

✓ Basel Committee on Banking Supervision
Bank for International Settlements
CH-4002 Basel
Switzerland

Federal Reserve Board
Basel 2001 Capital Proposal, Mail Stop 179
21st and C Streets, NW
Washington D.C. 20551

Federal Reserve Bank of New York
ATTN: Kim P. Olson
33 Liberty Street
New York, NY 10045-0001

Basel 2001 Capital Proposal
Office of the Comptroller of the Currency
Mail stop 3-6
250 E Street SW
Washington D.C. 20219

May 31, 2001

RE: Comments on the Consultative Package of The New Basel Capital Accord

The second consultative package of "The New Basel Capital Accord" ("The New Accord"), released by the Basel Committee on Banking Supervision ("The Committee") on January 16, 2001 focuses on improvements in the measurements of risk and impact on capital requirements. For the measurement of credit risk, two principal options are being proposed: the Standardized Approach with the simple and comprehensive options and the Internal Ratings Based Approach ("IRB") with the foundation and advanced options.

The Basel Committee on Banking Supervision has requested commentary on various aspects of "The New Basel Capital Accord" and associated consultative documents. In their "Summary of the Basel Committee's 'The New Basel Capital Accord'" the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency highlighted a number of specific issues of particular significance for the US banking system and indicated that comments on these issues would be particularly welcome.

In response to these requests, The Risk Management Association's Committee on Securities Lending has formulated comments focusing on the Credit Mitigation aspects of the New Accord (member firms may also comment individually on the consultative package as a whole). Founded in 1914, The Risk Management Association is an association of 3,000 financial service providers represented by by more than 18,000 professionals in the 50 states of the United States of

America, Puerto Rico, Canada, Europe, Asia and Latin America. The Risk Management Association specializes in promoting effective and prudent risk management practices for financial institutions. The Risk Management Association's Committee on Securities Lending ("RMA") was formed in 1983 and currently has a membership of 36 US based firms. Through its activities, which include semi-annual surveys of the securities lending activities of its membership, this group represents the major source of information about securities lending practices in the US. The comments contained in this letter reflect the RMA membership's experience and understanding of market practice.

OVERVIEW

Our analysis indicates that the capital requirements produced by the methodologies set out in the Accord are excessive in absolute value and were generated in a manner that is inconsistent with certain key aspects of the securities lending business. In a broad sense, the development of a carve-out treatment that calculates risk-weighted assets in a manner more suitable to the characteristics of securities lending is essential. Specifically, we

- strongly disagree with the concept of "w";
- feel that the Committee's reluctance to acknowledge the beneficial risk mitigation effects of asset correlation on a securities lending portfolio is unwarranted, given that the risk associated with securities lending activity is primarily market risk for which, unlike typical credit risk, reliable correlation data is readily available from commercial data providers; and
- feel that the level of the haircuts set out in the Accord is excessive and that the hurdle for using a bank's "own estimate" haircut is too restrictive, given the level of sophistication with which many US agent lenders model the risk associated with their securities lending activities.

We have come to these conclusions by modeling and comparing the impact of using the different methodologies set out in the 1988 Basel Accord, as it is applied in the US, and The New Basel Accord to using a Value at Risk ("VaR") model that is commonly employed by US agent lenders and incorporates correlation in the measurement of risk. Our assumption in this analysis is that the agent lender bears the counterparty default risk when assets are loaned on an indemnified basis and that the customer bears the risk associated with the reinvestment of cash collateral (this arrangement is typical within the US securities lending industry). However, the treatment of indemnified reinvestment risk needs to be clarified in the Accord. The results of this analysis reveal that although a bank will experience a decrease in risk-weighted assets as it moves to the more sophisticated methodologies set out in the Accord, as the Committee intended, the level of risk-weighted assets produced using the most sophisticated option significantly exceeds the internal assessment produced using a VaR model.

As settlement cycles move to a T+1 environment, the trading industries will be relying even more heavily on the securities lending industry to continue to provide the liquidity needed to maintain market stability, minimize market disruptions, and curtail price volatility. Without a capital treatment option that addresses the particulars of the securities lending industry, agent lenders will experience an increase in capital charges that will inevitably be passed on to the broker/dealer and end user communities, and will likely change the economics of securities lending transactions, and adversely impact market liquidity.

DETAILED COMMENTS

“w”

There is a great deal of concern surrounding the concept of the “w” factor within the securities lending industry and the RMA recommends that the Committee eliminate this factor in the final version of the capital framework.

According to the Accord, “w” is intended to reflect the price risk associated with liquidating the collateral and the legal risk associated with the enforceability of documentation governing the use of the collateral. The concept of “w” is overly penal for securities lending transactions not only because the legal risks it was designed to cover may be minimal in jurisdictions, such as the US, that enjoy robust legal documentation but also because it effectively double counts risks addressed by the collateral haircut factors and by the operational risk charge. The haircut factors are designed to address the risk that, due to the volatility and illiquidity of the collateral, the value of the collateral will fall relative to the value of the exposure before it can be used to replace loaned securities and the operational risk charge (the risk of direct or indirect loss resulting from inadequate or failed internal process) applies a multiplier to an exposure indicator that includes securities lending activities. Therefore, circumstances that could contribute to the failure of collateral to cover an exposure in a default situation, such as price movements, a failure to process collateral promptly or an inability to rely on collateral documentation in a particular market are captured by both “w” and the combination of the operational risk charge and the haircut process.

The RMA recognizes and agrees with the Committee that the issues of collateral rights and liquidity must be addressed, however, these risks are mitigated through the use of legal documentation. Some examples in the US include a) netting agreements that allow for excess collateral from one transaction to be applied to an undercollateralized transaction within a borrower’s portfolio during a default, b) exemptions from automatic stays in bankruptcy that apply in many instances, and c) strictly enforced provisions for daily marking and collateral remargining.

Additionally, the banking industry has not only made significant investments in their risk management practices, but we have also expanded our technical capabilities. The daily management of servicing loan portfolios and monitoring risk exposure has become significantly automated as evidenced by frequent remargining of loans. Due to the high volume of outstanding loan transactions, daily marking practices between borrowers and agent banks represents a highly automated process. Not only have banks invested in internal applications to facilitate the marking process, the industry can utilize service providers (such as Loanet) to systematically compare loan criteria via a contract compare service arrangement. Transaction details between banks and borrowers are compared to identify discrepancies quickly, and apply current market prices on a timely basis. This helps minimize a bank’s exposure, in particular, their market risk.

Risk Management practices within the securities lending industry are continuing to evolve and become more robust. With advancements in new technologies and risk measurement techniques, the industry continues to analyze existing risks and anticipate the emergence of new potential risks in the future. Current bank risk assessment applications are far more sophisticated than methods outlined in the new accord.

Should the Committee disagree and decide that the “w” factor must remain a part of the Standardised and IRB Approaches, the “w” carve-out should be broadened. Typical securities lending transactions, involving the loan of both sovereign and equity securities, comply with all of the relevant conditions set out in the Accord for certain government security repo-style transactions to qualify for a “w”=0. Specifically, US agent lenders:

- utilize well established, standard securities lending contracts that afford lenders the right to immediately terminate transactions in the event of a counterparty default and seize any associated collateral;

- normally lend securities that settle across established settlement systems; and
- rigorously mark to market on a daily basis and aggressively require the daily remargining of loans.

Although this carve-out offers considerable advantage, it does not address a significant portion of securities lending transactions – transactions in which the loaned securities are equities and transactions in which there is an exposure/collateral currency mismatch. In instances where the loaned security is an equity, it is usually a broadly traded issue collateralized by cash or sovereign securities. Most currency mismatches that are present in securities lending transactions are in major market currencies and the associated foreign exchange risk could be adequately controlled through the haircut process.

To the extent that compliance with the above conditions greatly mitigates the risks “w” is intended to cover, and that the haircut factors address the volatility associated with an equity loan exposure or with an exposure/collateral currency mismatch, the RMA would encourage the Committee to view all exposures associated with securities lending transactions in the same manner and expand the “w” carve out to explicitly encompass securities lending transactions in which the exposure is an equity, and securities lending transactions where there is an exposure/collateral currency mismatch on either fixed income or equity loans.

In modeling the impact of “w” on the calculation of risk-weighted assets associated with a theoretical securities lending portfolio, the RMA found that the inclusion of a 15% “w” effectively doubled the risk-weighted assets calculated with a 0% “w”.¹ This is an extremely significant impact given that all securities lending transactions are so similar to the repo-style transactions exempted from a “w” charge, and that the risks “w” is supposed to incorporate are also being accounted for in other capital charges.

Haircuts

The need to adjust for the potential volatility and illiquidity of collateral is readily acknowledged and the haircut concept has support, however, there is concern that the haircut levels are overly conservative and that they are being applied in a manner that does not acknowledge the beneficial risk mitigation effects of correlation.

Correlation

Portfolio level correlation among all loan and collateral positions is the cornerstone upon which US agent lenders have built their internal risk measurement systems. Correlation factors guide decision makers in the offering of new securities lending products and counterparty portfolio correlation is a key factor in determining counterparty credit line usage.

As proposed, both the Comprehensive Standardised Approach and the Foundation IRB Approach to credit risk require the examination of exposures on a transaction-by-transaction basis and require that collateral be discounted by additively applying either prescribed or “own estimate” haircuts for the exposure, the collateral, and any currency mismatch. Because exposures must be considered at the transaction level, instead of at the counterparty portfolio level, the aggregate risk-weighted asset value of securities lending exposures will likely be overly conservative in that any benefits associated with the correlation among assets and with contractual rights of set-off are ignored.

Because the new proposal does not take the correlation between exposures and collateral into effect, the resulting capital charges do not encourage banks to discriminate within categories of exposure/collateral combinations. Specifically, securities lending transactions can be structured to minimize price risk by selecting exposure/collateral combinations that co-vary together, so that collateral coverage is relatively stable even under volatile conditions. An example might be the loan of a US Treasury collateralized by a similar US Treasury. The prices

¹ Please refer to Exhibit 1 and the “Scenario Analysis” section below.

of these two securities would generally vary together and the net price risk would be minimal. However, the new Accord calls for haircuts to be applied additively for both the exposure and the collateral. Paradoxically, if the collateral were cash, the transaction would not enjoy the covariance benefit but would be subject to a lower haircut since the Accord does not require a haircut for cash collateral. As this example illustrates, despite the Committee's intent to overcome the disconnection between capital guidelines and the way banks manage risk, this issue remains in the new Accord.

While correlation can be extremely difficult to measure in the context of typical bank loan portfolio risks, the primary risk associated with securities lending activities is market risk. Historical market data, readily available from vendors such as RiskMetrics, Bloomberg, and Reuters, can be used to produce risk measures such as asset correlations, volatilities and covariance. These vendors are commonly used not only by the lending community but also by those managing proprietary trading books. A lending program shares many characteristics with proprietary trading books of business. Market risk is one key similarity as price volatility effects the exposure and collateral positions. Because the use of correlation is an acceptable means of measuring the market risk of a trading book, we encourage the Committee to reconsider the use of correlation for securities lending activity.

Holding Period

With respect to securities lending activities, the Committee was overly conservative in calculating the haircut volatilities using a 10-day holding period. Haircut volatilities based on a 3-day holding period more accurately reflect the risks associated with securities lending transactions given daily remargining practices and the short time needed to liquidate collateral in most instances.

The level of the haircut depends on the time horizon over which the value of the collateral may change, relative to the exposure, which in turn depends on:

- the frequency of marking to market and remargining;
- the period required for the bank to recognize that a default has occurred; and
- portfolio liquidity and position size and/or concentration.

The choice of an appropriate holding period for measuring market risk in a securities lending transaction is therefore conditioned on these factors.

Remargining practice

Daily remargining of outstanding loans is a standard obligation set forth in agent/lender/borrower legal agreements. It is important to note that although variation in practice exists, daily margin calls are automatically made and aggressively pursued by US-based securities lending agents as a matter of standard industry practice. This insures that no counterparty's portfolio of loans will be carried at a level below the 100% minimum for any period of time. In fact, collateral margins levels of 2%-5% are typically maintained on a daily basis.

Default

The lender or the borrower can close out a securities lending transaction without notice or cause through either a recall or a loan return.² In the event of a lender recall, borrowers are obligated to return the loaned securities within the standard market settlement time frame. For example, a U.S. equity would need to be returned by the third day after notice consistent with the T+3 settlement convention. This gives the borrower the opportunity to purchase the recalled security for return to the lender.

² The vast majority of securities lending transactions are open transactions and agent lenders maintain the ability to terminate loans, including term loans (within the realm of securities lending, a term loan is one with a negotiated end date that is not fixed by a binding contract), for any reason.

An event of default will accelerate the close out of the transaction and permit the liquidation of the collateral which will be used to buy-in the loaned securities. This acceleration feature limits the degree of price risk that the lender bears since it will be able to place purchase and sales orders immediately, rather than having to wait out the settlement period associated with the recall procedure noted above.

Standard default provisions include, but are not limited to, failure to mark-to-market, failure to return loaned securities when due, voluntary or involuntary filing for bankruptcy, and suspension of exchange membership. It should be noted that an act of default on one transaction can trigger the liquidation of a counterparty's entire loan portfolio. Additionally, lending agreements have cross-default provisions, with respect to a parent company's or significant affiliate's failure or insolvency, and, more fundamentally, provide for rights of set-off which allow an agent lender to apply excess collateral associated with one transaction to an under collateralized transaction within a single borrower's loan portfolio during a default. The fungibility of collateral across a borrower's portfolio minimizes the occurrence of insufficient collateral at a transaction level. Correlation concepts described above are therefore significant in evaluating and measuring borrower exposure.

Timing & Liquidity

Although there is little data on which to rely, it is reasonable to assume that the financial distress of a borrower might first manifest itself by a greatly diminished liquidity position. This could result in the borrower's inability to meet a margin call or inability to return very liquid (large float) issues. At the point an agent lender would realize that a borrower is in this situation, one day will have elapsed since the most recent collateral adjustment. Once a default is recognized and the decision to close out a borrower's position is made³, the data gathering effort associated with, and the administration of, a buy-in that could involve a number of open positions, a number of markets, and time zone differences must take place. The average agent lender has an Operations staff capable of coordinating this effort in a timely manner and, as securities lending activity is focused on the more broadly traded issues typically tied to the major market indices, large concentrated or illiquid positions represent only a small portion of the typical agent lender's book and should not have a significant impact on holding period. It is worth noting that, to the best of the RMA's knowledge, no member has experienced a loss as a result of borrower default since the group's founding in 1983. This record provides an indication that agent lenders were able to exercise the legal right to liquidate collateral and quickly process the buy-ins associated with past default situations.

It would follow then that if the agent's documentation permitted the immediate close out of loans for breaches listed above, and included cross-default and set-off language,

- one day would elapse before default recognition;
- one day would be required for administration and trade execution; and
- one additional day, on average, could be required to liquidate the small number of large positions, thus serving as a cushion for situations in which the liquidation period exceeds the norm

creating a total of three days of average price risk. Therefore, the RMA feels a three-day holding period is a more appropriate criterion for the securities lending industry.

In requiring a single, universally applied, holding period of ten days, and failing to acknowledge the actual liquidation practices for specific transactions within individual markets, the Accord provides a disincentive to make the liquidation process more efficient at the global level.

³ In the US, ERISA standards, requiring a close out in less than five days, have been factored into our general documentation affecting all participants (both lender and borrower). In some European and Asian markets similar, lender driven, provisions are also impacting documentation.

Level of "Own Estimate" Haircut

The criteria for using an "own estimate" haircut set out in the Accord requires banks to meet a sophistication hurdle defined by supervisory recognition for an internal market risk model developed under the "1996 Market Risk Amendment". Few RMA members will likely pass this hurdle by the 2004 implementation of the Accord, however, almost all members have developed, and are utilizing, a VaR model to come to an internal estimate of the risk associated with their securities lending activity. This approach, which has become common for US securities firms operating domestically or globally, requires a level of sophistication akin to that associated with balance sheet market risk VaR models covered in the "1996 Market Risk Amendment". Therefore, although a firm may not have achieved supervisory recognition for a "1996 Market Risk Amendment" model, it may have applied a similar level of sophisticated, rigorous review to the securities lending segment of their business. Firms meeting this business line specific sophistication test should be allowed to model their own estimate haircuts for the securities lending business line.

Administrative Burden

Another aspect of the proposed Accord that needs to be considered by the Committee is the administrative burden and added cost that will result from the requirement to calculate risk-weighted assets at the transaction level. Large securities lending institutions may have tens of thousands of loan transactions open at any given time. This figure is even greater if we have to allocate a borrower's pooled collateral on a pro-rata basis and assign it to specific loans. Furthermore, agent lenders may have to implement technology that provides sufficient granularity to properly categorize each security/collateral combination for haircut purposes.

Value At Risk ("VaR") Models

VaR models represent a common means used by industry participants to assess the amount by which the value of securities loaned to an individual borrower will exceed the value of collateral collected from that borrower, given that borrower's default. The standard variance equation:

$$([w\delta_1^2 + w\delta_2^2 \dots + w\delta_n^2] + [2 \times \text{corr}_{1,2} \times \delta_1 \times \delta_2 + \dots 2 \times \text{corr}_{m,n} \times \delta_m \times \delta_n])^{1/2}$$

is used to measure that value (the volatility and covariance factors in the equation could either be estimated by a sophisticated firm or obtained from a commercial data provider such as RiskMetrics). The total VaR faced by an agent lender is the sum of the VaR's associated with each of the agent's counterparties (again, this assumes that all counterparties have defaulted). This amount is affected by the following three factors:

1. the characteristics of the loan (short) portfolio, including the currency of denomination;
2. the characteristics of the collateral (long) portfolio, including the currency of denomination; and
3. the interaction (correlation) among all assets in the combined loan/collateral portfolio.

In order to convert the VaR figures to an expected loss, the VaR associated with each counterparty must be multiplied by that counterparty's probability of default.

If the Committee feels that the introduction of a correlation option, such as a VaR model, would disrupt the Accord's intended balance between rigor and burden, the RMA would recommend that the Committee explore the possibility of developing a haircut matrix based on a list of pre-specified exposure/collateral asset pairs or allow banks to apply the higher of the haircuts associated with the loan or the collateral, rather than applying both additively. Both of these approaches would continue to account for volatility while the first would also approximate the benefits of correlation.

Another approach could be to break the haircuts categories down further into more specific market/domicile categories rather than using a single generic category such as equities (the major index distinction for equities and the maturity distinctions for fixed income are appropriate and should remain).

Scenario Analysis

To quantify the impact of the issues that caused concern for the RMA, we developed a \$10 billion "theoretical" securities lending portfolio to represent the "average" RMA member⁴ and ran this portfolio through two different models. One model calculates and compares the portfolio's risk-weighted assets using the methodologies set out in the 1998 Basel Accord, as applied in the US, and the New Basel Accord.⁵ The other model applies a multi-asset variance equation to the portfolio⁶ to produce a gross value at risk figure that approximates a loss given default.

The results of the VaR model suggested a loss given default that would not exceed \$147 million when a 3-day holding period is used and \$269 million when a 10-day holding period is used (a 99% confidence level was applied in both cases). Discounting these values by a 0.03% probability of counterparty default⁷ provides for an expected loss from default of up to \$0.0441 million if a 3-day holding period is used and up to \$0.0807 million if a 10-day holding period is used. These expected loss values serve as a proxy for the RMA's internal assessment of the risk associated with the theoretical portfolio.

The Accord Model allowed the RMA to conduct a scenario analysis to compare the impact of using an array of haircuts (the haircuts prescribed in the Accord and two versions of "own estimate" haircuts⁸ -- one developed using a 10-day holding period/99% confidence level and the other developed using a 3-day holding period/99% confidence level) and two different values for the "w" factor (15%, as prescribed in the Accord, and 0) on risk weighted assets for the RMA's theoretical portfolio.

Taking the portfolio level loss given default values produced by the VaR model and applying the probability of counterparty default set out in the Standardised Approach and applying the benchmark risk weight set out in the IRB Foundation Approach the RMA attempted to draw a direct comparison between risk-weighted assets measured on a transaction basis and risk-weighted assets measured on a correlated portfolio basis. The results of these two models, illustrated together in Exhibit I, reveal that:

- using an "own estimate" haircut or VaR developed using a 3-day holding period/99% confidence level and a "w"=0 in the IRB Foundation Approach most closely approached the internal risk assessment;
- although moving to a more sophisticated methodology decreases risk-weighted asset value, it is not reduced to a level consistent with the internal estimate of risk; and

⁴ The representative portfolio of \$10 billion in indemnified securities lending transactions between an agent lender and a single, A-rated borrower was constructed using data from the RMA's July 2000 survey. This survey asked members to report on average outstanding securities loan and collateral balances for the month of July 2000, broken down by specific security type and market. Individual transaction types and collateralization levels are in proportion to those reported by the US securities lending industry in this survey. As a simplification, only the seven largest markets (which covered approximately 90% of the survey responses) were included in the theoretical portfolio. The single counterparty assumption was made to simplify the VaR calculation.

⁵ Due to the limitation of data available to construct an industry "average" theoretical portfolio and the work that the Committee indicated needs to be done on the Advanced IRB approach, that option was not modeled.

⁶ Please refer to Exhibit 2 for a list of the assumptions used in this model.

⁷ The Foundation IRB Approach defines probability of default as the greater of the one-year probability of default or 0.03%.

⁸ Please refer to Exhibit 1 for a summary of the Accord Model results; Exhibit 2 for a list of the assumptions used in developing the "own estimate" haircuts; and Exhibit 3 for a print out of each scenario run through the Accord Model.

- the impact of setting "w"=0 increases as the haircut level falls.

CONCLUSION

These results underscore the RMA's recommendation that the Committee re-evaluate (1) risk-mitigation benefits associated with correlation in a securities lending portfolio, (2) the length of the holding period, (3) the criteria for using an "own estimate" haircut and (4) the "w", and offer alternatives that more accurately approximate the risk associated with securities lending transactions.

A sophisticated agent lender not allowed to use an "own estimate" haircut is at a significant capital disadvantage relative to an agent lender with a similar book of business in terms of both size and risk. Even firms allowed to use an "own estimate" haircut will be at a capital disadvantage without the flexibility to apply a holding period and "w" more appropriate to the particulars of securities lending activity.

The general result is that existing securities lending activities will become more capital and resource intensive for agent banks. This increased cost will inevitably be passed onto the broker/dealer community. Additionally, the increased capital cost will make agent lenders less inclined to offer indemnification for borrower default situations, thereby making potential lenders less willing to engage in securities lending. The increased cost to broker/dealers combined with a potential decrease in the growth of supply, could lead to the reduction of market liquidity and such a reduction in liquidity will be more sharply felt in the future as the goal of a T+1 environment is realized.

We thank you for the opportunity to comment on "The New Basel Capital Accord" and associated consultative documents and look forward to continuing to work to further the objectives of the Accord.

Sincerely,



Richard Bentsen
Chairman
The Risk Management Association Committee on Securities Lending

and



Tracy Coleman
The Risk Management Association Committee on Securities Lending

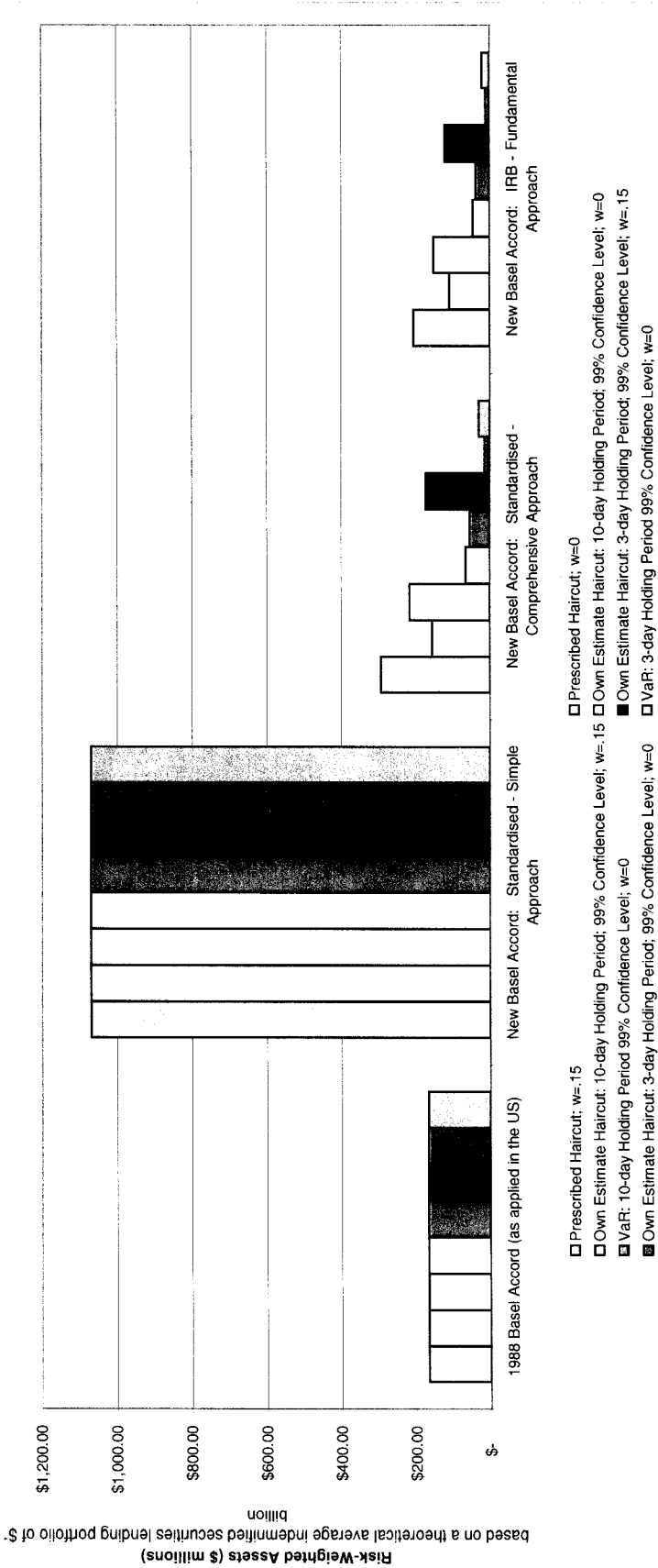
EXHIBIT 1

Comparision of Risk-Weighted Asset Calculation Methodologies

Refer to chart on following page.

RISK WEIGHTED ASSET COMPARISON (\$ millions)								
	Prescribed Haircut; w=.15	Prescribed Haircut; w=0	Own Estimate Haircut: 10-day Holding Period; 99% Confidence Level; w=.15	Own Estimate Haircut: 10-day Holding Period; 99% Confidence Level; w=0	VaR: 10-day Holding Period 99% Confidence Level; w=0	Own Estimate Haircut: 3-day Holding Period; 99% Confidence Level; w=.15	Own Estimate Haircut: 3-day Holding Period; 99% Confidence Level; w=0	VaR: 3-day Holding Period 99% Confidence Level; w=0
1988 Basel Accord (as applied in the US)	\$ 166.95	\$ 166.95	\$ 166.95	\$ 166.95	\$ 166.95	\$ 166.95	\$ 166.95	\$ 166.95
New Basel Accord: Standardised - Simple Approach	\$ 1,069.09	\$ 1,069.00	\$ 1,069.09	\$ 1,069.09	\$ 1,069.09	\$ 1,069.09	\$ 1,069.09	\$ 1,069.09
New Basel Accord: Standardised - Comprehensive Approach	\$ 293.41	\$ 155.80	\$ 216.30	\$ 64.65	\$ 53.80	\$ 171.97	\$ 14.48	\$ 29.40
New Basel Accord: IRB - Fundamental Approach	\$ 205.39	\$ 109.06	\$ 151.41	\$ 45.26	\$ 37.66	\$ 120.38	\$ 10.14	\$ 20.58

COMPARISON OF RISK-WEIGHTED ASSET CALCULATION METHODOLOGIES



Use of RiskMetrics Data

A RiskMetrics data feed containing a 30-day lagged, one day/95% confidence level, data set collected on March 23, 2001 was used as a proxy for the "average" RMA member's "own estimate" haircuts and as inputs to VaR model of the RMA's theoretical portfolio.

The volatilities provided by RiskMetrics are calculated using raw daily data under an algorithm that gives greater weight to the most recent observations. These volatilities were scaled to the 99% confidence level for both a ten-day and a three-day holding period.

The fixed income security volatilities provided in the data feed assumed a 10 year duration and were scaled to a 4.5 year duration to be more consistent with the make up of the theoretical portfolio. The correlation coefficients related to the fixed income securities were not adjusted to reflect the duration scaling but the impact is estimated to be minimal.

The portion of the data feed related to foreign exchange shows the volatilities of various currencies relative to US dollars. To develop an "own estimate" fx haircut for exposure/collateral asset pairs that did not involve US dollars, the variance between the two currencies was calculated using the volatilities, relative to US dollars, associated with each individual currency and the correlation between the two provided in the RiskMetrics data feed.

Scaled volatility factors are listed on the next page.

ALTERNATE HAIRCUT CALCULATIONS				
(FX mismatch volatilities in black are taken directly from Risk Metrics)				
(FX mismatch volatilities in red are modelled from RiskMetrics data -calculations shown below) *				
		Raw RiskMetrics Volatility 1-day Holding Period 95% confidence level	Scaled RiskMetrics Volatility 3-day Holding Period 99% confidence level	Scaled RiskMetrics Volatility 10-day Holding Period 99% confidence level
Type				
German	Equity	1.668%	4.079%	7.447%
French	Equity	1.920%	4.697%	8.575%
UK	Equity	1.432%	3.502%	6.395%
Italian	Equity	1.769%	4.327%	7.901%
Japanese	Equity	1.834%	4.485%	8.188%
US	Equity	1.840%	4.499%	8.215%
			3.000%	10.000%
CAD/Euro	Currency Mismatch	na	3.724%	6.800%
CAD/USD	Currency Mismatch	0.533%	1.304%	2.381%
Euro/USD	Currency Mismatch	1.467%	3.587%	6.549%
GBP/CAD	Currency Mismatch	na	2.472%	4.513%
GBP/Euro	Currency Mismatch	na	2.770%	5.057%
GBP/USD	Currency Mismatch	0.907%	2.219%	4.052%
JPY/CAD	Currency Mismatch	na	2.638%	4.817%
JPY/Euro	Currency Mismatch	na	4.517%	8.248%
JPY/GBP	Currency Mismatch	na	2.983%	5.446%
JPY/USD	Currency Mismatch	0.979%	2.393%	4.370%
Canadian	Govt. Security	0.333%	0.815%	1.487%
German	Govt. Security	0.252%	0.615%	1.123%
French	Govt. Security	0.302%	0.739%	1.348%
UK	Govt. Security	0.333%	0.814%	1.487%
Italian	Govt. Security	0.220%	0.539%	0.984%
US	Govt. Security	0.573%	1.402%	2.559%

CALCULATION OF CURRENCY MISMATCH VOLATILITIES NOT INVOLVING USD									
$[(w\delta_1^2 + w\delta_2^2 \dots + w\delta_n^2) + [2 \times \text{corr}_{1,2} \times \delta_1 \times \delta_2 \dots + 2 \times \text{corr}_{m,n} \times \delta_m \times \delta_n]]^{1/2}$									
single currency	single currency 3-day volatility	single currency 3-day vol sqrd	single currency 10-day volatility	single currency 10 day vol sqrd		currency pair	correlation	currency pair 3-day volatility	currency pair 10-day volatility
CAD	1.304%	0.017%	2.381%	0.057%		CAD/Euro	0.074364	3.724%	6.800%
Euro	3.587%	0.129%	6.549%	0.429%		GBP/CAD	0.088966	2.472%	4.513%
GBP	2.219%	0.049%	4.052%	0.164%		GBP/Euro	0.635617	2.770%	5.057%
JPY	2.393%	0.057%	4.370%	0.191%		JPY/CAD	0.075156	2.638%	4.817%
						JPY/Euro	-0.105619	4.517%	8.248%
						JPY/GBP	0.165183	2.983%	5.446%

OWN ESTIMATE HAIRCUTS BASED ON SCALED RISKMETRICS DATA								
Loan Settlement	Collateral Settlement	Value	Weight	3day/99% Volatility	3day/99% Weighted Haircut	10day/99% Volatility	10day/99% Weighted Haircut	
EQUITY LOANS								
DEM	na	\$ 177.95	4.07%	4.079%	0.166%	7.447%	0.303%	
FRF	na	\$ 590.96	13.53%	4.697%	0.636%	8.575%	1.160%	
GBP	na	\$ 85.68	1.96%	3.502%	0.069%	6.395%	0.125%	
ITL	na	\$ 242.75	5.56%	4.327%	0.241%	7.901%	0.439%	
JPY	na	\$ 387.75	8.88%	4.485%	0.396%	8.188%	0.727%	
USD	na	\$ 2,882.28	66.00%	4.499%	2.989%	8.215%	5.421%	
		\$ 4,367.36	100.00%		4.479%		8.177%	
EQUITY COLLATERAL								
DEM	na	\$ 3.18	11.98%	4.079%	0.489%	7.447%	0.892%	
FRF	na	\$ 10.55	39.79%	4.697%	1.869%	8.575%	3.412%	
GBP	na	\$ 1.53	5.77%	3.502%	0.202%	6.395%	0.369%	
ITL	na	\$ 4.33	16.35%	4.327%	0.707%	7.901%	1.291%	
JPY	na	\$ 6.92	26.11%	4.485%	1.171%	8.188%	2.138%	
USD	na	\$ -	0.00%	4.499%	0.000%	8.215%	0.000%	
		\$ 26.51	100.00%		4.436%		8.103%	
FOREIGN EXCHANGE (loan/collateral currency mismatch) *								
CAD	EUR	\$ 0.81	0.04%	3.724%	0.002%	6.800%	0.003%	
CAD	USD	\$ 45.78	2.38%	3.724%	0.089%	6.800%	0.162%	
EUR	CAD	\$ 12.64	0.66%	3.724%	0.024%	6.800%	0.045%	
EUR	UK	\$ 12.64	0.66%	2.770%	0.018%	5.057%	0.033%	
EUR	USD	\$ 962.79	49.99%	1.304%	0.652%	2.381%	1.191%	
GBP	CAD	\$ 1.07	0.06%	2.472%	0.001%	4.513%	0.003%	
GBP	EUR	\$ 6.74	0.35%	2.770%	0.010%	5.057%	0.018%	
GBP	USD	\$ 194.82	10.12%	2.219%	0.224%	4.052%	0.410%	
JPY	CAD	\$ 4.85	0.25%	2.638%	0.007%	4.817%	0.012%	
JPY	EUR	\$ 21.14	1.10%	4.517%	0.050%	8.248%	0.091%	
JPY	GBP	\$ 4.85	0.25%	2.983%	0.008%	5.446%	0.014%	
JPY	USD	\$ 350.13	18.18%	2.393%	0.435%	4.370%	0.794%	
USD	CAD	\$ 33.51	1.74%	1.304%	0.023%	2.381%	0.041%	
USD	EUR	\$ 240.52	12.49%	3.587%	0.448%	6.549%	0.818%	
USD	GBP	\$ 33.51	1.74%	2.219%	0.039%	4.052%	0.070%	
		\$ 1,925.80	100.00%		2.029%		3.704%	
FIXED INCOME LOANS								
CAD	na	\$ 58.22	1.03%	0.815%	0.008%	1.487%	0.015%	
DEM	na	\$ 43.94	0.78%	0.615%	0.005%	1.123%	0.009%	
FRF	na	\$ 3.30	0.06%	0.739%	0.000%	1.348%	0.001%	
GBP	na	\$ 149.39	2.65%	0.814%	0.022%	1.487%	0.039%	
ITL	na	\$ 15.38	0.27%	0.539%	0.001%	0.984%	0.003%	
USD	na	\$ 5,362.54	95.20%	1.402%	1.335%	2.559%	2.437%	
		\$ 5,632.75	100.00%		1.371%		2.504%	
FIXED INCOME COLLATERAL								
CAD	na	\$ 65.55	4.78%	0.815%	0.039%	1.487%	0.071%	
DEM	na	\$ 62.26	4.54%	0.615%	0.028%	1.123%	0.051%	
FRF	na	\$ 53.97	3.93%	0.739%	0.029%	1.348%	0.053%	
GBP	na	\$ 84.12	6.13%	0.814%	0.050%	1.487%	0.091%	
ITL	na	\$ 56.91	4.14%	0.539%	0.022%	0.984%	0.041%	
USD	na	\$ 1,049.13	78.48%	1.402%	1.072%	2.559%	1.957%	
		\$ 1,371.85	100.00%		1.240%		2.264%	

* NOTE:
The RiskMetrics feed available to the RMA for purposes of Basel modelling only included currency volatility measures relative to the US dollar. Currency volatility relative to non-US currencies was modeled by inputting scaled RiskMetrics volatilities and covariance factors calculated from those volatilities into the standard variance formula:
$$[(w\delta_1^2 + w\delta_2^2 \dots + w\delta_n^2) + [2 \times \text{corr}_{1,2} \times \delta_1 \times \delta_2 \dots + 2 \times \text{corr}_{m,n} \times \delta_m \times \delta_n]]^{1/2}$$

and are highlighted in red.

Exhibit 3

Risk-Weighted Asset Calculation Model Detail

Refer to tables on the following pages.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TRADE STRUCTURE:																
2	(note: all on behalf of indemnified lenders)																
3	(note: portfolio based on July '00 RMA survey data)																
4		<i>security loaned</i>			equity	equity	equity	equity	equity	equity	equity	equity	equity	equity	FI	FI	FI
5		<i>collateral posted</i>			cash	cash	us agency	us agency	sov	sov	equity	equity	equity	equity	LOC	LOC	cash
6		<i>fx matched or mismatched</i>			matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched
7																	
8	INPUTS:																
9		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0	0	0	0	0	0	0	0	0	0	0	0	0
11		the exposure or loan balance	=	E	2,672.35	1,299.30	72.06	29.70	85.78	108.80	25.99	-	28.82	44.55	4,205.10	271.38	456.21
12		collateral value	=	C	2,725.80	1,364.27	73.50	31.19	87.50	114.24	26.51	-	29.40	46.78	4,289.20	284.95	465.33
13		haircut appropriate to the exposure (per table in Annex 3) (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; all loaned FI securities are equally distributed among the maturity categories so an average debt grade/maturity haircut of 0.02167 is used)	=	He	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.02167	0.02167	0.02167
14		haircut appropriate to the collateral received (per table in Annex 3) (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; all Sov and Agency collateral items are distributed among the maturity categories as follows: 60% mat<5yrs; 30% 1yr<mat<5yrs; 10% mat<1yr -- so an average debt grade/maturity haircut of 0.0305 is used)	=	Hc	0	0	0.0305	0.0305	0.0305	0.0305	0.2	0.2	0.2	0.2	0	0	0.0305
15		haircut for currency mismatch (per table in Annex 3)	=	Hfx	0	0.08	0	0.08	0	0.08	0	0.08	0	0.08	0	0.08	0
16																	
17	FORMULAS:																
18		Adjusted Collateral Value Formula:															
19		$C / (1 + H_e + H_c + H_{fx})$	=	Ca	2,271.50	1,065.83	59.73	23.80	71.11	87.17	18.94	-	21.00	31.61	4,198.23	258.65	442.26
20																	
21																	
22	FORMULA COMPARISON MODEL:																
23	1988 Basel Accord																
24		Risk Weights Under the 1988 Accord			0.00%	0.00%	20.00%	20.00%	0.00%	0.00%	100.00%	100.00%	20.00%	20.00%	0.00%	0.00%	0.00%
25		Risk Weighted Assets Under the 1988 Accord			-	-	14.41	5.94	-	-	25.99	-	5.76	8.91	-	-	-
26																	
27	2001 Basel Accord																
28	Standardized Approach to Credit Risk - Simple Approach																
29		Apply counterparty risk weight to exposure															
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%	20.00%	0.00%
31		Risk Weighted Assets	=	RWA	534.47	259.86	14.41	5.94	17.16	21.76	5.20	-	5.76	8.91	-	54.28	-
32																	
33	Standardized Approach to Credit Risk - Comprehensive Approach																
34		Risk Weighted Asset Formulas:															
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$															
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
38		your computed risk weight	=	r*	3.00%	3.59%	3.42%	3.98%	3.42%	3.98%	5.43%	no loan	5.43%	5.81%	0.03%	0.94%	0.61%
39		your risk weighted assets	=	r* x E	80.17	46.69	2.47	1.18	2.93	4.33	1.41	-	1.56	2.59	1.37	2.55	2.79
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$															
41		your computed risk weight	=	r*	na	na	na	na	na	na	na	na	na	na	na	na	na
42		your risk weighted assets	=	r* x E	na	na	na	na	na	na	na	na	na	na	na	na	na
43																	
44	RIB Foundation Approach																
45		Probability of Default															
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	100.030%	0.030%	0.030%	0.030%
47		Loss Given Default															
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
50		Effective Loss Given Default = LGD*															
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$															
52		LGD if senior claims	=	LGD*	7.50	8.98	8.55	9.94	8.55	9.94	13.57	no loan	13.57	14.53	0.08	2.35	1.53
53		LGD if subordinated claims	=	LGD*	11.25	13.48	12.83	14.91	12.83	14.91	20.36	no loan	20.36	21.79	0.12	3.52	2.29
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$															
55		LGD if senior claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
57		Maturity															
58		one year minimum	=	M	1	1	1	1	1	1	1	1	1	1	1	1	1
59		Benchmark Risk Weight															
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
61																	
62		Risk Weights															
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD															
64		RWc = (LGD/50) x BRWc(PD)															
65		LGD if senior claims	=	RWc	2.10	2.52	2.39	2.78	2.39	2.78	3.80	no loan	3.80	4.07	0.02	0.66	0.43
66		LGD if subordinated claims	=	RWc	3.15	3.77	3.59	4.17	3.59	4.17	5.70	no loan	5.70	6.10	0.03	0.98	0.64
67		RWc = 12.5 x LGD															
68		LGD if senior claims	=	RWc	93.75	112.30	106.92	124.24	106.92	124.24	169.64	no loan	169.64	181.59	1.02	29.31	19.11
69		LGD if subordinated claims	=	RWc	140.63	168.46	160.38	186.36	160.38	186.36	254.46	no loan	254.46	272.38	1.53	43.97	28.66
70																	
71		Baseline Risk Weighted Assets = RWc x E															
72		LGD if senior claims	=	RWA	56.12	32.69	1.73	0.83	2.05	3.03	0.99	no loan	1.10	1.81	0.96	1.78	1.95
73		LGD if subordinated claims	=	RWA	84.18	49.03	2.59	1.24	3.08	4.54	1.48	no loan	1.64	2.72	1.44	2.67	2.93

A	B	C	D	E	S	T	U	V	W	X
1	TRADE STRUCTURE:									
2	(note: all on behalf of indemnified lenders)									
3	(note: portfolio based on July '00 RMA survey data)									
4		<i>security loaned</i>			FI	FI	FI	FI	FI	
5		<i>collateral posted</i>			sov	us agency	us agency	LOC	LOC	
6		<i>fx matched or mismatched</i>			mismatched	matched	mismatched	matched	mismatched	
7										TOTAL
8	INPUTS:									
		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	
9		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0	0	0	0	0	
10		the exposure or loan balance	=	E	177.03	402.18	9.45	107.25	10.80	10,006.75
11		collateral value	=	C	185.88	410.22	9.92	109.40	11.34	10,265.42
12		haircut appropriate to the exposure (per table in Annex 3) (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; all loaned FI securities are equally distributed among the maturity categories so an average debt grade/maturity haircut of 0.02167 is used)	=	He	0.02167	0.02167	0.02167	0.02167	0.02167	
13		haircut appropriate to the collateral received (per table in Annex 3) (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; all Sov and Agency collateral items are distributed among the maturity categories as follows: 60% mat>5yrs; 30% 1yr<mat<5yrs; 10% mat<1yr -- so an average debt grade/maturity haircut of 0.0305 is used)	=	Hc	0.0305	0.0305	0.0305	0.02	0.02	
14		haircut for currency mismatch (per table in Annex 3)	=	Hfx	0.08	0	0.08	0	0.08	
15	FORMULAS:									
16	Adjusted Collateral Value Formula:									
17		$C / (1 + He + Hc + Hfx)$	=	Ca	164.18	389.88	8.76	105.02	10.11	
18	FORMULA COMPARISON MODEL:									
19	1988 Basel Accord									
20		Risk Weights Under the 1988 Accord			0.00%	20.00%	20.00%	20.00%	20.00%	
21		Risk Weighted Assets Under the 1988 Accord			-	80.44	1.89	21.45	2.16	166.95
22	2001 Basel Accord									
23	Standardized Approach to Credit Risk - Simple Approach									
24		Apply counterparty risk weight to exposure								
25		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	
26		Risk Weighted Assets	=	RWA	35.41	80.44	1.89	21.45	2.16	1,069.09
27	Standardized Approach to Credit Risk - Comprehensive Approach									
28		Risk Weighted Asset Formulas:								
29		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
30		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$								
31		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
32		your computed risk weight	=	r*	1.45%	0.61%	1.45%	0.42%	1.28%	
33		your risk weighted assets	=	r* x E	2.57	2.46	0.14	0.45	0.14	155.80
34		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$								
35		your computed risk weight	=	r*	na	na	na	na	na	
36		your risk weighted assets	=	r* x E	na	na	na	na	na	
37	RIS Foundation Approach									
38		Probability of Default	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
39		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
40		Loss Given Default	=	LGD	50.00	50.00	50.00	50.00	50.00	
41		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	
42		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	
43		Effective Loss Given Default = LGD*								
44		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$								
45		LGD if senior claims	=	LGD*	3.63	1.53	3.63	1.04	3.19	
46		LGD if subordinated claims	=	LGD*	5.44	2.29	5.44	1.56	4.79	
47		using E<Ca formula $\rightarrow LGD^* = w \times LGD$								
48		LGD if senior claims	=	LGD*	na	na	na	na	na	
49		LGD if subordinated claims	=	LGD*	na	na	na	na	na	
50		Maturity	=	M	1	1	1	1	1	
51		one year minimum	=	M	1	1	1	1	1	
52		Benchmark Risk Weight	=	BRWc	14.00	14.00	14.00	14.00	14.00	
53		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	
54	Risk Weights									
55		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD								
56		RWc = (LGD/50) x BRWc(PD)								
57		LGD if senior claims	=	RWc	1.02	0.43	1.02	0.29	0.89	
58		LGD if subordinated claims	=	RWc	1.52	0.64	1.52	0.44	1.34	
59		RWc = 12.5 x LGD								
60		LGD if senior claims	=	RWc	45.36	19.11	45.36	13.00	39.93	
61		LGD if subordinated claims	=	RWc	68.04	28.66	68.04	19.50	59.90	
62	Baseline Risk Weighted Assets = RWc x E									
63		LGD if senior claims	=	RWA	1.80	1.72	0.10	0.31	0.10	109.06
64		LGD if subordinated claims	=	RWA	2.70	2.58	0.14	0.47	0.14	183.58

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TRADE STRUCTURE:																
2	(note: all on behalf of indemnified lenders)																
3	(note: portfolio based on July '00 RMA survey data)																
4		<i>security loaned</i>			equity	equity	equity	equity	equity	equity	equity	equity	equity	equity	FI	FI	FI
5		<i>collateral posted</i>			cash	cash	us agency	us agency	sov	sov	equity	equity	equity	equity	LOC	LOC	cash
6		<i>tx matched or mismatched</i>			matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched
7																	
8	INPUTS:																
9		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remarking and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0	0.15	0
11		the exposure or loan balance	=	E	2,672.35	1,299.30	72.06	29.70	85.78	108.80	25.99	-	28.82	44.55	4,205.10	271.38	456.21
12		collateral value	=	C	2,725.80	1,364.27	73.50	31.19	87.50	114.24	26.51	-	29.40	46.78	4,289.20	284.95	465.33
13		haircut appropriate to the exposure (per table in Annex 3) (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; all loaned FI securities are equally distributed among the maturity categories so an average debt grade/maturity haircut of 0.02167 is used)	=	He	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.02167	0.02167	0.02167	0.02167
14		haircut appropriate to the collateral received (per table in Annex 3) (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; all Sov and Agency collateral items are distributed among the maturity categories as follows: 60% mat>5yrs; 30% 1yr-mat<5yrs; 10% mat<1yr - so an average debt grade/maturity haircut of 0.0305 is used)	=	Hc	0	0	0.0305	0.0305	0.0305	0.0305	0.2	0.2	0.2	0.2	0	0	0.0305
15		haircut for currency mismatch (per table in Annex 3)	=	Hfx	0	0.08	0	0.08	0	0.08	0	0.08	0	0.08	0	0.08	0
16																	
17	FORMULAS:																
18		Adjusted Collateral Value Formula:															
19		$C / (1 + He + Hc + Hfx)$	=	Ca	2,271.50	1,065.83	59.73	23.80	71.11	87.17	18.94	-	21.00	31.61	4,198.23	258.65	442.26
20																	
21																	
22	FORMULA COMPARISON MODEL:																
23	1988 Basel Accord																
24		Risk Weights Under the 1988 Accord			0.00%	0.00%	20.00%	20.00%	0.00%	0.00%	100.00%	100.00%	20.00%	20.00%	0.00%	0.00%	0.00%
25		Risk Weighted Assets Under the 1988 Accord			-	-	14.41	5.94	-	-	25.99	-	5.76	8.91	-	-	-
26																	
27	2001 Basel Accord																
28	Standardized Approach to Credit Risk - Simple Approach																
29		Apply counterparty risk weight to exposure															
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%	20.00%	0.00%
31		Risk Weighted Assets	=	RWA	534.47	259.86	14.41	5.94	17.16	21.76	5.20	-	5.76	8.91	-	54.28	-
32																	
33	Standardized Approach to Credit Risk - Comprehensive Approach																
34		Risk Weighted Asset Formulas:															
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$															
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
38		your computed risk weight	=	r*	5.55%	6.05%	5.91%	6.38%	5.91%	6.38%	7.61%	no loan	7.61%	7.94%	0.03%	3.80%	0.61%
39		your risk weighted assets	=	r* x E	148.32	78.67	4.26	1.89	5.07	6.94	1.98	-	2.19	3.54	1.37	10.31	2.79
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$															
41		your computed risk weight	=	r*	na	na	na	na	na	na	na	na	na	na	na	na	na
42		your risk weighted assets	=	r* x E	na	na	na	na	na	na	na	na	na	na	na	na	na
43																	
44	IRB Foundation Approach																
45		Probability of Default															
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	100.030%	0.030%	0.030%	0.030%	0.030%
47		Loss Given Default															
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
50		Effective Loss Given Default = LGD*															
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$															
52		LGD if senior claims	=	LGD*	13.88	15.14	14.77	15.95	14.77	15.95	19.04	no loan	19.04	19.85	0.08	9.49	1.53
53		LGD if subordinated claims	=	LGD*	20.81	22.71	22.16	23.92	22.16	23.92	28.55	no loan	28.55	29.77	0.12	14.24	2.29
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$															
55		LGD if senior claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
57		Maturity															
58		one year minimum	=	M	1	1	1	1	1	1	1	1	1	1	1	1	1
59		Benchmark Risk Weight															
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
61																	
62		Risk Weights															
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD															
64		RWc = (LGD/50) x BRWc(PD)															
65		LGD if senior claims	=	RWc	3.89	4.24	4.14	4.47	4.14	4.47	5.33	no loan	5.33	5.56	0.02	2.66	0.43
66		LGD if subordinated claims	=	RWc	5.83	6.36	6.20	6.70	6.20	6.70	8.00	no loan	8.00	8.34	0.03	3.99	0.64
67		RWc = 12.5 x LGD															
68		LGD if senior claims	=	RWc	173.44	189.21	184.63	199.35	184.63	199.35	237.95	no loan	237.95	248.10	1.02	118.67	19.11
69		LGD if subordinated claims	=	RWc	260.16	283.81	276.95	299.03	276.95	299.03	356.92	no loan	356.92	372.15	1.53	178.00	28.66
70		Baseline Risk Weighted Assets = RWc x E															
71		LGD if senior claims	=	RWA	103.82	55.07	2.98	1.33	3.55	4.86	1.39	no loan	1.54	2.48	0.96	7.21	1.95
72		LGD if subordinated claims	=	RWA	155.73	82.60	4.47	1.99	5.32	7.29	2.08	no loan	2.30	3.71	1.44	10.82	2.93
73																	

A	B	C	D	E	S	T	U	V	W	X
1	TRADE STRUCTURE:									
2	(note: all on behalf of indemnified lenders)									
3	(note: portfolio based on July '00 RMA survey data)									
4		<i>security loaned</i>			FI	FI	FI	FI	FI	
5		<i>collateral posted</i>			sov	us agency	us agency	LOC	LOC	
6		<i>fx matched or mismatched</i>			mismatched	matched	mismatched	matched	mismatched	
7										TOTAL
8	INPUTS:									
		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.8) (assumes A rated borrower and dry marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	
9										
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0.15	0.15	0.15	0.15	0.15	
11		the exposure or loan balance	=	E	177.03	402.18	9.45	107.25	10.80	10,006.75
12		collateral value	=	C	185.88	410.22	9.92	109.40	11.34	10,265.42
13		haircut appropriate to the exposure (per table in Annex 3) (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; all loaned FI securities are equally distributed among the maturity categories so an average debt grade/maturity haircut of 0.02167 is used)	=	He	0.02167	0.02167	0.02167	0.02167	0.02167	
14		haircut appropriate to the collateral received (per table in Annex 3) (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; all Sov and Agency collateral items are distributed among the maturity categories as follows: 60% mat>5yrs; 30% 1yr<mat<5yrs; 10% mat<1yr -- so an average debt grade/maturity haircut of 0.0305 is used)	=	Hc	0.0305	0.0305	0.0305	0.02	0.02	
15		haircut for currency mismatch (per table in Annex 3)	=	Hfx	0.08	0	0.08	0	0.08	
16										
17	FORMULAS:									
18	Adjusted Collateral Value Formula:									
19		$C / (1 + He + Hc + Hfx)$	=	Ca	164.18	389.88	8.76	105.02	10.11	
20										
21										
22	FORMULA COMPARISON MODEL:									
23	1988 Basel Accord									
24		Risk Weights Under the 1988 Accord			0.00%	20.00%	20.00%	20.00%	20.00%	
25		Risk Weighted Assets Under the 1988 Accord			-	80.44	1.89	21.45	2.16	166.95
26										
27	2001 Basel Accord									
28	Standardized Approach to Credit Risk -- Simple Approach									
29		Apply counterparty risk weight to exposure								
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	
31		Risk Weighted Assets	=	RWA	35.41	80.44	1.89	21.45	2.16	1,069.09
32										
33	Standardized Approach to Credit Risk -- Comprehensive Approach									
34	Risk Weighted Asset Formulas:									
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$								
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
38		your computed risk weight	=	r*	4.23%	3.52%	4.23%	3.35%	4.09%	
39		your risk weighted assets	=	r* x E	7.50	14.16	0.40	3.60	0.44	293.41
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$								
41		your computed risk weight	=	r*	na	na	na	na	na	
42		your risk weighted assets	=	r* x E	na	na	na	na	na	
43										
44	RIS Foundation Approach									
45		Probability of Default								
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
47		Loss Given Default								
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	
50		Effective Loss Given Default = LGD*								
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$								
52		LGD if senior claims	=	LGD*	10.58	8.80	10.58	8.38	10.22	
53		LGD if subordinated claims	=	LGD*	15.88	13.20	15.88	12.58	15.32	
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$								
55		LGD if senior claims	=	LGD*	na	na	na	na	na	
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	
57		Maturity								
58		one year minimum	=	M	1	1	1	1	1	
59		Benchmark Risk Weight								
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	
61										
62	Risk Weights									
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD								
64		RWc = (LGD/50) x BRWc(PD)								
65		LGD if senior claims	=	RWc	2.96	2.46	2.96	2.35	2.86	
66		LGD if subordinated claims	=	RWc	4.45	3.70	4.45	3.52	4.29	
67		RWc = 12.5 x LGD								
68		LGD if senior claims	=	RWc	132.31	109.99	132.31	104.80	127.69	
69		LGD if subordinated claims	=	RWc	198.46	164.99	198.46	157.20	191.54	
70										
71	Baseline Risk Weighted Assets = RWc x E									
72		LGD if senior claims	=	RWA	5.25	9.91	0.28	2.52	0.31	205.39
73		LGD if subordinated claims	=	RWA	7.87	14.86	0.42	3.78	0.46	308.08

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TRADE STRUCTURE:																	
2	(note: all on behalf of indemnified lenders)																	
3	(note: portfolio based on July '00 RMA survey data)																	
4			<i>security loaned</i>			equity	equity	equity	equity	equity	equity	equity	equity	equity	equity	FI	FI	FI
5			<i>collateral posted</i>			cash	cash	us agency	us agency	sov	sov	equity	equity	equity	equity	cash	cash	sov
6			<i>fx matched or mismatched</i>			matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched
7																		
8	INPUTS:																	
9			risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remarking and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10			floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0	0	0	0	0	0	0	0	0	0	0	0	0
11			the exposure or loan balance	=	E	2,672.35	1,299.30	72.06	29.70	85.78	108.80	25.99	-	28.82	44.55	4,205.10	271.38	456.21
12			collateral value	=	C	2,725.80	1,364.27	73.50	31.19	87.50	114.24	26.51	-	29.40	46.78	4,289.20	284.95	465.33
13			haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.02504	0.02504	0.02504
14			haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0	0	0.02264	0.02264	0.02264	0.02264	0.08103	0.08103	0.08103	0.08103	0	0	0.02264
15			haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0	0.03704	0	0.03704	0	0.03704	0	0.03704	0	0.03704	0	0.03704	0
16																		
17	FORMULAS:																	
18	Adjusted Collateral Value Formula:																	
19	$C / (1 + H_e + H_c + H_{fx})$			=	Ca	2,519.76	1,219.39	66.55	27.32	79.22	100.08	22.80	-	25.28	38.99	4,184.42	268.29	444.16
20																		
21																		
22	FORMULA COMPARISON MODEL:																	
23	1988 Basel Accord																	
24	Risk Weights Under the 1988 Accord					0.00%	0.00%	20.00%	20.00%	0.00%	0.00%	100.00%	100.00%	20.00%	20.00%	0.00%	0.00%	0.00%
25	Risk Weighted Assets Under the 1988 Accord					-	-	14.41	5.94	-	-	25.99	-	5.76	8.91	-	-	-
26																		
27	2001 Basel Accord																	
28	Standardized Approach to Credit Risk -- Simple Approach																	
29	Apply counterparty risk weight to exposure																	
30	Counterparty risk weight =			RW	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%	20.00%	0.00%
31	Risk Weighted Assets =			RWA	534.47	259.86	14.41	5.94	17.16	21.76	5.20	-	5.76	8.91	-	54.28	-	-
32																		
33	Standardized Approach to Credit Risk -- Comprehensive Approach																	
34	Risk Weighted Asset Formulas:																	
35	If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$																	
36	If E<Ca use $\rightarrow r^* \times E = r \times w \times E$																	
37	using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$																	
38	your computed risk weight			=	r*	1.14%	1.23%	1.53%	1.60%	1.53%	1.60%	2.46%	no loan	2.46%	2.50%	0.10%	0.23%	0.53%
39	your risk weighted assets			=	r* x E	30.52	15.98	1.10	0.48	1.31	1.74	0.64	-	0.71	1.11	4.14	0.62	2.41
40	using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$																	
41	your computed risk weight			=	r*	na	na	na	na	na	na	na	na	na	na	na	na	na
42	your risk weighted assets			=	r* x E	na	na	na	na	na	na	na	na	na	na	na	na	na
43																		
44	IRB Foundation Approach																	
45	Probability of Default																	
46	greater of 1-yr PD or 0.03%			=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	100.030%	0.030%	0.030%	0.030%	0.030%
47	Loss Given Default																	
48	LGD if senior claims			=	LGD	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
49	LGD if subordinated claims			=	LGD	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
50	Effective Loss Given Default = LGD*																	
51	using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$																	
52	LGD if senior claims			=	LGD*	2.86	3.08	3.82	4.01	3.82	4.01	6.14	no loan	6.14	6.24	0.25	0.57	1.32
53	LGD if subordinated claims			=	LGD*	4.28	4.61	5.73	6.01	5.73	6.01	9.21	no loan	9.21	9.37	0.37	0.85	1.98
54	using E<Ca formula $\rightarrow LGD^* = w \times LGD$																	
55	LGD if senior claims			=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
56	LGD if subordinated claims			=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
57	Maturity																	
58	one year minimum			=	M	1	1	1	1	1	1	1	1	1	1	1	1	1
59	Benchmark Risk Weight																	
60	per PD and chart on page 37			=	BRWc	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
61																		
62	Risk Weights																	
63	RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD																	
64	RWc = (LGD/50) x BRWc(PD)																	
65	LGD if senior claims			=	RWc	0.80	0.86	1.07	1.12	1.07	1.12	1.72	no loan	1.72	1.75	0.07	0.16	0.37
66	LGD if subordinated claims			=	RWc	1.20	1.29	1.61	1.68	1.61	1.68	2.58	no loan	2.58	2.62	0.10	0.24	0.55
67	RWc = 12.5 x LGD																	
68	LGD if senior claims			=	RWc	35.69	38.44	47.77	50.07	47.77	50.07	76.75	no loan	76.75	78.05	3.07	7.11	16.51
69	LGD if subordinated claims			=	RWc	53.53	57.66	71.65	75.11	71.65	75.11	115.13	no loan	115.13	117.08	4.61	10.66	24.77
70																		
71	Baseline Risk Weighted Assets = RWc x E																	
72	LGD if senior claims			=	RWA	21.36	11.19	0.77	0.33	0.92	1.22	0.45	no loan	0.50	0.78	2.89	0.43	1.69
73	LGD if subordinated claims			=	RWA	32.04	16.78	1.16	0.50	1.38	1.83	0.67	no loan	0.74	1.17	4.34	0.65	2.53

A	B	C	D	E	S	T	U	V	W	X
1	TRADE STRUCTURE:									
2	(note: all on behalf of indemnified lenders)									
3	(note: portfolio based on July '00 RMA survey data)									
4		<i>security loaned</i>			FI	FI	FI	FI	FI	
5		<i>collateral posted</i>			sov	us agency	us agency	LOC	LOC	
6		<i>fx matched or mismatched</i>			mismatched	matched	mismatched	matched	mismatched	
7										TOTAL
8	INPUTS:									
		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	
9										
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0	0	0	0	0	
11		the exposure or loan balance	=	E	177.03	402.18	9.45	107.25	10.80	10,006.75
12		collateral value	=	C	185.88	410.22	9.92	109.40	11.34	10,265.42
13		haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.02504	0.02504	0.02504	0.02504	0.02504	
14		haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0.02264	0.02264	0.02264	0.02	0.02	
15		haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0.03704	0	0.03704	0	0.03704	
16										
17	FORMULAS:									
18	Adjusted Collateral Value Formula:									
19		$C / (1 + He + Hc + Hfx)$	=	Ca	171.36	391.55	9.15	104.68	10.48	
20										
21										
22	FORMULA COMPARISON MODEL:									
23	1988 Basel Accord									
24		Risk Weights Under the 1988 Accord			0.00%	20.00%	20.00%	20.00%	20.00%	
25		Risk Weighted Assets Under the 1988 Accord			-	80.44	1.89	21.45	2.16	166.95
26										
27	2001 Basel Accord									
28	Standardized Approach to Credit Risk -- Simple Approach									
29		Apply counterparty risk weight to exposure								
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	
31		Risk Weighted Assets	=	RWA	35.41	80.44	1.89	21.45	2.16	1,069.09
32										
33	Standardized Approach to Credit Risk -- Comprehensive Approach									
34	Risk Weighted Asset Formulas:									
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$								
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
38		your computed risk weight	=	r*	0.64%	0.53%	0.64%	0.48%	0.59%	
39		your risk weighted assets	=	r* x E	1.13	2.13	0.06	0.51	0.06	64.65
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$								
41		your computed risk weight	=	r*	na	na	na	na	na	
42		your risk weighted assets	=	r* x E	na	na	na	na	na	
43										
44	RIS Foundation Approach									
45		Probability of Default								
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
47		Loss Given Default								
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	
50		Effective Loss Given Default = LGD*								
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$								
52		LGD if senior claims	=	LGD*	1.60	1.32	1.60	1.20	1.48	
53		LGD if subordinated claims	=	LGD*	2.40	1.98	2.40	1.80	2.22	
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$								
55		LGD if senior claims	=	LGD*	na	na	na	na	na	
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	
57		Maturity								
58		one year minimum	=	M	1	1	1	1	1	
59		Benchmark Risk Weight								
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	
61										
62	Risk Weights									
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD								
64		RWc = (LGD/50) x BRWc(PD)								
65		LGD if senior claims	=	RWc	0.45	0.37	0.45	0.34	0.42	
66		LGD if subordinated claims	=	RWc	0.67	0.55	0.67	0.50	0.62	
67		RWc = 12.5 x LGD								
68		LGD if senior claims	=	RWc	20.01	16.51	20.01	14.98	18.53	
69		LGD if subordinated claims	=	RWc	30.01	24.77	30.01	22.46	27.79	
70										
71	Baseline Risk Weighted Assets = RWc x E									
72		LGD if senior claims	=	RWA	0.79	1.49	0.04	0.36	0.04	45.26
73		LGD if subordinated claims	=	RWA	1.19	2.23	0.06	0.54	0.07	67.88

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TRADE STRUCTURE:																
2	(note: all on behalf of indemnified lenders)																
3	(note: portfolio based on July '00 RMA survey data)																
4		<i>security loaned</i>			equity	equity	equity	equity	equity	equity	equity	equity	equity	equity	FI	FI	FI
5		<i>collateral posted</i>			cash	cash	us agency	us agency	sov	sov	equity	equity	equity	equity	LOC	LOC	sov
6		<i>tx matched or mismatched</i>			matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched
7																	
8	INPUTS:																
9		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remarking and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0	0.15	0
11		the exposure or loan balance	=	E	2,672.35	1,299.30	72.06	29.70	85.78	108.80	25.99	-	28.82	44.55	4,205.10	271.38	456.21
12		collateral value	=	C	2,725.80	1,364.27	73.50	31.19	87.50	114.24	26.51	-	29.40	46.78	4,289.20	284.95	465.33
13		haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.08177	0.02504	0.02504	0.02504
14		haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0	0	0.02264	0.02264	0.02264	0.02264	0.08103	0.08103	0.08103	0.08103	0	0	0.02264
15		haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0	0.03704	0	0.03704	0	0.03704	0	0.03704	0	0.03704	0	0.03704	0
16	FORMULAS:																
17	Adjusted Collateral Value Formula:																
18		C / (1 + He + Hc + Hfx)	=	Ca	2,519.76	1,219.39	66.55	27.32	79.22	100.08	22.80	-	25.28	38.99	4,184.42	268.29	444.16
19																	
20																	
21	FORMULA COMPARISON MODEL:																
22	1988 Basel Accord																
23		Risk Weights Under the 1988 Accord			0.00%	0.00%	20.00%	20.00%	0.00%	0.00%	100.00%	100.00%	20.00%	20.00%	0.00%	0.00%	0.00%
24		Risk Weighted Assets Under the 1988 Accord			-	-	14.41	5.94	-	-	25.99	-	5.76	8.91	-	-	-
25	2001 Basel Accord																
26	Standardized Approach to Credit Risk -- Simple Approach																
27		Apply counterparty risk weight to exposure															
28		Counterparty risk weight =	RW	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%	20.00%	0.00%
29		Risk Weighted Assets =	RWA	534.47	259.86	14.41	5.94	17.16	21.76	5.20	-	5.76	8.91	-	54.28	-	-
30	Standardized Approach to Credit Risk -- Comprehensive Approach																
31		Risk Weighted Asset Formulas:															
32		If E>Ca use --> $r^* \times E = r \times [E - (1-w) \times Ca]$															
33		If E<Ca use --> $r^* \times E = r \times w \times E$															
34		using E>Ca formula --> $r^* \times E = r \times [E - (1-w) \times Ca]$															
35		your computed risk weight	=	r*	3.97%	4.05%	4.30%	4.36%	4.30%	4.36%	5.09%	no loan	5.09%	5.12%	0.10%	3.19%	0.53%
36		your risk weighted assets	=	r* x E	106.11	52.56	3.10	1.30	3.69	4.75	1.32	-	1.47	2.28	4.14	8.67	2.41
37		using E<Ca formula --> $r^* \times E = r \times w \times E$															
38		your computed risk weight	=	r*	na	na	na	na	na	na	na	na	na	na	na	na	na
39		your risk weighted assets	=	r* x E	na	na	na	na	na	na	na	na	na	na	na	na	na
40	IRB Foundation Approach																
41		Probability of Default															
42		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	100.030%	0.030%	0.030%	0.030%	0.030%
43		Loss Given Default															
44		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
45		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
46		Effective Loss Given Default = LGD*															
47		using E>Ca formula --> $LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$															
48		LGD if senior claims	=	LGD*	9.93	10.11	10.75	10.90	10.75	10.90	12.72	no loan	12.72	12.81	0.25	7.98	1.32
49		LGD if subordinated claims	=	LGD*	14.89	15.17	16.12	16.36	16.12	16.36	19.08	no loan	19.08	19.21	0.37	11.98	1.98
50		using E<Ca formula --> $LGD^* = w \times LGD$															
51		LGD if senior claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
52		LGD if subordinated claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
53		Maturity															
54		one year minimum	=	M	1	1	1	1	1	1	1	1	1	1	1	1	1
55		Benchmark Risk Weight															
56		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
57		Risk Weights															
58		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD															
59		RWc = (LGD/50) x BRWc(PD)															
60		LGD if senior claims	=	RWc	2.78	2.83	3.01	3.05	3.01	3.05	3.56	no loan	3.56	3.59	0.07	2.24	0.37
61		LGD if subordinated claims	=	RWc	4.17	4.25	4.51	4.58	4.51	4.58	5.34	no loan	5.34	5.38	0.10	3.35	0.55
62		RWc = 12.5 x LGD															
63		LGD if senior claims	=	RWc	124.08	126.42	134.35	136.31	134.35	136.31	158.99	no loan	158.99	160.09	3.07	99.79	16.51
64		LGD if subordinated claims	=	RWc	186.13	189.64	201.53	204.47	201.53	204.47	238.49	no loan	238.49	240.14	4.61	149.69	24.77
65		Baseline Risk Weighted Assets = RWc x E															
66		LGD if senior claims	=	RWA	74.28	36.79	2.17	0.91	2.58	3.32	0.93	no loan	1.03	1.60	2.89	6.07	1.69
67		LGD if subordinated claims	=	RWA	111.42	55.19	3.25	1.36	3.87	4.98	1.39	no loan	1.54	2.40	4.34	9.10	2.53

A	B	C	D	E	S	T	U	V	W	X
1	TRADE STRUCTURE:									
2	(note: all on behalf of indemnified lenders)									
3	(note: portfolio based on July '00 RMA survey data)									
4		<i>security loaned</i>			FI	FI	FI	FI	FI	
5		<i>collateral posted</i>			sov	us agency	us agency	LOC	LOC	
6		<i>fx matched or mismatched</i>			mismatched	matched	mismatched	matched	mismatched	
7										TOTAL
8	INPUTS:									
		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dry marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	
9										
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0.15	0.15	0.15	0.15	0.15	
11		the exposure or loan balance	=	E	177.03	402.18	9.45	107.25	10.80	10,006.75
12		collateral value	=	C	185.88	410.22	9.92	109.40	11.34	10,265.42
13		haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.02504	0.02504	0.02504	0.02504	0.02504	
14		haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0.02264	0.02264	0.02264	0.02	0.02	
15		haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 10-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0.03704	0	0.03704	0	0.03704	
16										
17	FORMULAS:									
18	Adjusted Collateral Value Formula:									
19		$C / (1 + He + Hc + Hfx)$	=	Ca	171.36	391.55	9.15	104.68	10.48	
20										
21										
22	FORMULA COMPARISON MODEL:									
23	1988 Basel Accord									
24		Risk Weights Under the 1988 Accord			0.00%	20.00%	20.00%	20.00%	20.00%	
25		Risk Weighted Assets Under the 1988 Accord				80.44	1.89	21.45	2.16	166.95
26										
27	2001 Basel Accord									
28	Standardized Approach to Credit Risk -- Simple Approach									
29		Apply counterparty risk weight to exposure								
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	
31		Risk Weighted Assets	=	RWA	35.41	80.44	1.89	21.45	2.16	1,069.09
32										
33	Standardized Approach to Credit Risk -- Comprehensive Approach									
34	Risk Weighted Asset Formulas:									
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$								
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
38		your computed risk weight	=	r*	3.54%	3.45%	3.54%	3.41%	3.50%	
39		your risk weighted assets	=	r* x E	6.27	13.87	0.33	3.65	0.38	216.30
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$								
41		your computed risk weight	=	r*	na	na	na	na	na	
42		your risk weighted assets	=	r* x E	na	na	na	na	na	
43										
44	RIS Foundation Approach									
45		Probability of Default								
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
47		Loss Given Default								
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	
50		Effective Loss Given Default = LGD*								
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$								
52		LGD if senior claims	=	LGD*	8.86	8.82	8.86	8.52	8.76	
53		LGD if subordinated claims	=	LGD*	13.29	12.93	13.29	12.78	13.14	
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$								
55		LGD if senior claims	=	LGD*	na	na	na	na	na	
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	
57		Maturity								
58		one year minimum	=	M	1	1	1	1	1	
59		Benchmark Risk Weight								
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	
61										
62	Risk Weights									
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD								
64		$RWc = (LGD/50) \times BRWc(PD)$								
65		LGD if senior claims	=	RWc	2.48	2.41	2.48	2.39	2.45	
66		LGD if subordinated claims	=	RWc	3.72	3.62	3.72	3.58	3.68	
67		$RWc = 12.5 \times LGD$								
68		LGD if senior claims	=	RWc	110.75	107.79	110.75	106.48	109.50	
69		LGD if subordinated claims	=	RWc	166.13	161.68	166.13	159.72	164.25	
70										
71	Baseline Risk Weighted Assets = RWc x E									
72		LGD if senior claims	=	RWA	4.39	9.71	0.23	2.56	0.26	151.41
73		LGD if subordinated claims	=	RWA	6.59	14.57	0.35	3.84	0.40	227.11

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TRADE STRUCTURE:																
2	(note: all on behalf of indemnified lenders)																
3	(note: portfolio based on July '00 RMA survey data)																
4		<i>security loaned</i>			equity	equity	equity	equity	equity	equity	equity	equity	equity	equity	FI	FI	FI
5		<i>collateral posted</i>			cash	cash	us agency	us agency	sov	sov	equity	equity	equity	equity	LOC	LOC	cash
6		<i>fx matched or mismatched</i>			matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched
7	INPUTS:																
8		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remarking and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
9		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0	0	0	0	0	0	0	0	0	0	0	0	0
10		the exposure or loan balance	=	E	2,672.35	1,299.30	72.06	29.70	85.78	108.80	25.99	-	28.82	44.55	4,205.10	271.98	456.21
11		collateral value	=	C	2,725.80	1,364.27	73.50	31.19	87.50	114.24	26.51	-	29.40	46.78	4,289.20	284.95	465.33
12		haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.01371	0.01371	0.01371
13		haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0	0	0.0124	0.0124	0.0124	0.0124	0.04438	0.04438	0.04438	0.04438	0	0	0.0124
14		haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0	0.02029	0	0.02029	0	0.02029	0	0.02029	0	0.02029	0	0.02029	0
15			=														
16			=														
17	FORMULAS:																
18	Adjusted Collateral Value Formula:																
19		$C / (1 + Hc + Hc + Hfx)$	=	Ca	2,608.94	1,280.90	69.53	28.94	82.76	106.03	24.34	-	26.99	42.16	4,231.19	275.58	453.49
20																	
21																	
22	FORMULA COMPARISON MODEL:																
23	1988 Basel Accord																
24		Risk Weights Under the 1988 Accord			0.00%	0.00%	20.00%	20.00%	0.00%	0.00%	100.00%	100.00%	20.00%	20.00%	0.00%	0.00%	0.00%
25		Risk Weighted Assets Under the 1988 Accord			-	-	14.41	5.94	-	-	25.99	-	5.76	8.91	-	-	-
26																	
27	2001 Basel Accord																
28	Standardized Approach to Credit Risk - Simple Approach																
29		Apply counterparty risk weight to exposure															
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%	20.00%	0.00%
31		Risk Weighted Assets	=	RWA	534.47	259.86	14.41	5.94	17.16	21.76	5.20	-	5.76	8.91	-	54.28	-
32																	
33	Standardized Approach to Credit Risk - Comprehensive Approach																
34	Risk Weighted Asset Formulas:																
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$															
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
38		your computed risk weight	=	r*	0.47%	0.28%	0.70%	0.51%	0.70%	0.51%	1.27%	no loan	1.27%	1.07%	-0.12%	-0.31%	0.12%
39		your risk weighted assets	=	r* x E	12.68	3.68	0.51	0.15	0.60	0.55	0.33	-	0.37	0.48	(5.22)	(0.84)	0.54
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$															
41		your computed risk weight	=	r*	na	na	na	na	na	na	na	na	na	na	na	na	na
42		your risk weighted assets	=	r* x E	na	na	na	na	na	na	na	na	na	na	na	na	na
43																	
44	IRB Foundation Approach																
45	Probability of Default																
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	100.030%	0.030%	0.030%	0.030%	0.030%
47	Loss Given Default																
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
50	Effective Loss Given Default = LGD*																
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$															
52		LGD if senior claims	=	LGD*	1.19	0.71	1.76	1.28	1.76	1.28	3.18	no loan	3.18	2.68	(0.31)	(0.77)	0.30
53		LGD if subordinated claims	=	LGD*	1.78	1.06	2.64	1.91	2.64	1.91	4.76	no loan	4.76	4.02	(0.47)	(1.16)	0.45
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$															
55		LGD if senior claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
57	Maturity																
58		one year minimum	=	M	1	1	1	1	1	1	1	1	1	1	1	1	1
59	Benchmark Risk Weight																
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
61																	
62	Risk Weights																
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD															
64		RWc = (LGD/50) x BRWc(PD)															
65		LGD if senior claims	=	RWc	0.33	0.20	0.49	0.36	0.49	0.36	0.89	no loan	0.89	0.75	(0.09)	(0.22)	0.08
66		LGD if subordinated claims	=	RWc	0.50	0.30	0.74	0.54	0.74	0.54	1.33	no loan	1.33	1.13	(0.13)	(0.32)	0.13
67		RWc = 12.5 x LGD															
68		LGD if senior claims	=	RWc	14.83	8.85	21.99	15.94	21.99	15.94	39.69	no loan	39.69	33.50	(3.88)	(9.67)	3.72
69		LGD if subordinated claims	=	RWc	22.24	13.27	32.98	23.91	32.98	23.91	59.54	no loan	59.54	50.24	(5.82)	(14.51)	5.58
70																	
71	Baseline Risk Weighted Assets = RWc x E																
72		LGD if senior claims	=	RWA	8.88	2.58	0.35	0.11	0.42	0.39	0.23	no loan	0.26	0.33	(3.65)	(0.59)	0.38
73		LGD if subordinated claims	=	RWA	13.32	3.86	0.53	0.16	0.63	0.58	0.35	no loan	0.38	0.50	(5.48)	(0.88)	0.57

A	B	C	D	E	S	T	U	V	W	X
1	TRADE STRUCTURE:									
2	(note: all on behalf of indemnified lenders)									
3	(note: portfolio based on July '00 RMA survey data)									
4		<i>security loaned</i>			FI	FI	FI	FI	FI	
5		<i>collateral posted</i>			sov	us agency	us agency	LOC	LOC	
6		<i>fx matched or mismatched</i>			mismatched	matched	mismatched	matched	mismatched	
7										TOTAL
8	INPUTS:									
9		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0	0	0	0	0	
11		the exposure or loan balance	=	E	177.03	402.18	9.45	107.25	10.80	10,006.75
12		collateral value	=	C	185.88	410.22	9.92	109.40	11.34	10,265.42
13		haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.01371	0.01371	0.01371	0.01371	0.01371	
14		haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0.0124	0.0124	0.0124	0.02	0.02	
15		haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0.02029	0	0.02029	0	0.02029	
16										
17	FORMULAS:									
18	Adjusted Collateral Value Formula:									
19		$C / (1 + He + Hc + Hfx)$	=	Ca	177.64	399.79	9.48	105.83	10.76	
20										
21										
22	FORMULA COMPARISON MODEL:									
23	1988 Basel Accord									
24		Risk Weights Under the 1988 Accord			0.00%	20.00%	20.00%	20.00%	20.00%	
25		Risk Weighted Assets Under the 1988 Accord			-	80.44	1.89	21.45	2.16	166.95
26										
27	2001 Basel Accord									
28	Standardized Approach to Credit Risk -- Simple Approach									
29		Apply counterparty risk weight to exposure								
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	
31		Risk Weighted Assets	=	RWA	35.41	80.44	1.89	21.45	2.16	1,069.09
32										
33	Standardized Approach to Credit Risk -- Comprehensive Approach									
34	Risk Weighted Asset Formula:									
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$								
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
38		your computed risk weight	=	r*	-0.07%	0.12%	-0.07%	0.27%	0.08%	
39		your risk weighted assets	=	r* x E	(0.12)	0.48	(0.01)	0.28	0.01	14.48
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$								
41		your computed risk weight	=	r*	na	na	na	na	na	
42		your risk weighted assets	=	r* x E	na	na	na	na	na	
43										
44	RIS Foundation Approach									
45	Probability of Default									
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
47	Loss Given Default									
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	
50	Effective Loss Given Default = LGD*									
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$								
52		LGD if senior claims	=	LGD*	(0.17)	0.30	(0.17)	0.66	0.19	
53		LGD if subordinated claims	=	LGD*	(0.26)	0.45	(0.26)	0.99	0.28	
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$								
55		LGD if senior claims	=	LGD*	na	na	na	na	na	
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	
57	Maturity									
58		one year minimum	=	M	1	1	1	1	1	
59	Benchmark Risk Weight									
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	
61										
62	Risk Weights									
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD								
64		RWc = (LGD/50) x BRWc(PD)								
65		LGD if senior claims	=	RWc	(0.05)	0.08	(0.05)	0.19	0.05	
66		LGD if subordinated claims	=	RWc	(0.07)	0.13	(0.07)	0.28	0.08	
67		RWc = 12.5 x LGD								
68		LGD if senior claims	=	RWc	(2.15)	3.72	(2.15)	8.29	2.37	
69		LGD if subordinated claims	=	RWc	(3.23)	5.58	(3.23)	12.43	3.56	
70										
71	Baseline Risk Weighted Assets = RWc x E									
72		LGD if senior claims	=	RWA	(0.09)	0.34	(0.00)	0.20	0.01	10.14
73		LGD if subordinated claims	=	RWA	(0.13)	0.50	(0.01)	0.30	0.01	15.20

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	TRADE STRUCTURE:																
2	(note: all on behalf of indemnified lenders)																
3	(note: portfolio based on July '00 RMA survey data)																
4		security loaned			equity	equity	equity	equity	equity	equity	equity	equity	equity	equity	FI	FI	FI
5		collateral posted			cash	cash	us agency	us agency	sov	sov	equity	equity	LOC	LOC	cash	cash	sov
6		fx matched or mismatched			matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched	mismatched	matched
7																	
8	INPUTS:																
9		risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remarking and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10		floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0	0.15	0
11		the exposure or loan balance	=	E	2,672.35	1,299.30	72.06	29.70	85.78	108.80	25.99	-	28.82	44.55	4,205.10	271.38	456.21
12		collateral value	=	C	2,725.80	1,364.27	73.50	31.19	87.50	114.24	26.51	-	29.40	46.78	4,289.20	284.95	465.33
13		haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.04479	0.01371	0.01371	0.01371
14		haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0	0	0.0124	0.0124	0.0124	0.0124	0.04438	0.04438	0.04438	0.04438	0	0	0.0124
15		haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0	0.02029	0	0.02029	0	0.02029	0	0.02029	0	0.02029	0	0.02029	0
16																	
17	FORMULAS:																
18		Adjusted Collateral Value Formula:															
19		$C / (1 + H_e + H_c + H_{fx})$	=	Ca	2,608.94	1,280.90	69.53	28.94	82.76	106.03	24.34	-	26.99	42.16	4,231.19	275.58	453.49
20																	
21																	
22	FORMULA COMPARISON MODEL:																
23	1988 Basel Accord																
24		Risk Weights Under the 1988 Accord			0.00%	0.00%	20.00%	20.00%	0.00%	0.00%	100.00%	100.00%	20.00%	20.00%	0.00%	0.00%	0.00%
25		Risk Weighted Assets Under the 1988 Accord			-	-	14.41	5.94	-	-	25.99	-	5.76	8.91	-	-	-
26																	
27	2001 Basel Accord																
28	Standardized Approach to Credit Risk - Simple Approach																
29		Apply counterparty risk weight to exposure															
30		Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%	20.00%	0.00%
31		Risk Weighted Assets	=	RWA	534.47	259.86	14.41	5.94	17.16	21.76	5.20	-	5.76	8.91	-	54.28	-
32																	
33	Standardized Approach to Credit Risk - Comprehensive Approach																
34		Risk Weighted Asset Formulas:															
35		If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
36		If E<Ca use $\rightarrow r^* \times E = r \times w \times E$															
37		using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$															
38		your computed risk weight	=	r*	3.40%	3.24%	3.60%	3.43%	3.60%	3.43%	4.08%	no loan	4.08%	3.91%	-0.12%	2.74%	0.12%
39		your risk weighted assets	=	r* x E	90.95	42.11	2.59	1.02	3.09	3.74	1.06	-	1.18	1.74	(5.22)	7.43	0.54
40		using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$															
41		your computed risk weight	=	r*	na	na	na	na	na	na	na	na	na	na	na	na	na
42		your risk weighted assets	=	r* x E	na	na	na	na	na	na	na	na	na	na	na	na	na
43																	
44	RB Foundation Approach																
45		Probability of Default															
46		greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	0.030%	100.030%	0.030%	0.030%	0.030%	0.030%
47		Loss Given Default															
48		LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
49		LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
50		Effective Loss Given Default = LGD*															
51		using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$															
52		LGD if senior claims	=	LGD*	8.51	8.10	9.00	8.58	9.00	8.58	10.20	no loan	10.20	9.78	(0.31)	6.84	0.30
53		LGD if subordinated claims	=	LGD*	12.76	12.15	13.49	12.88	13.49	12.88	15.30	no loan	15.30	14.67	(0.47)	10.26	0.45
54		using E<Ca formula $\rightarrow LGD^* = w \times LGD$															
55		LGD if senior claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
56		LGD if subordinated claims	=	LGD*	na	na	na	na	na	na	na	na	na	na	na	na	na
57		Maturity															
58		one year minimum	=	M	1	1	1	1	1	1	1	1	1	1	1	1	1
59		Benchmark Risk Weight															
60		per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
61																	
62		Risk Weights															
63		RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD															
64		RWc = (LGD/50) x BRWc(PD)															
65		LGD if senior claims	=	RWc	2.38	2.27	2.52	2.40	2.52	2.40	2.86	no loan	2.86	2.74	(0.09)	1.92	0.08
66		LGD if subordinated claims	=	RWc	3.57	3.40	3.78	3.61	3.78	3.61	4.28	no loan	4.28	4.11	(0.13)	2.87	0.13
67		RWc = 12.5 x LGD															
68		LGD if senior claims	=	RWc	106.36	101.27	112.44	107.30	112.44	107.30	127.49	no loan	127.49	122.22	(3.88)	85.53	3.72
69		LGD if subordinated claims	=	RWc	159.53	151.91	168.66	160.95	168.66	160.95	191.23	no loan	191.23	183.33	(5.82)	128.29	5.58
70																	
71		Baseline Risk Weighted Assets = RWc x E															
72		LGD if senior claims	=	RWA	63.66	29.47	1.81	0.71	2.16	2.62	0.74	no loan	0.82	1.22	(3.65)	5.20	0.38
73		LGD if subordinated claims	=	RWA	95.50	44.21	2.72	1.07	3.24	3.92	1.11	no loan	1.23	1.83	(5.48)	7.80	0.57

	A	B	C	D	E	S	T	U	V	W	X
1	TRADE STRUCTURE:										
2	(note: all on behalf of indemnified lenders)										
3	(note: portfolio based on July '00 RMA survey data)										
4			<i>security loaned</i>			FI	FI	FI	FI	FI	
5			<i>collateral posted</i>			sov	us agency	us agency	LOC	LOC	
6			<i>fx matched or mismatched</i>			mismatched	matched	mismatched	matched	mismatched	
7											TOTAL
8	INPUTS:										
			risk weight of the uncollateralized exposure (this is the risk weight of your counterparty per the table on p.6) (assumes A rated borrower and dly marking and remargining and sec lending falls in the "short-term claim" category)	=	r	0.2	0.2	0.2	0.2	0.2	(\$ millions)
9			floor factor applied to the secured portion of the transaction (this is effectively a given in the document)	=	w	0.15	0.15	0.15	0.15	0.15	
10			the exposure or loan balance	=	E	177.03	402.18	9.45	107.25	10.80	10,006.75
11			collateral value	=	C	185.88	410.22	9.92	109.40	11.34	10,265.42
12			haircut appropriate to the exposure (assumptions: all equity loans are of main index equities; all loaned FI securities are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	He	0.01371	0.01371	0.01371	0.01371	0.01371	
13			haircut appropriate to the collateral received (assumptions: all equity collateral is comprised of main index equities; all Sov and Agency collateral items are AAA/AA rated; a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hc	0.0124	0.0124	0.0124	0.02	0.02	
14			haircut for currency mismatch (a weighted average of scaled RiskMetrics data -- 3-day holding period; 99% confidence level -- was used as an "own estimate" proxy -- see Exhibit ?????? for details)	=	Hfx	0.02029	0	0.02029	0	0.02029	
15											
16											
17	FORMULAS:										
18			Adjusted Collateral Value Formula:								
19			$C / (1 + H_e + H_c + H_{fx})$	=	Ca	177.64	399.79	9.48	105.83	10.76	
20											
21											
22	FORMULA COMPARISON MODEL:										
23	1988 Basel Accord										
24			Risk Weights Under the 1988 Accord			0.00%	20.00%	20.00%	20.00%	20.00%	
25			Risk Weighted Assets Under the 1988 Accord			-	80.44	1.89	21.45	2.16	166.95
26											
27	2001 Basel Accord										
28	Standardized Approach to Credit Risk - Simple Approach										
29			Apply counterparty risk weight to exposure								
30			Counterparty risk weight	=	RW	20.00%	20.00%	20.00%	20.00%	20.00%	
31			Risk Weighted Assets	=	RWA	35.41	80.44	1.89	21.45	2.16	1,069.09
32											
33	Standardized Approach to Credit Risk - Comprehensive Approach										
34			Risk Weighted Asset Formula:								
35			If E>Ca use $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
36			If E<Ca use $\rightarrow r^* \times E = r \times w \times E$								
37			using E>Ca formula $\rightarrow r^* \times E = r \times [E - (1-w) \times Ca]$								
38			your computed risk weight	=	r*	2.94%	3.10%	2.94%	3.23%	3.06%	
39			your risk weighted assets	=	r* x E	5.21	12.47	0.28	3.46	0.33	171.97
40			using E<Ca formula $\rightarrow r^* \times E = r \times w \times E$								
41			your computed risk weight	=	r*	na	na	na	na	na	
42			your risk weighted assets	=	r* x E	na	na	na	na	na	
43											
44	Rb Foundation Approach										
45			Probability of Default								
46			greater of 1-yr PD or 0.03%	=	PD	0.030%	0.030%	0.030%	0.030%	0.030%	
47			Loss Given Default								
48			LGD if senior claims	=	LGD	50.00	50.00	50.00	50.00	50.00	
49			LGD if subordinated claims	=	LGD	75.00	75.00	75.00	75.00	75.00	
50			Effective Loss Given Default = LGD*								
51			using E>Ca formula $\rightarrow LGD^* = LGD \times [1 - (1-w) \times (Ca/E)]$								
52			LGD if senior claims	=	LGD*	7.35	7.75	7.35	8.06	7.66	
53			LGD if subordinated claims	=	LGD*	11.03	11.63	11.03	12.10	11.49	
54			using E<Ca formula $\rightarrow LGD^* = w \times LGD$								
55			LGD if senior claims	=	LGD*	na	na	na	na	na	
56			LGD if subordinated claims	=	LGD*	na	na	na	na	na	
57			Maturity								
58			one year minimum	=	M	1	1	1	1	1	
59			Benchmark Risk Weight								
60			per PD and chart on page 37	=	BRWc	14.00	14.00	14.00	14.00	14.00	
61											
62			Risk Weights								
63			RWc = lesser of (LGD/50) x BRWc(PD) or 12.5 x LGD								
64			RWc = (LGD/50) x BRWc(PD)								
65			LGD if senior claims	=	RWc	2.06	2.17	2.06	2.26	2.15	
66			LGD if subordinated claims	=	RWc	3.09	3.26	3.09	3.39	3.22	
67			RWc = 12.5 x LGD								
68			LGD if senior claims	=	RWc	91.92	96.91	91.92	100.80	95.77	
69			LGD if subordinated claims	=	RWc	137.88	145.37	137.88	151.19	143.65	
70											
71			Baseline Risk Weighted Assets = RWc x E								
72			LGD if senior claims	=	RWA	3.65	8.73	0.19	2.42	0.23	120.38
73			LGD if subordinated claims	=	RWA	5.47	13.10	0.29	3.63	0.35	180.57

VaR (the files calculating the VaR values are available electronically upon request)	10-day Holding Period / 99% Confidence Level		3-day Holding Period / 99% Confidence Level	
	Exposure Collateral			
		10,006.75	10,006.75	
		10,265.42	10,265.42	
		269		147

FORMULA COMPARISON MODEL:

1988 Basel Accord

The VaR values cannot be applied in this methodology.

na na

2001 Basel Accord

Standardized Approach to Credit Risk -- Simple Approach

The VaR values cannot be applied in this methodology.

na na

Standardized Approach to Credit Risk -- Comprehensive Approach

$$RWA = VaR \times PD$$

0.2 0.2
53.8 29.4

IRB Foundation Approach

$$RWA = VaR \times BRW(PD)$$

14 14
37.66 20.58