same day;
 - Between one month and one year hence: within seven days;
 - Over one year hence: within 30 days.

718(xv). Deleted.

¹²⁷ This includes the delta-equivalent value of options. The delta equivalent of the legs arising out of the treatment of caps and floors as set out in Paragraph 718(x) can also be offset against each other under the rules laid down in this Paragraph.

¹²⁸ The separate legs of different swaps may also be "matched," subject to the same conditions.

Specific Risk

718(xvi). Interest rate and foreign currency swaps, FRAs, forward foreign exchange contracts, and interest rate futures will not be subject to a specific risk capital charge. This exemption also applies to futures on an interest rate index (e.g. LIBOR). However, in the case of futures contracts where the underlying asset is a debt security or an index representing a basket of debt securities, a specific risk capital charge will apply according to the credit risk of the issuer, as set out in Paragraphs 709(iii) to 718 above.

General Market Risk

718(xvii). General market risk applies to positions in all derivative products in the same manner as for cash positions, subject only to an exemption for fully or very closely matched positions in identical instruments, as defined in Paragraphs 718(xiii) and 718(xiv). The various categories of instruments should be slotted into the maturity ladder and treated according to the rules identified earlier.

718(xviii). The table below presents a summary of the regulatory treatment for interest rate derivatives, for market risk purposes:

Summary of Treatment of Interest Rate Derivatives

Instrument	Specific Risk Capital Requirement¹²⁹	General Market Risk Capital Requirement
Exchange-traded future - Government debt security - Corporate debt security - Index on interest rates (e.g. LIBOR) OTC forward - Government debt security - Corporate debt security - Index on interest rates	Yes ¹³⁰ Yes No Yes ¹³⁰ Yes No	Yes, as two positions Yes, as two positions Yes, as two positions Yes, as two positions Yes, as two positions Yes, as two positions
FRAs, swaps Forward foreign exchange Options Government debt security	No No Yes ¹³⁰	Yes, as two positions Yes, as one position in each currency Either (a) Carve together with the associated hedging positions - Simplified approach - Scenarios analysis - Internal models (Part B)

¹²⁹ This is the specific risk requirement relating to the issuer of the instrument. Under the existing credit risk rules, there remains a separate requirement for the counterparty risk.

¹³⁰ The specific risk capital charge only applies to government debt securities that are rated below AA- (see Paragraphs 710 and 710 (i)).

Instrument	Specific Risk Capital Requirement¹²⁹	General Market Risk Capital Requirement
Corporate debt security	Yes	(b) General market risk capital requirement for according to the delta plus method (gamma and vega should receive separate capital charges)
Index on interest rates	No	
FRAs, swaps	No	

2. *Equity Position Risk*

718(xix). This section sets out a minimum capital standard to cover the risk of holding or taking positions in equities in the trading book. It applies to long and short positions in all instruments that exhibit market behavior similar to equities, but not to non-convertible preference shares (which are covered by the interest rate risk requirements described in Paragraphs 709 to 718(xviii)). Long and short positions in the same issue may be reported on a net basis. The instruments covered include common stocks, whether voting or non-voting, convertible securities that behave like equities, and commitments to buy or sell equity securities. The treatment of derivative products, stock indices and index arbitrage is described in Paragraphs 718(xxii) to 718(xxix) below.

(i) *Specific and General Market Risk*

718(xx). As with debt securities, the minimum capital standard for equities is expressed in terms of two separately calculated capital charges for the "specific risk" of holding a long or short position in an individual equity and for the "general market risk" of holding a long or short position in the market as a whole. Specific risk is defined as the banking corporation's gross equity positions (i.e. the sum of all long equity positions and of all short equity positions) and general market risk as the difference between the sum of the long positions

and the sum of the short positions (i.e. the overall net position in the equity market). The long or short position in the market must be calculated on a market-by-market basis, i.e. a separate calculation has to be carried out for each national market in which the banking corporation holds equities.

718(xxi). The capital charge, for specific risk and for general market risk, will each be 8%.

(ii) *Equity Derivatives*

718(xxii). Except for options, which are dealt with in Paragraphs 718(lvi) to 718(lxix), equity derivatives and off-balance-sheet positions that are affected by changes in equity prices should be included in the measurement system.¹³¹ This includes futures and swaps on both individual equities and on stock indices. The derivatives are to be converted into positions in the relevant underlying asset. The treatment of equity derivatives is summarized in Paragraph 718(xxix) below.

Calculation of Positions

718(xxiii). In order to calculate the standard formula for specific and general market risk, positions in derivatives should be converted into notional equity positions:

- Futures and forward contracts relating to individual equities should in principle be reported at current market prices;
- Futures relating to stock indices should be reported as the marked-to-market value of the notional underlying equity portfolio;
- Equity swaps are to be treated as two notional positions;¹³²

¹³¹ Where equities are part of a forward contract, a future, or an option (quantity of equities to be received or to be delivered), any interest rate or foreign currency exposure from the other leg of the contract should be reported as set out in Paragraphs 709 to 718(xviii) and 718(xxx) to 718(xlii).

¹³² For example, an equity swap in which a banking corporation is receiving an amount based on the change in value of one particular equity or stock index, and paying according to a different index, will be treated as a long position in the former and a short position in the latter. Where one of the legs involves receiving/paying a fixed or floating interest rate, that exposure should be slotted into

- Equity options and stock index options should be either "carved out" together with the associated underlying assets or incorporated in the measure of general market risk described in this section according to the delta-plus method.

Calculation of Capital Requirements

Measurement of Specific and General Market Risk

718(xxiv). A banking corporation is entitled to fully offset matched positions in each identical equity or stock index in each market, resulting in a single net short or long position, to which the specific and general market risk charges will apply. For example, a future in a given equity may be offset against an opposite cash position in the same equity.¹³³

Risk in Relation to an Index

718(xxv). Besides general market risk, a further capital charge of 2% will apply to the net long or short position in an index contract comprising a diversified portfolio of equities. This capital charge is intended to cover factors such as execution risk. An "index comprising a well-diversified portfolio" is one in which each of the indices is defined as a "main index" under Paragraph 146 of Proper Conduct of Banking Business Directive 203.

Arbitrage

718(xxvi). In the case of the futures-related arbitrage strategies described below, a banking corporation is entitled to apply the additional 2% capital charge described above to only one index, with the opposite position exempt from a capital charge. The strategies are:

the appropriate re-pricing time-band for interest rate related instruments, as set out in Paragraphs 709 to 718(xviii). The stock index should be covered by the equity treatment.

¹³³ The interest rate risk arising out of the future, however, should be reported as set out in Paragraphs 709 to 718(xviii).

- When the banking corporation takes an opposite position in exactly the same index at different dates, or in different market centers;
- When the banking corporation has an opposite position in contracts at the same date in different but similar indices, provided that the Banking Supervision Department has ruled that the two indices contain sufficient common components to justify offsetting.

718(xxvii). Where a banking corporation engages in a deliberate arbitrage strategy, in which a futures contract on a broadly-based index matches a basket of stocks, it will be allowed to carve out both positions from the standardized methodology on condition that:

- The trade has been deliberately entered into and separately controlled;
- The composition of the basket of stocks represents at least 90% of the index when broken down into its notional components.

In such a case, the minimum capital requirement will be 4% (i.e. 2% of the gross value of the positions on each side) to reflect divergence and execution risks. This applies even if all of the stocks comprising the index are held in identical proportions. Any excess value of the stocks comprising the basket over the value of the futures contract or excess value of the futures contract over the value of the basket, is to be treated as an open long or short position.

718(xxviii). If a banking corporation takes a position in depository receipts against an opposite position in the underlying equity or identical equities in different markets, it may offset the position (i.e. bear no capital charge), but only on condition that any costs on conversion are fully taken into account.¹³⁴

¹³⁴ Any foreign exchange risk arising out of these positions has to be reported as set out in Paragraphs 718(xxx) to 718(xlvii).

718(xxix). The table below summarizes the regulatory treatment of equity derivatives for market risk purposes:

Summary of Treatment of Equity Derivatives

Instrument	Specific Risk¹³⁵	General Market Risk
Exchange-traded or OTC future - Individual equity - Index	Yes 2%	Yes, as an underlying asset Yes, as an underlying asset
Options - Individual equity - Index	Yes 2%	Either (a) Carve out together with the associated hedging positions - Simplified approach - Scenario analysis - Internal models (Part (b)) (b) General market risk charge according to the delta plus method (gamma and vega should receive separate capital charges)

3. Foreign Exchange Risk

718(xxx). This section sets out a minimum capital standard to cover the risk of holding or taking positions in foreign currencies, including gold.¹³⁶

¹³⁵ This is the specific risk charge relating to the issuer of the instrument. Under the existing credit risk rules, there remains a separate capital charge for the counterparty risk.

¹³⁶ Gold is to be dealt with as a foreign exchange position rather than as a commodity because its volatility is more in line with foreign currencies, and banking corporations manage it in a similar manner to foreign currencies.

No capital allocation will be required to cover inflation risk in the framework of the minimum capital requirements, but a banking corporation must take into account the capital to cover the inflation risk in the framework of Proper Conduct of Banking Business Directive 211 (Evaluating Capital Adequacy).

718(xxxi). Two processes are needed to calculate the capital requirement for foreign exchange risk. The first is to measure the exposure in a single currency position. The second is to measure the risks inherent in a banking corporation's mix of long and short positions in different currencies.

(i) *Measuring the Exposure in a Single Currency*

718(xxxii). The banking corporation's net open position in each currency should be calculated by summing:

- The net spot position (i.e. all asset items less all liability items, including accrued interest, denominated in the currency in question);
- The net forward position (i.e. all amounts to be received less all amounts to be paid under forward foreign exchange transactions, including exchange rate futures and foreign currency swaps not included in the spot position);
- Guarantees (and similar financial instruments) that are certain to be called and are likely to be irrecoverable;
- Net future income/expenses not yet accrued, but already fully hedged (at the discretion of the reporting banking corporation);
- Depending on the accounting standards, any other item representing a profit or loss in foreign currencies;
- The net delta-based equivalent of the total book of foreign currency options.¹³⁷

¹³⁷ Subject to a separately calculated capital charge for gamma and vega as described in Paragraphs 718(lix) to 718(lxii); alternatively, options and their associated underlying assets are subject to one of the other methods described in Paragraphs 718(lvi) to 718(lxix).

718(xxxiii). Positions in composite currencies need to be separately reported, but for measuring the banking corporation's open positions, may be either treated as currencies in their own right or split into their component parts on a consistent basis. Positions in gold should be measured in the same manner as described in Paragraph 718(xlix).¹³⁸

718(xxxiv). Three aspects call for more specific comment: the treatment of interest and other income and expenses; the measurement of forward currency positions and gold; and the treatment of "structural" positions.

The Treatment of Interest, Other Income and Expenses

718(xxxv). Interest accrued (i.e. earned but not yet received) should be included as a position. Accrued expenses should also be included. Unearned but expected future interest and anticipated expenses will not be included in the calculation unless the amounts are certain and banking corporations have taken the opportunity to hedge them. If banking corporations include future income/expenses in their calculations, they should do so on a consistent basis, and will not be permitted to select only those expected future flows that reduce their position.

The Measurement of Forward Currency and Gold Positions

718(xxxvi). Forward currency and gold positions will normally be valued at current spot market exchange rates. Using forward exchange rates would be inappropriate, since it would result in the measured positions reflecting current interest rate differentials to some extent. However, banking corporations that base their normal management accounting on net present values are expected to use the net present values of each position, discounted using current interest rates and

¹³⁸ Where gold is part of a forward contract (a quantity of gold to be received or to be delivered), any interest rate or foreign currency exposure from the other leg of the contract should be reported as set out in Paragraphs 709 to 718(xviii) and 718(xxxii) above.

valued at current spot rates, for measuring their forward currency and gold positions.

The Treatment of Structural Positions

718(xxxvii). A matched currency position will protect a banking corporation against loss from movements in exchange rates, but will not necessarily protect its capital adequacy ratio. If a banking corporation holds capital denominated in its domestic currency and has a portfolio of foreign currency assets and liabilities that is completely matched, its capital/asset ratio will fall if the domestic currency depreciates. By running a short position in the domestic currency, the banking corporation can protect its capital adequacy ratio, although the position will lead to a loss if the domestic currency appreciates.

718(xxxviii). A banking corporation may exclude from the calculation of net open currency positions any positions that the bank has deliberately taken in order to hedge partially or totally against the adverse effect of exchange rates on its capital ratio (hereinafter, a “structural” position), subject to all of the following conditions being met:

(a) Prerequisite conditions

- (1) Such positions are not designated for trading;
- (2) The “structural” position excluded does no more than protect the banking corporation's capital adequacy ratio;
- (3) The banking corporation shall report in advance to the Banking Supervision Department of its intention to recognize the structural position at least 60 days prior to the planned date of recognition. The report shall include the following information:

- The nature of the structural position—the goal and general description of the proposed position,

including a general description of the instruments through which it will realized;

- An estimate of the expected impact of the recognition of the structural position on the capital adequacy ratio (at the strategic level);
 - Certification of compliance with the terms of Sections (a)(1) and (a)(2) above, and that the risk management function examined the compliance with them;
 - Certification that the handling is agreed to by the banking corporation's external auditors.
- (b) Recognition of the structural position in the ongoing process
- (1) Only a structural position that has complied with the prerequisite conditions in Section (a) above can be recognized in the ongoing process. The banking corporation is to conduct a periodic, and at least yearly, control on compliance with these terms.
 - (2) Any exclusion of a position from the calculation needs to be applied consistently, with the treatment of the hedge remaining the same for the life of the assets or other items.
 - (3) The banking corporation shall give expression to the impact of the recognition of the structural position in the banking corporation's risk report, as its understanding in Proper Conduct of Banking Business Directive no. 310 ("Risk Management").
- (c) The banking corporation shall document the examinations it conducted regarding the compliance with Sections (a) and (b) above.
- (d) A material change in the goal of the structural position and in the manner of its implementation, for example, a switch from full hedging to partial

hedging, shall be considered a “new” structural position and will require compliance with all the conditions detailed above, including reporting to the Banking Supervision Department.

718(xxxix). A structural position is one of the following:

- a. A financial instrument whose purpose is to protect against the effect of fluctuations in the exchange rate on the banking corporation’s capital ratio;
- b. Positions related to items deducted from the banking corporation’s capital in calculating the capital base, such as investments in non-consolidated subsidiaries or other long-term participations denominated in foreign currencies reported in the banking corporation’s financial statements at their historic cost.

(ii) *Measuring the Foreign Exchange Risk in a Portfolio of Foreign Currency Positions and Gold*

718(xl). Deleted.

718(xli). The risk is measured using the shorthand method, which treats all currencies equally. The nominal amount (or net present value) of the net position in each foreign currency and in gold is converted at spot rates into the reporting currency.¹³⁹ The overall net position is measured by aggregating:

- The sum of the net short positions or the sum of the net long positions, whichever is the greater;¹⁴⁰ plus
- The net position (short or long) in gold, regardless of sign.

¹³⁹ Where the bank is assessing its foreign exchange risk on a consolidated basis, it may be technically impractical in the case of some marginal operations to include the currency positions of a foreign branch or subsidiary of the bank. In such cases, the internal limit in each currency may be used as a proxy for the positions. Provided there is adequate ex post monitoring of actual positions against such limits, the limits should be added, without regard to sign, to the net open position in each currency.

¹⁴⁰ An alternative calculation, which produces an identical result, is to include the reporting currency as a residual, and to take the sum of all the short (or long) positions.

The capital charge will be 8% of the overall net open position (see example below).

Example of the Shorthand Measure of Foreign Exchange Risk

Yen	Euro	Pound Sterling	Canadian Dollar	US Dollar	Gold
+50	+100	+150	-20	-180	-35
+300			-200		35

The capital charge will be 8% of the higher of either the net short currency positions or the net long currency positions (i.e. 300), and of the net position in gold (35)
 $335 \times 8\% = 26.8$.

718(xlii). Deleted.

4. Commodities Risk

Paragraphs 718(xliii) to 718(lv) are deleted.^{141 142 143 144 145 146}

5. Treatment of Options

718(lvi). In measuring price risk for options, banking corporations can choose from several alternative approaches, at the discretion of the Supervisor:

- Those banking corporations which solely use purchased options¹⁴⁷ will be free to use the simplified approach described in Paragraph 718(lviii) below;

¹⁴¹ Deleted.

¹⁴² Deleted.

¹⁴³ Deleted.

¹⁴⁴ Deleted.

¹⁴⁵ Deleted.

¹⁴⁶ Deleted.

¹⁴⁷ Unless all their written option positions are hedged by perfectly matched long positions in exactly the same options, in which case no capital charge for market risk is required.

- Banking corporations that also write options will be expected to use one of the intermediate approaches as set out in Paragraphs 718(lix) to 718(lxix). The more significant its options trading, the more the banking corporation will be expected to use a sophisticated approach.

718(lvii). In the *simplified approach*, the positions for the options and the associated underlying asset, cash or forward are not subject to the standardized methodology but rather are "carved-out" and subject to separately calculated capital charges that incorporate both general market risk and specific risk. The capital charges thus generated are then added to the capital charges for the relevant category, i.e. interest rate related instruments, equities, and foreign exchange, as described in Paragraphs 709 to 718(lv). The *delta-plus method* uses the sensitivity parameters or "Greek letters" associated with options to measure their market risk and capital requirements. Under this method, the delta-equivalent position of each option becomes part of the standardized methodology set out in Paragraphs 709 to 718(lv), with the delta-equivalent amount subject to the applicable general market risk charges. Separate capital charges are then applied to the gamma and vega risks of the option positions. The *scenario approach* uses simulation techniques to calculate changes in the value of an options portfolio for changes in the level and volatility of its associated underlying assets. Under this approach, the general market risk charge is determined by the scenario "grid" (i.e. the specified combination of changes in the underlying asset and in volatility) that produces the largest loss. For the delta-plus method and the scenario approach, the specific risk capital charges are determined separately by multiplying the delta-equivalent of each option by the specific risk weights set out in Paragraphs 709 to 718(xxix).

(i) *Simplified Approach*

718(lviii). Banking corporations that handle a limited range of purchased options only will be free to use the simplified approach set out in the table below for particular trades. As an example of how the calculation would work, if a holder of 100 shares currently valued at \$10 each holds an equivalent put option with a strike price of \$11, the capital charge will be: \$1,000 x 16% (i.e. 8% specific plus 8% general market risk) = \$160, less the amount the option is in the money ($\$11 - \10) x 100 = \$100, i.e. the capital charge would be \$60. A similar methodology applies for options whose underlying asset is a foreign currency, an interest rate related instrument, or a commodity.

Simplified Approach: Capital Requirements

Position	Treatment
Long cash and Long put or Short cash and Long call	The capital charge will be the market value of the underlying security ¹⁴⁸ multiplied by the sum of specific and general market risk charges ¹⁴⁹ for the underlying asset, less the amount the option is in the money (if any) and bounded at zero. ¹⁵⁰
Long call or Long put	The capital charge will be the lesser of: (i) The market value of the underlying security multiplied by the sum of specific and general

¹⁴⁸ In some cases such as foreign exchange, it may be unclear which side is the "underlying security"; this should be taken to be the asset that would be received if the option were exercised. In addition, the nominal value should be used for items where the market value of the underlying instrument could be zero, e.g. caps and floors, swaptions, etc.

¹⁴⁹ Some options (e.g. where the underlying asset is an interest rate or a currency) bear no specific risk, but specific risk will be present in the case of options on certain interest rate-related instruments (e.g. options on a corporate debt security or corporate bond index; see Paragraphs 709 to 718(xviii) for the relevant capital charges), and for options on equities and stock indices, see Paragraphs 718(xix) to 718(xxix)). The charge under this measure will be 8% for currency options.

¹⁵⁰ For options with a residual maturity of more than six months, the strike price should be compared with the forward, not the current, price. A banking corporation unable to do this must take the in-the-money amount to be zero.

Position	Treatment
	market risk charges ¹⁴⁹ for the underlying asset (ii) The market value of the option. ¹⁵¹

(ii) *Intermediate Approaches*

Delta-Plus Method

718(lix). Banking corporations that write options will be allowed to include delta-weighted options positions within the standardized methodology set out in Paragraphs 709 to 718(lix). Such options should be reported as a position equal to the market value of the underlying asset multiplied by the delta. However, since delta does not sufficiently cover the risks associated with options positions, banking corporations will also be required to measure the gamma (which measures the change in delta) and vega (which measures the sensitivity of the value of an option with respect to a change in volatility) sensitivities in order to calculate the total capital charge. These sensitivities will be calculated according to an approved exchange model or to the banking corporation's proprietary options pricing model subject to oversight by the Supervisor.¹⁵²

718(lx). Delta-weighted positions with *debt securities or interest rates as the underlying asset* will be slotted into the interest rate time-bands, as set out in Paragraphs 709 to 718(xviii), under the following procedure. A two-legged approach should be used, as for other derivatives, requiring one entry at the time the underlying contract takes effect, and a second at the time the

¹⁵¹ Where the position does not fall within the trading book (i.e. options on certain foreign exchange positions not belonging to the trading book), the book value may be used instead.

¹⁵² The Supervisor may wish to require banks doing business in certain classes of exotic options (e.g. barriers, digitals) or in options in the money that are close to expiry to use either the scenario approach or the internal models alternative, both of which can accommodate more detailed revaluation approaches.

underlying contract matures. For instance, a bought call option on a June three-month interest-rate future will in April be considered, on the basis of its delta-equivalent value, to be a long position with a maturity of five months and a short position with a maturity of two months.¹⁵³ The written option will be similarly slotted as a long position with a maturity of two months and a short position with a maturity of five months. Floating rate instruments with caps or floors will be treated as a combination of floating rate securities and a series of European-style options. For example, a banking corporation that holds a three-year floating rate bond indexed to six-month LIBOR with a cap of 15% will treat it as:

- (i) A debt security that re-prices in six months; and
- (ii) A series of five written call options on an FRA with a reference rate of 15%, each with a negative sign at the time the underlying FRA takes effect and a positive sign at the time the underlying FRA matures.¹⁵⁴

718(lxi). The capital charge for *options with equities as the underlying asset* will also be based on the delta-weighted positions, which will be incorporated in the measure of market risk described in Paragraphs 718(xix) to 718(xxix). For purposes of this calculation, each national market is to be treated as a separate underlying asset. The capital charge for *options on foreign exchange and gold positions* will be based on the method set out in Paragraphs 718(xxx) to 718(xlii). For delta risk, the net delta-based equivalent of the foreign currency and gold options will be incorporated into the measurement of the exposure for the respective currency (or gold) position.

718(lxii). In addition to the above capital charges arising from delta risk, there will be further capital charges for *gamma* and for *vega risk*. Banking corporations

¹⁵³ A two-month call option on a bond future, where delivery of the bond takes place in September, would be considered in April as being a long position in the bond and a short position in a five-month deposit, both positions being delta-weighted.

¹⁵⁴ The rules applying to closely matched positions set out in Paragraph 718(xiv) will also apply in this respect.

using the delta-plus method will be required to calculate the gamma and vega for each option position (including hedge positions) separately. The capital charges should be calculated in the following way:

- (i) For **each individual option**, a "gamma impact" should be calculated according to a Taylor series expansion as:

$$\text{Gamma impact} = 1/2 \times \text{Gamma} \times \text{VU}^2$$

Where VU = the variation of the underlying asset of the option.

- (ii) VU will be calculated as follows:

- For interest rate options, if the underlying asset is a bond, the market value of the underlying asset should be multiplied by the risk weights set out in Paragraph 718(iv). An equivalent calculation should be carried out where the underlying asset is an interest rate, again based on the assumed changes in the corresponding yield in Paragraph 718(iv);
- For options on equities and equity indices: the market value of the underlying asset should be multiplied by 8%;¹⁵⁵
- For foreign exchange and gold options: the market value of the underlying asset should be multiplied by 8%.

- (iii) For the purpose of this calculation the following positions should be treated as positions with **the same underlying asset**:

- For interest rates, each time-band,¹⁵⁶ as set out in Paragraph 718(iiv);¹⁵⁷
- For equities and stock indices, each national market;
- For foreign currencies and gold, each currency pair and gold.

- (iv) Each option on the same underlying asset will have a gamma impact that is either positive or negative. These individual gamma impacts will

¹⁵⁵ The basic rules set out here for interest rate and equity options do not attempt to capture specific risk when calculating gamma capital charges. However, the Banking Supervision Department may wish to require specific banking corporations to do so.

¹⁵⁶ Positions have to be slotted into separate maturity ladders by currency.

¹⁵⁷ Banks using the duration method should use the time-bands set out in Paragraph 718(vii).

be summed, resulting in a net gamma impact for each underlying asset that is either positive or negative. Only those net gamma impacts that are negative will be included in the capital calculation.

- (v) The total gamma capital charge will be the sum of the absolute values of the net negative gamma impacts, as calculated above.
- (vi) For **volatility risk**, banking corporations will be required to calculate the capital charges by multiplying the sum of the vegas for all options on the same underlying asset, as defined above, by a proportional shift in volatility of $\pm 25\%$.
- (vii) The **total capital charge** for vega risk will be the sum of the absolute value of the individual capital charges that have been calculated for vega risk.

Scenario Approach

718(lxiii). More sophisticated banking corporations will also have the right to base the market risk capital charge for options portfolios and associated hedging positions on *scenario matrix analysis*. This will be accomplished by specifying a fixed range of changes in the option portfolio's risk factors and calculating the value of the options portfolio at various points along this "grid". For the purpose of calculating the capital charge, the banking corporation will revalue the options portfolio using matrices for simultaneous changes in the rate or price of the options' underlying asset, and in the volatility of that rate or price. A different matrix will be set up for each individual underlying asset, as defined in Paragraph 718(lxiii) above. As an alternative, at the discretion of the Supervisor, banking corporations that are significant traders in options will for interest rate options be permitted to base the calculation on a minimum of six sets of time-bands. When using this method, not more than three of the time-bands, as defined in Paragraphs 718(iiv) and 718(vii), should be combined into any one set.

- 718(lxiv). The banking corporation will evaluate the options and related hedging positions over a specified range above and below the current value of the underlying asset. The range for interest rates is consistent with the assumed changes in yield listed in Paragraph 718(iv). Those banking corporations using the alternative method for interest rate options set out in Paragraph 718(lxiii) above should use, for each set of time-bands, the highest of the assumed changes in yield applicable to the group to which the time-bands belong.¹⁵⁸ The other ranges are $\pm 8\%$ for equities¹⁵⁵ and $\pm 8\%$ for foreign exchange and gold. For all risk categories, at least seven observations (including the current observation) should be used to divide the range into equally spaced intervals.
- 718(lxv). The second dimension of the matrix entails a change in the volatility of the rate or price of the underlying asset. A single change in the volatility of the rate or price of the underlying asset equal to a shift in volatility of + 25% and - 25% is expected to suffice in most cases. As circumstances warrant, however, the Supervisor may choose to require that a different change in volatility be used and/or that intermediate points on the grid be calculated.
- 718(lxvi). After calculating the matrix, each cell will contain the net profit or loss of the option and the underlying hedge instrument. The capital charge for each underlying asset will then be calculated as the largest loss contained in the matrix.
- 718(lxvii). The application of the scenario analysis by any specific banking corporation will be subject to the Supervisor's consent, particularly as regards the precise way that the analysis is constructed. Banking corporations' use of scenario analysis as part of the standardized methodology will also be subject to

¹⁵⁸ If, for example, the time-bands 3 to 4 years, 4 to 5 years and 5 to 7 years are combined, the change in yield of these three bands would be 0.75.

validation by the Supervisor, and to those of the qualitative standards listed in Paragraphs 718(lxxiv) and 718(lxxv) that are appropriate, given the nature of the business.

718(lxviii). Deleted.

718(lxix). Besides the options risks mentioned above, the Committee is conscious of the other risks also associated with options, e.g. rho (rate of change of the value of the option with respect to the interest rate) and theta (rate of change of the value of the option with respect to time). While not proposing a measurement system for those risks at present, it expects banking corporations undertaking significant options business at the very least to monitor such risks closely. Additionally, banking corporations will be permitted to incorporate rho into their capital calculations for interest rate risk, if they wish to do so.

D. Market Risk – The Internal Models Approach

718 (lxx) to 718(xcviii) have not yet been adopted.^{159 160 161 162 163 164 165 166 167 168 169 170 171}

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