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3 November 2003,

The International Swaps and Derivatives Association, the London Investment Banking Association and the International Association of Credit Portfolio Managers (together, the Associations) welcome the opportunity to comment on the Federal Reserve Board (FRB) White Paper on the Treatment of Double Default and Double Recovery Effects for Hedged Exposures under Pillar I of the New Basel Capital Accord (in the following, the White Paper).

The lack of account taken of double default and double recovery effects in the proposed Basel II solvency standards is a crucial concern for the Associations, and we applaud the initiative taken by the Federal Reserve Board in this regard.

As already emphasized in the Associations' responses to the Basel Committee consultation papers on the New Capital Accord, continuing to apply the so-called substitution approach is fundamentally flawed: the capital charges produced by this approach are extremely onerous and bear no resemblance to the amount of economic capital internally allocated by firms against the exposures concerned. Such is the discrepancy that firms may be discouraged from purchasing much needed credit risk protection, resulting in unsuitable risk management decisions being made. At a macro economic level, the substitution approach acts as a constraint on the development of liquidity in the credit derivatives market.

The Associations however remain convinced that the regulators see benefit in the wider availability of liquid credit risk mitigation instruments, such as credit defaults swaps, and do not wish to prevent their use by imposing inappropriate regulatory capital requirements. The White Paper is the absolute proof of the interest and appeal that such instruments present for a major regulator.

The Associations understand that the White Paper is produced in the context of the implementation of the New Capital Accord in the US. We would however strongly recommend its review by the Basel Committee, as (i) it is not anchored in specifically US market practice, and includes recommendations in our opinion valid in all jurisdictions; (ii) it would be damaging to the harmonious development of the credit derivative market if the capital treatment of these products in the US diverged from that retained in other G-10 countries.

The FRB has raised a number of concerns in the White Paper and called for industry feedback on certain issues. The Associations wish to offer input on the following topics :

- A-Scope of approach
- B-The ASRF model : principles and calibration
- C-Concentration Risk
- D-Use Test
- E-Wrong way risk
- F-Capital Arbitrage

We have undertaken a survey of market practices, appended to this letter (Appendix 1), to better inform our commentary, particularly on the calibration of the ASRF model and the use test.

A- Scope of approach

All banking activity giving rise to two name risk should in principle be treated consistently for capital purposes : credit derivatives, risk participations in standby letters of credit, confirmed letters of credit, risk participations in unfunded revolving credits, rediscounted bankers' acceptances or parental guarantees are examples of instances where a bank is exposed to two name risk (see Appendix 2 for detail).

The capital treatment applied to these exposures should reflect double default and double recovery effects. These may be internalised in the rating assigned to the hedge exposure, or modelled explicitly. The regulatory requirement will depend on whether internalisation in the form of a hedged asset rating is recognised. The ASRF model proposed by the FRB is an explicit model where no account is taken of the hedge in the probability of default attributed to the underlying obligor. The Associations provide under "D-Use test" below an assessment of the prevalence of internalisation for various types of hedges.

B- The ASRF model : principles and calibration

The Associations wholly support the methodology employed to produce the proposed ASRF charges. We accept that this methodology, founded on conditional joint default probabilities, is more closely aligned with the IRB function than the approach ISDA had recommended in October 2001¹.

The Associations also note that, in the central scenario retained in the White Paper (Conclusion, page 31), the amount of capital relief implied by the ASRF model is, on average, higher than that achieved under our original proposal. This, ex post, serves to demonstrate the extreme conservatism of ISDA's suggested approach.

We understand, given the magnitude of the capital savings implied, the FRB's inclination for a prudent calibration of the ASRF model. The ASRF function should be parameterised in a realistic and cautious manner, avoiding excess complexity, as well as inconsistency with bank practice.

The FRB specifically invites feedback from industry on three key parameters of the ASRF formula : ρ_{og} , the specific asset return correlation between the protection provider and the underlying issuer; ρ_g , the average asset return correlation for protection providers, and the joint loss given default between the underlying obligor and the protection provider.

1- Parameter ρ_{og} :

Of the 21 respondents to the survey, 13 employ an economic capital model where double default effects are represented in a relatively sophisticated manner. A majority of these firms set ρ_{og} equal to the base case identified in the White Paper - $(\rho_o \times \rho_g)^{0.5}$. 3 respondents, all of whom calibrate ρ_{og} more conservatively, were able to provide an indication of the values they would assign to it: for one of them, the parameter takes values ranging from mildly negative to maximum depending on the pair of obligors, with an average of 25%. Another firm uses a uniform 45% calibration. The last one sets ρ_{og} equal to base case plus 20%.

In seeking a suitable value for the parameter ρ_{og} , we believe it is more intuitive to consider the *conditional* correlation implied by an input value of ρ_{og} . This is the remaining correlation between obligor and guarantor conditional on a realised 99.9% worst case value of the ASRF systematic variable. As identified in the white paper, the conditional correlation is given by

$$\rho_{og}(\text{Conditional}) = \frac{\rho_{og} - \rho_o^{1/2} \rho_g^{1/2}}{(1 - \rho_o)^{1/2} (1 - \rho_g)^{1/2}}$$

This correlation can be intuitively described as the asset price correlation between obligor and guarantor due to factors connecting these entities which are not part of the general correlation between obligors implied by the single factor underlying the IRB

¹ ISDA letter to Oliver Page, Chairman of the Capital Group, on the regulatory capital treatment of hedged exposures and joint default risk, October 3, 2001.

approach. For example, in the case of two closely connected entities one could simply take :

$$\rho_{og} \text{ (Conditional)} = 1$$

which corresponds to the rather unintuitive setting

$$\rho_{og} = \rho_o^{1/2} \rho_g^{1/2} + (1 - \rho_o)^{1/2} (1 - \rho_g)^{1/2}$$

(this is strictly less than one unless ρ_o and ρ_g are the same).

Determination of a suitable range for ρ_{og} (Conditional) is still judgmental, but we feel it corresponds slightly more closely than ρ_{og} to an intuitive picture of the situation.

In the absence of wrong way risk, we suggest a parameterisation :

$$\rho_{og} \text{ (Conditional)} = 30\%$$

Giving the formula :

$$\rho_{og} = \rho_o^{1/2} \rho_g^{1/2} + 0.3(1 - \rho_o)^{1/2} (1 - \rho_g)^{1/2}$$

We note that although this looks complicated, it is the simple 30% conditional value, not the more complex unconditional correlation, that enters the ASRF model formulae and we suggest accordingly that the formulae be simply restated to refer to the conditional correlation, ρ_{og} (Conditional), rather than the unconditional value ρ_{og} . For reference, the unconditional correlations equivalent to this choice are as shown, for a range of values of ρ_o and ρ_g :

	0%	5%	10%	15%	20%	24%
0%	30%	29%	28%	28%	27%	26%
5%	29%	34%	35%	36%	36%	36%
10%	28%	35%	37%	38%	40%	40%
15%	28%	36%	38%	41%	42%	43%
20%	27%	36%	40%	42%	44%	45%
24%	26%	36%	40%	43%	45%	47%

The values of ρ_{og} indicated in the table above are generally conservative compared to those used internally by firms.

2- Parameter ρ_g :

The Associations believe that calibrating ρ_g more conservatively than is implied by the IRB function (ρ_{irb}) would be doubly inconsistent:

- (i) Firstly, with the correlation parameter employed to determine the credit risk capital charge applied to direct exposures to the guarantor. It appears wholly unjustified to use the IRB correlation factor (ρ_{irb}) to derive the capital charge attributable to a loan to a counterparty, whilst applying a higher correlation factor (ρ_g) in determining the charge applied to an exposure guaranteed by this same counterparty. The member firms we surveyed use the same correlation factor in both cases in their economic capital models. It is also worth noting that using a conservative $\rho_g (> \rho_{irb})$ parameter has the adverse effect of producing ASRF capital charges

exceeding the substitution charge (calculated based on ρ_{irb}), for underlying assets of poor credit quality.

The following table shows that for underlying obligors of a low credit quality, calibrating factors ρ_g and ρ_{og} at 50%, as proposed in the central scenario retained by the FRB in its conclusions, would produce capital charges exceeding the substitution charge.

COMPARISON BETWEEN SUBSTITUTION AND ASRF [RHOOG=RHOG=50%]

Guarantor PD	Obligor PD							
	0.03%	0.10%	0.50%	1%	2%	5%	10%	50%
0.03%	-0.54%	-0.45%	-0.21%	-0.05%	0.14%	0.43%	0.68%	1.72%
0.10%	-0.46%	-1.18%	-0.63%	-0.27%	0.16%	0.87%	1.55%	4.39%
0.50%	-0.29%	-0.76%	-2.32%	-1.45%	-0.41%	1.41%	3.39%	12.47%
1%	-0.20%	-0.54%	-1.69%	-2.45%	-1.07%	1.38%	4.22%	17.86%

Highlighting marks instances where ASRF charges exceed substitution charges

This outcome would be highly counter-intuitive and questionable.

- (ii) Secondly, with the Basel Committee’s decision to not differentiate asset return correlations by industry or region. Arguably, a guarantee sought by an Asian bank from a US bank would be less correlated with the protection buyer’s portfolio than the same guarantee purchased by a US bank. Incorporating this degree of fineness in the IRB framework is impossible, however. Only by relying on firms’ own portfolio models would the regulators be able to reflect such subtle effects.

A number of survey respondents note that correlation estimates used in their economic capital models depend on industry sector, and are higher for financial institutions than for other corporates (typically, ranging between 20% and 40%). However, should the Committee wish to refine its approach in this area, it should also review the correlation parameters used for other types of exposures.

In view of the above, **the Associations caution against retaining a more conservative calibration for ρ_g than the relevant IRB asset return correlation. Where conservatism can be added to reflect a degree of “systematic” wrong way risk is in relation to parameter ρ_{og} , as suggested above.**

3- Joint Loss Given Default :

Respondents generally ascribe the LGD of the guarantor (ignoring recourse on the underlying obligor) or (which in practice often amounts to the same result) the minimum LGD between the obligor and the guarantor -min (LGOo,LGDg)- to a hedged exposure. The latter approach is technically equivalent to adopting a substitution approach to recovery rates. Only the most sophisticated firms seek to model joint recovery in a more accurate and less conservative fashion.

For conservativeness and simplicity, the Associations would recommend that joint LGD be set equal to min (LGD_o,LGD_g) for a hedged exposure. We however would emphasise the need for regulators to review internal practices closer to the New Accord's implementation date, with a view to appraising developments in the modelling of joint recovery by firms. In particular, firms treated under the Advanced IRB approach should be able to receive recognition for their joint recovery estimates.

C- Concentration risk

1- Concentration in the credit derivatives market :

We have commented on market concentration in a previous letter dated April 4th, 2003. We acknowledge that the number of protection sellers in credit derivatives markets is limited, and that a few firms are responsible for a substantial proportion of CDS trading. A report published by Fitch Ratings on March 10th, 2003² confirms that counterparty risk is concentrated among the top 10 global banks and broker dealers.

It is important to note that concentration is, among other causes, a corollary of the regulatory treatment of unfunded forms of credit risk protection. By virtue of the substitution rule, only protection acquired from sellers whose risk weight is lower than that of the underlying issuer results in capital relief. Under the current Basel framework, this has meant that only financial institutions (and in some jurisdictions, highly rated corporates) could sell protection. The New Accord will restrict the number of eligible sellers by subjecting them to a minimum rating requirement. This rating limitation is wholly out of line with firms' assessment of double default risk : a BBB rated protection seller can perfectly mitigate credit risk arising from an A rated exposure, provided that the underlying obligor and the seller are not strongly correlated in default. By recognising precisely this characteristic, the ASRF model has the potential to create new opportunities for protection sellers, and be conducive of greater diversification in future.

In addition, the impact of market concentration is mitigated by several factors:

- (i) Credit derivatives give rise to no more concentration risk than other financial derivatives³, repos, or interbank loans. Treating them more harshly than these other products is difficult to justify.
- (ii) Credit derivatives are generally documented under Master Agreements permitting the netting of exposures. The net amounts are often collateralised. These risk mitigating features, along with the high credit rating of firms active in this market, considerably reduce the magnitude of counterparty risk.
- (iii) Finally, should large exposures arise from credit derivatives positions, these would be capitalised separately by firms under the Large Exposures regimes in place in most G-10 jurisdictions.

² Global Credit Derivatives : Risk Management or Risk ?, March 2003

³ ISDA is currently surveying its Board member firms, which include the major dealers internationally, regarding (1) the extent of their derivatives credit exposure to other dealers and (2) how they manage the resulting risk.

In our view, adopting a more realistic treatment of double default risk will result in greater liquidity, and therefore encourage the entry of new participants in the credit derivatives market, leading to increased diversification.

2- Concentration risk under the New Accord :

Credit default swaps can be, and are often used to reduce credit risk concentration in banks' books. Because concentration risk is not captured under Pillar 1 of the proposed New Accord, regulators purely and simply ignore the full extent of hedging achieved via CDSs where setting a firm's minimum capital requirement. The ASRF model is insensitive to concentration risk, and hence, does not encourage firms to "disproportionately" increase their use of credit risk mitigants.

ISDA acknowledges the existence of concentration risk. We have tended to view Pillar 2 as a more appropriate vessel for addressing supervisory concerns arising from the lumpiness of portfolios, because regulators have refused to rely on firms' own assessment of granularity under Pillar 1. We hope that in future, the Committee will consider the benefits of placing more reliance on firms' internal credit portfolio modelling, which would result in concentration risk impacting minimum capital requirements. Meanwhile, the ASRF model offers a suitable and reasonable way forward.

It is also implied in the White Paper that firms may substitute concentrated exposures to borrowers with equally concentrated exposures to protection sellers. For reasons detailed above, we view this concern as generally questionable.

D- Use test :

The Associations have sought to assess the impact of double default on the pricing of hedges, as well as on the risk management of hedged exposures.

1- Market prices :

Survey respondents concur in finding no relationship between the market price of single name CDSs and the degree of default correlation between the underlying obligor and the protection seller. Indeed, CDS prices show little sensitivity even to the credit quality of the seller, which respondents attribute to the high creditworthiness of dealers in the CDS market. Four firms mention collateralisation as being a cause for lack of price sensitivity. A minority of respondents note that adjustments may be made by the trading desk on an ad hoc basis depending on the specifics of the transaction.

On the contrary, the pricing of basket CDSs takes account of correlation between the seller of protection and the assets in the basket. Similarly, firms comment that in the case of financial guarantees (including risk participations and standby letters of credit), spread or fees charged would normally be reflective of double default effects.

Several firms believe that ultimately even vanilla CDS prices will reflect double default and double recovery effects. A number of factors will contribute to this outcome: (i) more market participants, representing a broader range of credit quality ;

(ii) a more liquid market, where differences in pricing of the underlying risk may not obscure counterparty risk adjustments any more; (iii) better quality and more easily available information (PD, LGD and correlation); (iv) the further development of quantitative modelling approaches.

2- Risk management :

(i) Impact of double default on ratings :

A majority of survey respondents reflect the existence of CDS protection in the LGD or EAD assigned to the underlying obligor. In contrast, firms would normally alter the rating (or PD) of the exposure where a parental guarantee was provided (typically by substituting the rating/PD of the parent for that of the subsidiary if the former was higher). A majority would also reflect third party guarantees negotiated at inception in the rating/PD assigned to the underlying exposure.

Where a rating or joint PD is assigned to a hedged exposure, the Associations would advocate recognition of this rating/PD by the regulators. A parallel can be drawn here with the treatment of securitisation tranches, where the degree of correlation in the portfolio collateralising the tranches is acknowledged indirectly, via reliance on the tranches' external rating. **If ratings cannot be recognised, then an explicit model of two-name risk must be used to reflect double default/recovery effects.**

(ii) Impact of double default on credit limits :

Respondents, with one exception, do not reflect double default effects in the credit limit assigned against the underlying obligor : they view the underlying position as hedged (taking due account of basis risk) and the size of the hedge is calculated without taking account of double default.

One firm accounts for the impact of double default in setting limits on trading book positions hedged by CDSs.

(iii) Impact of double default on banking book economic capital :

Six firms totally ignore double default effects within their economic capital model or do not have an economic capital model.

Two respondents use a crude approach, whereby wrong way risk results in the substitution approach being used, and the absence thereof in full credit risk offset.

For the remaining 13 respondents, the economic capital treatment of a hedged exposure depends on whether the hedge impacts on the rating/PD of the obligor.

If so, double default correlation influences economic capital only through its effect on the rating/PD (only one firm systematically reflects double default in the rating of the exposure, including where it is hedged by credit derivatives), assigned to the hedged exposure.

If not, respondents adopt one of the two following approaches :

- 7 firms treat hedged exposures as offset in the banking book, taking due account of any existing basis risk (owing for instance to maturity mismatches or recovery rate discrepancies between bonds and loans). Double default risk solely impacts the evaluation of the firm's exposure to the seller of protection, as well as the economic capital assigned against this exposure.
- The other firms assign capital against double default risk in the banking book.

The joint occurrence of default between obligors in the portfolio (see B.2. above for greater detail) is usually modelled based upon equity return correlations, often approximated by using factor models (reflecting the industry and place of business of the obligors, as well as exposure size). Spread correlation is used by a few firms.

In summary, double default effects have an impact on a majority of the respondents' economic capital calculations. Substitution is not the approach of choice.

E- Wrong way risk

Of the 21 respondents, 4 do not recognise or explicitly capitalise wrong way risk. The rest have internal policies in place outlining possible causes for such risk.

Three firms specifically forbid buying protection from related counterparties; the others simply outline where a substitution approach to risk is adequate. Discriminating criteria are legal [existence of a legal connection or control between the obligors] and economic [e.g. : same place of business].

Firms increasingly consider wrong way risk as one particular state on the continuum of pairwise default correlations and ensure that the appropriate correlation/rating is fed into the economic capital model they use, or that excess risk is mitigated (e.g. through collateralisation).

F- Capital arbitrage

Under the New Accord, we understand that regulators will only recognise banking book hedges booked in the trading book if the resulting trading book positions are themselves hedged by a third party (paragraph 664 of CP3).

In this context, we would question the grounds upon which the White Paper implies that arbitrage would occur in the trading book. It should be possible for a firm to hedge a banking book exposure in accordance with paragraph 664 mentioned above, whilst actively trading credit risk on the same name in the trading book. Traded credit risk arises over a much shorter period of time, and includes a much larger spread risk component, than banking book credit risk. For this reason, ISDA views the differential treatment of credit risk in both books as justified. Ideally of course, it should be possible to treat credit risk along a continuum, ensuring that the same model was used across the banking/trading book boundary, and varying the key parameters (time horizon, migration risk, pure spread volatility risk). This would

however require that valuation principles in the banking book change to reflect fair valuing, which we do not think is achievable in the short term.

APPENDIX ONE

Fed White Paper on Double Default and Double Recovery

Questionnaire to ISDA-LIBA-IACPM member firms

The Federal Reserve Board (FRB) identifies a number of issues in a recent research paper on the Treatment of Double Default and Double Recovery Effects for Hedged Exposures [June 2003]. One specific concern, which the following questionnaire is intended to address, is whether firms reflect double default and double recovery effects in the risk management and pricing methodologies applied to credit default swaps. The FRB also queries the recognition by firms of wrong way risk (arising where risks to the reference obligor are highly correlated with those to the protection buyer).

Regulators as a general rule seek to avoid anticipating on market practice, and would hesitate to reform the capital treatment of hedged exposures if it appeared that firms did not internally take account of double default/recovery effects and wrong way risk.

The following questionnaire is intended to allow ISDA to form a view on firms' practice. Responses will be kept in the strictest confidentiality.

We would be grateful if respondents could provide as much detail as possible in their answers to the following questions.

A- PRICING OF CREDIT DEFAULT SWAPS :

- (i) Do double default effects impact on the pricing of credit default swaps?
Please explain how.
- (ii) Do double recovery effects impact on the pricing of credit default swaps?
Please explain how.

Respondents should provide a brief description of their CDS pricing model.

B-RISK MANAGEMENT OF CREDIT DEFAULT SWAPS :

How do double default and double recovery effects impact on (i) the credit rating assigned to a hedged exposure ? (ii) the credit limits imposed on the protection provider ? the underlying issuer ? (iii) the economic capital allocated against the hedged exposure ?

- (i) Credit rating :

Please specify which component of the rating (probability of default, loss given default) is influenced by which effect (double default, double recovery), as well as which measure of risk the rating itself is based upon [e.g., for facility ratings : expected loss or economic capital]. Also detail how each of the components of the rating would be modified by the existence of a CDS hedge.

(ii) Limits and economic capital :

Please indicate if double default and recovery effects impact on credit limits/economic capital in a manner distinct from their influence on credit ratings. If so, please provide detail.

In particular, does your firm use an asset return correlation parameter for the guarantor/protection provider [factor ρ_g in the Fed research paper], which is distinct from that assigned to a direct exposure [e.g. loan] to the guarantor ?

In your economic capital model, are financial institutions' asset returns more correlated with your portfolio than the average corporate's ?

Does your firm assess the degree of specific asset return correlation between the guarantor/protection provider and the underlying asset issuer [factor ρ_{og} in the Fed paper] ? Do you find that your estimate for ρ_{og} is distinct from the base case identified in the Fed paper [$(\rho_o \times \rho_g)^{0.5}$] ? If yes, is it substantially higher ? What would be the worst value used by your firm for ρ_{og} ? When would it apply

(iii) Wrong way exposures :

Does your firm differentiate between wrong way exposures (in the context of credit derivatives, hedged exposures where the value of the exposure is positively correlated with the likelihood of default of the protection provider; e.g. instances where the protection provider is legally connected with the underlying issuer) and other exposures ? How is the distinction operated ? What are the distinguishing criteria used ? Are they codified ?

APPENDIX TWO

To: Norah Barger
Federal Reserve Bank of New York

From: Philip Chamberlain, Portfolio Management Division, The Bank of New York

Subject: Scope of Guarantees Relevant to Basel II

Date: September 26, 2003

In discussion of the Fed's double-default paper with Emmanuelle Sebton of ISDA some time ago, I mentioned that the scope of double-default in bank portfolios (a.k.a. two-name paper) is far broader than the credit derivative book. She asked me to specify some corners of the traditional book where third-party guarantees would likely be subject to the same analysis as a credit default swap or similar instrument. Four instances came quickly to mind. In each class of transactions, the pricing of the transaction necessarily reflects double default risk analysis, as you will see. It may be that an examination of one or more of them might address the concern expressed on page 31 of the double default paper, that "the staff has been unable to quantify pecuniary effects from double default and double recovery effects."

1. Risk participations in standby letters of credit. A "fronting" bank opens a large standby letter of credit in behalf of a bank group. Generally one bank does this, so that commercial paper or bond investors who rely on the letter of credit will see a single, easily recognized name in the market. The bank then sells risk participations to all the other banks in the bank group; the other banks fully accept their pro rate share of the credit risk in the letter of credit, but of course fund nothing at the outset. In the case of a draw on the letter of credit, the fronting bank calls on all the participants to fund their portions to reimburse the fronting bank.

The fronting bank is responsible for funding the letter of credit whether or not the participants send in their reimbursement. Therefore, the fronting bank has two-name paper with respect to all the participated portion of the L/C, which could easily be 90% of the entire credit. If the ultimate credit and the participating bank should both default (one on the reimbursement agreement, the other on the participation agreement) the fronting bank faces a credit loss.

There is considerable volume in this structure, some of it at typical term loan maturities, with most of the highly rated international banks taking part as fronting banks in behalf of prominent customers.

The pecuniary effect would be discerned here between the "fronting fee" charged in these transactions and the credit spread for similar unsecured extension of credit to the participating bank.

2. Confirmed letters of credit. In this credit classic, a bank well known to the beneficiary of a letter of credit confirms a letter of credit issued by (generally) a bank in another country well known to the party opening the letter of credit. The confirming bank (we are a confirming bank in a number of instances) accepts credit exposure to the ultimate credit and to the original letter of credit bank. To suffer a loss, both the ultimate credit and the letter of credit bank must default on their

obligations, which are absolute under law. (The only other risk is of faulty documentation, which is an issue properly reserved for operational risk.)

The pecuniary effect would be discerned here between the “confirmation fee” charged to confirm these letters of credit and the credit spread for similar unsecured extension of credit to the bank that opened the letter of credit.

3. **Risk participations in unfunded revolving credits.** We regularly sell to other banks risk participations in unfunded revolving credit agreements with customers. The risk participant bank is not a member of the credit agreement bank group, but takes some of the risk and reward by participating in our commitment to the credit agreement. We as participating bank must fund the revolving credit if called upon, and then claim reimbursement from the participant under the participation agreement. We as participating bank have double-default exposure to all the participated risk. If the participant bank and the underlying credit both default, the participating bank has a credit loss, otherwise not.

The pecuniary effect would be discerned here between the primary lender’s retention of a portion or either fees or loan spread and the credit spread for similar unsecured extension of credit to the bank participant. The transaction’s terms may in this case be affected by the terms of other business transacted between the same two banks.

4. **Rediscounted bankers’ acceptances.** The original holder of a note essentially sells the note at a discount to the note maker’s bank. The bank then rediscounts the note to money market investors, who have both the bank and the original note maker as obligated to pay. (This technique is centuries old, I believe, and does not by tradition provide full documentation to the money market investor of the character of the underlying note. The two-name paper characteristic is undeniable, however, and the rates available to such paper are worth examining.)

The pecuniary effect would be discerned here between the average credit spread on the rediscounted BA and the credit spread for comparable maturity negotiable certificates of deposit issued by the same bank.

A final observation regarding the double default paper’s concern about measuring direct pecuniary effects to justify double default’s importance. We need to remind ourselves that the effect of double default on pricing, compared with pricing for the stronger of the two borrowers, is **always likely to be real but small**. It makes an already narrow credit spread a trifle narrower. That means that double default has only a mild effect on expected loss.

By contrast, double default should have a large impact on capital, because it sharply reduces the likelihood of the outlier default event. Double-default is a refinement to expected loss; it is a major contributor to an economic capital calculation.