



# MEMORANDUM

Comptroller of the Currency  
Administrator of National Banks

Washington, DC 20219

To: Public Comment File—Notice of Proposed Rulemaking on Risk-Based Capital Standards:  
Advanced Capital Adequacy Framework [Basel II] Docket 06-09

From: Hugh Carney, Attorney, Legislative and Regulatory Activities Division

Date: October 31, 2007

Subject: Summary of Meeting with Citigroup

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On July 26, 2007, staff of the Federal Deposit Insurance Corporation (FDIC), the Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), and the Office of Thrift Supervision (OTS) (collectively referred to as the Banking Agencies) met with representatives of Citigroup to discuss the interagency notice of proposed rulemaking (Basel II NPR) that would implement a new risk based capital framework based on the International Convergence of Capital Measurement and Capital Standards, A Revised Framework (Basel II Framework) issued in June 2004, by the Basel Committee on Banking Supervision (BCBS). *See* list of attendees below. Before the meeting, Citigroup distributed materials on various aspects Contingent Credit Default Swaps (CCDS) and on their potential treatment under the Basel II NPR. *See* materials attached.

The Citigroup started by describing the market for and characteristics of CCDSs. Generally, Citigroup asserted that because of the esoteric nature of counterparty credit risk, this risk cannot be directly transferred and distributed to a wide constituency of non-bank investors. As a result, this risk has concentrated in the banking system. Citigroup asserted that CCDSs can effectively transfer counterparty credit risk from the banking system and distribute it to a wide constituency.

After the presentation, the following issues were raised by the representatives of Citigroup.

- Whether CCDSs are eligible credit derivatives as defined in the Basel II NPR. Citigroup asserted the CCDSs are a type of credit default swap and detailed a number of similarities. As a credit default swap, they requested the CCDSs qualify as an eligible credit derivative in the Basel II NPR.
- Whether the counterparty credit risk that is hedged could be treated by the double default formula or substitution approach.
- Whether the CCDSs should be treated in the trading book. Citigroup asserted that if CCDSs were treated under the market risk rule the counter party credit risk would remain in the banking system. Citigroup emphasized that counter party credit risk should be encouraged to leave the banking system.

Attendee List:

Agency Attendees

Anna Lee Hewko	FRB
David Lynch	FRB
Brendan Burke	FRB
Margot Schwadron	OCC
Amrit Sekhon	OCC
Roger Tufts	OCC
Mark Ginsburg	OCC
Krut Wilhlem	OCC
Ron Shimabukuro	OCC
Hugh Carney	OCC
Austin Hong	OTS
Jonathan Jones	OTS
Bob Bean	FDIC
Gloria Ikosi	FDIC
John Feid	FDIC
Rosalind Bennett	FDIC

Industry Attendees

Evan Picoult	Citigroup
Henry Wayne	Citigroup
James Kuczmariski	Citigroup
Sean Connolly	Citigroup
Scott Flood	Citigroup
Shankar Mukherjee	Citigroup
George Banks	Citigroup
Caroline Yap	Citigroup
Helen Kim	Citigroup
Andrew Hollings	Citigroup

(By Phone)



Ms. Margot Schwadron  
Capital Policy Division  
Office of the Comptroller of the Currency  
250 E Street, SW  
Washington, DC 20219

Mr. Andrew Hollings  
Citigroup Counterparty Risk  
390 Greenwich Street  
New York, NY 10013

July 12, 2007

Dear Margot,

In preparation for our meeting in Washington, please find attached additional information on the use of the contingent credit default swap to hedge counterparty credit risk in support of the recommendations made in Citigroup's response to the Basel II NPRs.

Citigroup's recommendations are the product of an extensive dialogue with the OCC and other regulatory agencies over many years. They reflect concerns expressed to us regarding potential regulatory capital arbitrage and an overriding prerequisite to demonstrate an effective transfer and dispersion of risk from the banking system to participants in the wider capital markets. Specifically, our recommendations are based upon the following observations regarding counterparty credit risk:

Given the esoteric nature of counterparty credit risk, this risk profile cannot be directly transferred and distributed to a wide constituency of non-bank institutional investors. Furthermore, if encouraged, this may result in inappropriate investment decisions by non-bank institutions that do not possess the requisite technical core competency or risk management infrastructure to evaluate or monitor this risk.

The current market architecture must be enhanced to enable and encourage professional participants in the OTC derivatives market to decompose and transform counterparty credit risk into simpler "plain vanilla" products that can be more readily distributed to non-bank investors in the wider capital market.

If transformation takes place outside of the banking system it would demonstrate effective regulatory risk transfer and discourage potential regulatory capital arbitrage between the banking and trading books of regulated entities. However, given the regulatory importance of this risk transformation, it must remain under the purview of the regulatory agencies.

Based upon these observations, Citigroup has concluded that the increasing magnitude and concentration of OTC derivative counterparty credit risk within the banking system can be effectively mitigated and alleviated through:

The effective transfer of counterparty credit risk from the banking system through the CCDS to an eligible CCDS hedge provider, operating under the purview of the regulatory agencies; and



The effective decomposition and transformation of counterparty credit risk into simple "plain vanilla" products that can be recycled through the OTC derivatives market and more readily distributed to institutional investors in the wider capital market.

Citigroup's recommended enhancements to the current and proposed capital adequacy rules would encourage an alignment of the commercial interests of participants in the OTC derivatives market with the mandate of the regulatory agencies to enhance the safety and soundness of the banking system.

Please feel free to distribute this submission to your colleagues within the regulatory community. We look forward to meeting you in Washington.

Yours sincerely,

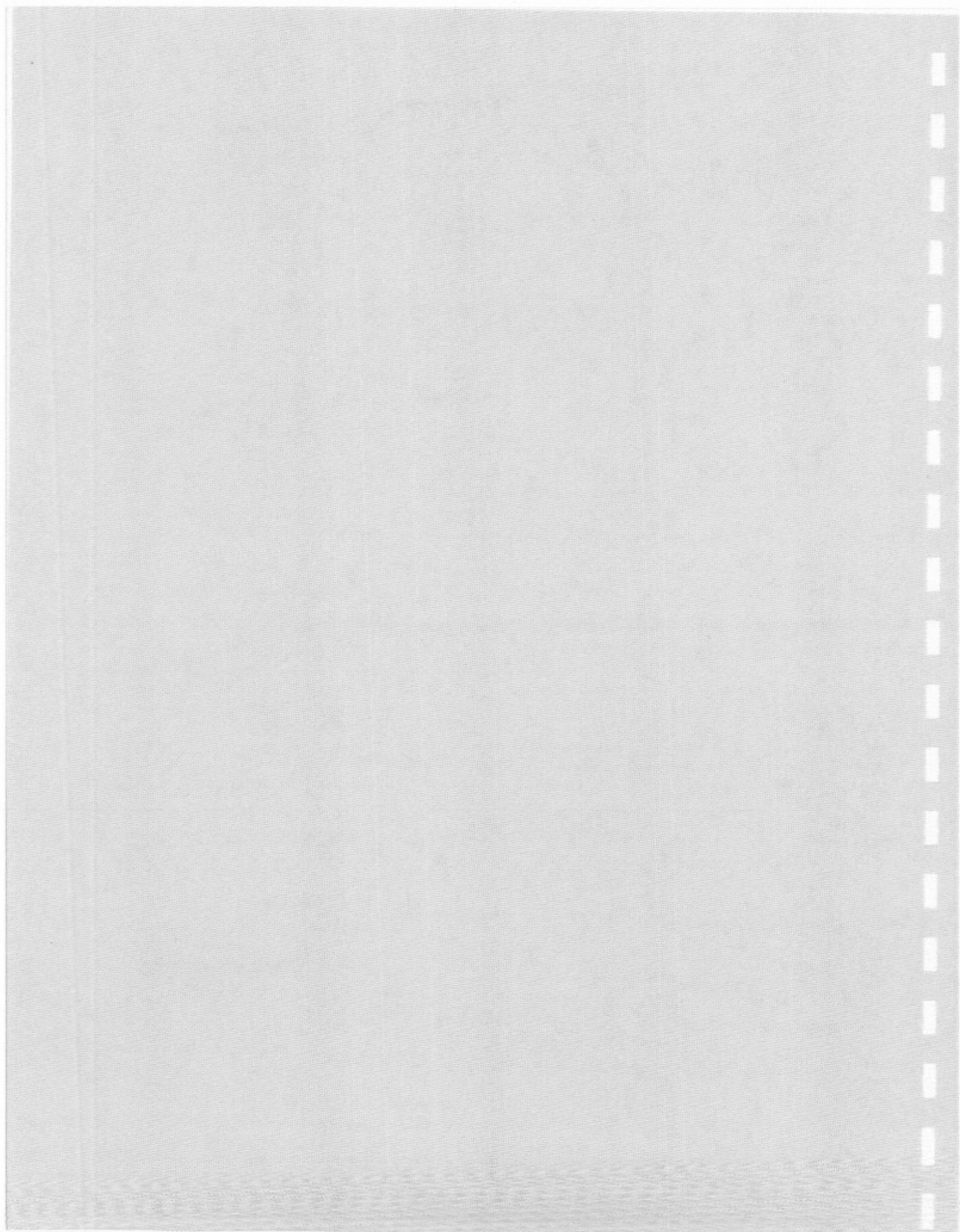
Andrew P. Hollings  
Citigroup Counterparty Risk

cc:  
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Barbara Bouchard  
Board of Governors of the Federal Reserve System  
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Washington, DC 20551

Bobby Bean  
Federal Deposit Insurance Corporation  
550 17<sup>th</sup> Street N.W.  
Washington, DC 20429

Austin Hong  
Office of Thrift Supervision  
1700 G Street N.W.  
Washington, DC 20552





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**Office of the Comptroller of the Currency**

**Joint Agency Review: Contingent Credit  
Default Swaps**

July, 2007



## Contents

### **Section I**

Review of Citigroup's request for the CCDS to be recognized as an effective credit risk mitigant for counterparty credit risk under the proposed capital rules.

### **Section II**

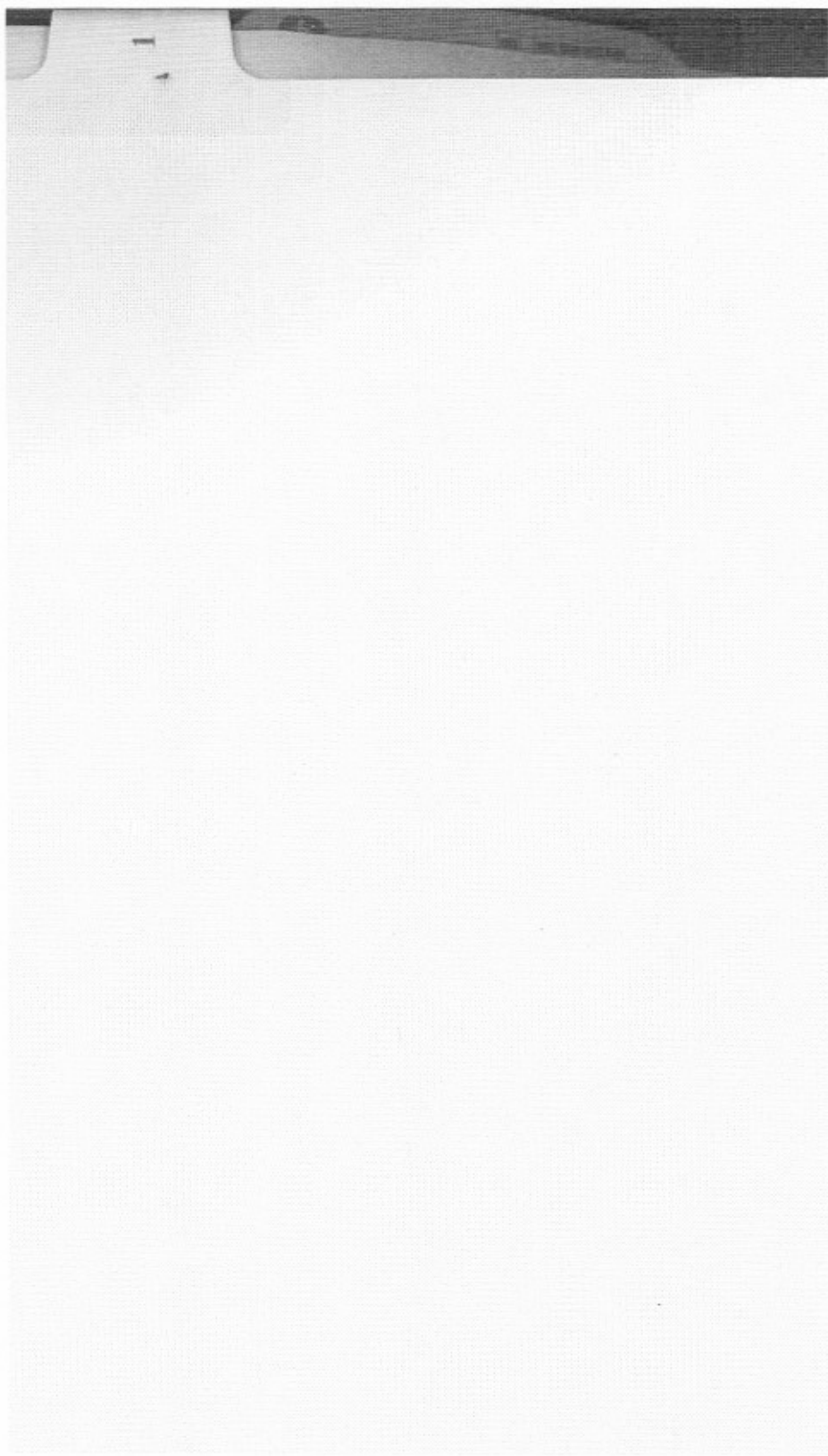
Review of the integration of CCDS in the estimation of risk capital under the proposed capital rules.

**Addendum:** Description of the analogue integration of the CCDS under the current capital rules.

### **Section III**

An explanation of the eligibility criteria we have recommended for the CCDS hedge provider to encourage appropriate and effective regulatory risk transfer and transformation of counterparty credit risk while mitigating potential regulatory capital arbitrage between the banking and trading books of regulated entities.

**Addendum:** Description of Novarum Group LLC, an independent, non-bank AAAt-rated company, established by Citigroup to risk manage counterparty credit risk.







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January 23, 2007

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Washington, DC 20219

Re: Docket Number 06-10

Re: Docket Number R-1265

Mr. Robert E. Feldman  
Executive Secretary  
Attention: Comments  
Federal Deposit Insurance Corporation  
550 17<sup>th</sup> Street, N.W.  
Washington, DC 20429

Regulation Comments  
Chief Counsel's Office  
Office of Thrift Supervision  
1700 G Street, N.W.  
Washington, DC 20552  
Attention: No. 2006-34

Re: RIN 3064-AD10

Re: Docket Number 2006-34

Dear Sir or Madam,

Citigroup remains supportive of the objectives of the market risk capital rules and welcomes this opportunity to comment on the enhancements to these rules as proposed by the Agencies in their joint notice of proposed rulemaking issued on September 26, 2006.

Our detailed response to this NPR, which aims to revise the market risk capital rules to enhance its risk sensitivity and to introduce requirements for public disclosure of certain qualitative and quantitative information about the market risk of a bank or a bank holding company, is set out in the annex to this letter.

Annex to letter of 23<sup>rd</sup> January 2007 commenting on Market Risk NPR

**Question 2:** The agencies request comment on all aspects of the proposed definition of covered position. The agencies are particularly interested in comment on additional safeguards that the agencies might implement to prevent abuse of the hedge component of the definition of covered position and increase transparency for supervisors.

*Reference in NPR:*

"The NPR modifies the definition of a covered position to include only trading assets and trading liabilities (as reported on schedule RC-D of the Call Report, Schedule HC-D of the Consolidated Financial Statements for Bank Holding Companies, or as defined in the instructions to the Thrift Financial Report) that are trading positions. The definition also includes trading assets and liabilities that hedge covered positions. In addition, the trading asset or liability must be free of any restrictive covenants on its tradability or the bank must be able to hedge its material risk elements in a two-way market. A trading position would be defined as a position that is held by the bank for the purpose of short-term resale or with the intent of benefiting from actual or expected price movements or to lock in arbitrage profits. The proposed definition of a trading position recognizes that the accounting definition of trading assets and liabilities includes positions that are not held with the intent or ability to trade."

"A trading asset or liability that hedges a trading position is a covered position only if the hedge is within the scope of the bank's hedging strategy (discussed below). The agencies encourage the sound risk management of trading positions and therefore include hedges that offset their risk in the definition of covered position and thus in the measure for market risk. The agencies are concerned, however, that a bank could craft its hedging strategies in order to bring non-trading positions that are more appropriately treated under the credit risk capital rules into the bank's covered positions. The agencies will scrutinize a bank's hedging strategies to ensure that they are not being manipulated in this manner. For example, mortgage-backed securities that are not held with the intent to trade, but that are hedged with interest rate swaps to mitigate interest rate risk, would be subject to the credit risk capital rules."

*Response:*

Please see our response above in the "General Issues - Trading Book/Banking Book Boundary" section of our letter.

**Question 3:** The agencies request comment on whether there is a better approach that matches more effectively the true economic impact of these transactions (This is in reference to excluding credit derivatives, which are entered into to hedge the credit risk of non-covered (i.e. non-trading book) positions).

This is a good proposal. However a problem may arise from a new form of credit risk mitigation, contingent credit default swaps (CCDS), which have started to be used to hedge counterparty credit risk. A CCDS is similar to a credit default swap (CDS) in that upon default of the referenced obligor, the seller of the CCDS will pay the buyer the contract notional, which in the case of the CCDS is the market value of a referenced derivative transaction.

From a more general perspective, just as a CDS enables the buyer to hedge against an increase in the credit risk premium of a bond or loan, a CCDS enables the buyer to hedge against an increase in the credit risk premium of a derivative contract. The credit risk premium of a derivative contract is its Credit Value Adjustment (CVA). The CVA is an adjustment made to the market value of a derivative contract to take into account the credit risk of the counterparty.

The market value of the CCDS is dependent on the credit spread of the referenced obligor and the expected positive exposure profile of the referenced derivative. The buyer of the CCDS who hedges counterparty exposure is reducing his overall economic risk because:

Annex to letter of 23<sup>rd</sup> January 2007 commenting on Market Risk NPR

- A deterioration of the credit quality of the underlying counterparty will result in an increase in the CVA (i.e. a decrease in the risk-free market value of the underlying derivative) and an increase in the market value of the CCDS.
- An increase in the expected positive exposure profile of the underlying derivative will result in an increase in the CVA (i.e. decrease the risk-free market value of the underlying derivative) and an increase in the market value of the CCDS.

Thus the CCDS enables the buyer to hedge against increases in the CVA, whether those increases occur because of increases in the underlying obligor's credit spread or because of increases in the expected exposure profile of the underlying derivative.

The derivative referenced by the CCDS contract will typically be a plain vanilla, simple derivative. The underlying derivative the CCDS is hedging may be a plain vanilla, simple derivative or a derivative with more complex terms and conditions. In the former case the change in the market value of the CCDS may fully offset the change in the CVA of the underlying derivative. In the latter case, there may be some residual change in the CVA of the underlying derivative that is not fully hedged by the CCDS.

There are only two logically consistent ways of treating CCDSs that are purchased from third parties in VAR:

- a) Recognize that counterparty credit risk has been transformed into market risk. Include in VAR both the potential change of the CVA of the underlying derivative and the potential change of the market value of the CCDS that has been purchased from a third party. Assign no RWA for the counterparty credit risk of the underlying derivative. In addition, calculate RWA for the counterparty credit risk of the CCDS.
  - Include the potential change in the market value of the CCDS and the potential change in the CVA of the underlying derivative into VAR. As explained above, if the underlying derivative is simple in its structure, the net contribution to VAR of the CCDS and the CVA of the underlying derivative would be zero in most cases. In other cases there will be some residual risk that would be captured in VAR.
  - If the CVA of the underlying derivative is included in VAR then there logically should be no RWA for counterparty credit risk generated by the underlying derivative, because its credit risk premium (its CVA) is captured in VAR. This is exactly analogous to why the credit risk of corporate bonds is either included in VAR (when the bonds are in a trading portfolio) or generates RWA for credit risk (when the bonds are in an Available for Sale portfolio in the banking book) but not both. The only residual RWA for counterparty credit risk would be that which was generated by the counterparty credit risk to the seller of the CCDS.
  - The inclusion of both the CVA of the underlying derivative and the CCDS in VAR is to recognize that the counterparty credit risk of the underlying derivative (which is measured by its CVA) has been transformed into market risk.
- b) Exclusion of the CCDS and the CVA of the underlying derivative from VAR. RWA for the underlying derivative would be captured by the substitution approach (or potentially the double default approach). This approach does not recognize the transformation of counterparty credit risk into market risk.
  - The CCDS and the CVA of the underlying derivative would both be excluded from VAR.
  - The counterparty credit risk of the underlying derivative would be decomposed into counterparty credit risk that was hedged by the CCDS and, potentially, a residual counterparty credit risk to the underlying obligor that is not hedged by the CCDS. The component of counterparty credit risk that is hedged would be treated by the substitution approach (or potentially the double default formula).
  - The above would be exactly analogous to the treatment of a loan in the banking book when its credit risk was hedged by a CDS. Neither the credit risk premium of the loan nor the offsetting market value of the CDS is included in VAR. In the case of loans, the RWA for the combination of loan and CDS are determined by the substitution approach or the double default formula.

Annex to letter of 23<sup>rd</sup> January 2007 commenting on Market Risk NPR

We have argued for a parallel treatment of

- a) The CVA of the underlying derivative and the CCDS that is purchased as a hedge from a third party.
- b) The credit risk premium of a loan and the CDS that is purchased as a hedge from a third party.

The only problem is the potential ambiguous meaning of "covered" transaction. Most CCDSs will be entered into in order to hedge the counterparty credit risk of covered positions in the trading portfolio. However although the hedged instruments are "covered" positions, the risk that is being hedged is counterparty credit risk not market risk. A literal interpretation of the NPR would require the inclusion of the CCDSs in the VAR for market risk. As argued above, if the CCDS is included in VAR for market risk then the potential change in the CVA of the underlying derivative should also be included in VAR. When that occurs the underlying derivative would not generate any RWA for counterparty credit risk because there would be recognition that counterparty credit risk has been transformed into market risk.

Although the current volume of CCDS is not large, it is likely to grow materially over the next several years. We propose that banks should be allowed the choice of one of the two alternatives presented above:

- a) Counterparty credit risk is transformed into market risk; VAR includes both the third party CCDS and the potential change in the CVA of the underlying derivative; the underlying derivative does not generate RWA for counterparty credit risk; the CCDS generates RWA for counterparty credit risk to the seller of the CCDS.
- b) Counterparty credit risk is not transformed into market risk; VAR excludes both the third party CCDS and the potential change in the CVA of the underlying derivative; the underlying derivative combined with the CCDS can be decomposed into hedged and non-hedged residual exposure. The RWA for the combination of hedged exposure and CCDS should be calculated in accordance to the substitution approach (or potentially the double default approach). We recognize that regulators may need some time to become comfortable with CCDSs to before allowing the double default approach to be used.

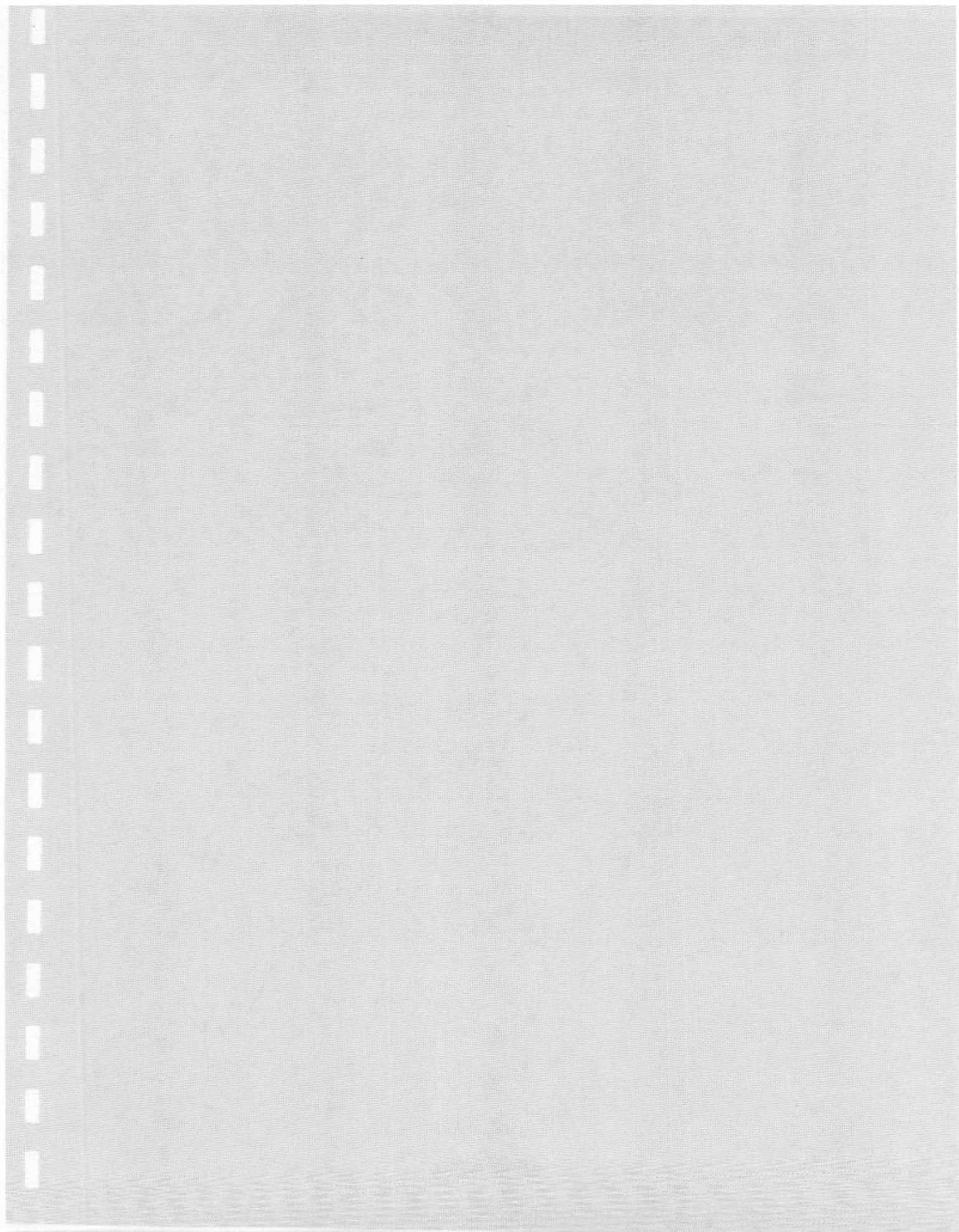
**Question 4:** The agencies request comment on the extent and materiality of any distortion of the VaR-based measure due to the inclusion of some, but not all, offsetting transactions, and on any appropriate approaches to address this distortion in the final rule, including, subject to certain restrictions, (1) permitting a bank to include in its VaR-based measure the interest rate risk associated with certain non-covered positions that are hedged by covered positions (while remaining subject to a credit risk capital requirement for the non-covered positions) or (2) permitting a bank to include in its VaR-based measure certain internal interest rate derivatives hedging non-covered positions. The agencies also request comment on any operational considerations such approaches would entail.

*Response:*

We agree with this proposal. The problem it seeks to address essentially is only an artifact of FAS 133. Many interest rate derivative transactions entered into for the purpose of hedging the interest rate risk of an accrual portfolio are required to be marked-to-market by FAS 133 because they do not meet FAS 133's exceedingly narrow definition of an economic hedge. Some banks put these derivative hedges into their trading account only because they are required to be marked-to-market by FAS 133. If the interest rate risk of the derivative (but not the interest rate risk it is hedging) is included in VAR, it will exaggerate the total VAR. The solution to this distortion is to either a) exclude both the interest rate factor sensitivities of the underlying accrual positions and that of their derivative hedges or b) include both in VAR. The proposal to exclude both would rectify that problem.

**Question 5:** The agencies seek comment on the proposed definition of residual securitization position, and on the market maker exception and the conditions to use that exception. With respect to positions that do not qualify for the market maker exception, the agencies request comment on the treatment of those positions under the credit risk capital rules and whether such treatment could give rise to any operational or other issues.

*Reference in NPR:*





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March 19, 2007

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Re: Docket Number 06-09

Re: Docket No. R-1261

Mr. Robert E. Feldman  
Executive Secretary  
Attention: Comments  
Federal Deposit Insurance Corporation  
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Regulation Comments  
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1700 G Street, N.W.  
Washington, DC 20552  
Attention: No. 2006-33

Re: RIN 1550-AB56

Re: No. 2006-33

Dear Sir or Madam:

Citigroup remains supportive of the objectives of Basel II and welcomes this opportunity to comment on the notice of proposed rulemaking ("NPR"). We have responded to the detailed questions in the NPR, together with some additional issues, in the attached appendix to this letter. In this covering letter we have identified the broader concerns we have with the NPR, and have ventured to suggest possible solutions.

We have adopted this approach because of our concern that the NPR will have a significant impact not only upon the operation of our own institution, but also more widely on the United States ("U.S.") banking sector as well as potentially the US economy as a whole. The final rules will affect day-to-day lending and investment decisions, and those decisions will, in turn, affect the availability of credit in the economy. The rules also will affect the ability of U.S. financial institutions to compete with foreign banks both domestically and internationally; to the extent that US banks are placed at a disadvantage compared to non-US financial institutions, such result could well reduce profitability, the potential to accumulate additional capital and the reserves available to protect depositors and other lenders.

**We support the goals of the Basel II capital Framework. . .**

We strongly support the implementation of the international Basel II Capital Framework (the "Framework") in the U.S. After several revisions and many years of review and analysis, the Agencies and other banking authorities for the world's leading economic countries agreed to the Framework in June, 2004. The Basel II Capital Framework represents a significant and necessary improvement over the current Basel I Capital Framework. It seeks to align capital to risk in a more meaningful manner than the existing Basel I requirements. It also seeks to maintain consistency in international banking capital requirements, a key reason for the introduction of Basel I.

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there tends to be a higher rate of interest/fees. We would request that the NPR definition is aligned with that in the Framework to eliminate this duplication of calculation and remove the additional capital it is likely to require.

**Calculation of 'K' for defaulted exposures**

The NPR states:

"To compute the risk-weighted asset amount for a wholesale exposure to a defaulted obligor, a bank would first have to compare two amounts: (i) the sum of 0.08 multiplied by the EAD of the wholesale exposure plus the amount of any charge-offs or write-downs on the exposure; and (ii) K for the wholesale exposure (as determined in Table C immediately before the obligor became defaulted), multiplied by the EAD of the exposure immediately before the exposure became defaulted."

The second requirement above states that we need to determine capital charge K using data 'before the Obligor became defaulted'. What this means is that we will have to keep track of historical information for Obligors, facilities and exposures and develop additional processing logic to access this information during the RWA calculation runs. This requirement could lead to significant processing overhead if the data has to be looked back more than a few months and is unlikely to be worth the additional amount of effort in comparison to the impact on overall RWA given this is merely an adjustment for defaulted exposures and we would recommend omitting this additional step.

**Credit Risk Mitigation Using CDS and CCDS Contracts**

In this section, we comment and make suggestions for improving the sections of the NPR concerning credit risk mitigation through the use of Credit Derivatives and Guarantees. Part 1) of this section is focused on the traditional credit default swap (CDS). Part 2) is focused on a new type of CDS contract, the contingent credit default swap (CCDS), which is used to hedge the market-sensitive, time-varying exposure of counterparty credit risk.

**1. Traditional CDS**

These comments are (i) to clarify the definitions of "eligible credit derivative" and "eligible guarantee" in order to create a better fit between these definitions and how the traditional credit default swap actually works/or is currently documented in the marketplace, (ii) to further harmonize these definitions with the requirements noted in the November 2005 paper titled "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" published by BCBS (the "BCBS Paper"), and (iii) to clarify the ranking requirement in the rules of recognition regarding the credit risk mitigation benefits of eligible guarantees and eligible credit derivatives.

- Eligible Credit Derivative:

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These suggested changes to the definition of "eligible credit derivative" are to align the definition with how the traditional credit default swap actually works/or is currently documented in the marketplace.

- Since the nth-to-default credit derivative and the contingent credit default swap are generally recognized in the marketplace as forms of credit default swap, we suggest that the preamble be revised to read as follows: "Eligible credit derivative means a credit derivative in the form of a credit default swap (which includes, for example, an nth-to-default credit derivative or a contingent credit default swap) or total return swap provided that:"
  - Since the concept of a beneficiary exists in the context of a guarantee but not the credit derivative, we suggest that clause (1) be revised to read as follows: "(1) The contract meets the requirements of an eligible guarantee (where, for purposes hereof, references to the beneficiary in the definition of eligible guarantee shall be deemed to be references to the protection purchaser) and has been confirmed by the protection purchaser and the protection provider;"
  - With respect to the Credit Event of Failure to Pay, most, if not all, plain vanilla credit default swaps have a payment threshold of USD one million or Euro one million, as the case may be. Consequently, we suggest that clause (3)(i) be revised to read as follows: "(i) Failure to pay any amount due under the terms of the reference exposure subject to any relevant payment threshold (with a grace period that is closely in line with the grace period of the reference exposure); and"
  - Upon the occurrence of a Credit Event, the protection purchaser may transfer to the protection seller an exposure that may not be the reference obligation nor the underlying obligation, to the extent they are different obligations. Since it appears that the intent behind clause (e) of paragraph 191 of the BCBS Paper is to ensure that the protection buyer will be able to deliver an exposure that does not allow for any required consent to transfer to be unreasonably withheld, we suggest that clause (6) be revised as read as follows to achieve that intent: "(6) If the contract requires the protection purchaser to transfer an exposure to the protection provider at settlement, the terms of the exposure to be transferred may not include any provision that permits any required consent to transfer to be unreasonably withheld;"
- Eligible Guarantee:

These suggested changes to the definition of "eligible guarantee" are intended to align this definition with the requirements listed in paragraphs 189, 307 and 484 of the BCBS Paper.



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- With reference to paragraph 189 of the BCBS Paper, we suggest that clause (1) be revised to read as follows: "(1) Is written and unconditional, i.e., there should be no clause in the contract outside the direct control of the beneficiary that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the obligor fails to make the payment(s) due;"
  - With reference to paragraph 189 of the BCBS Paper and in effort to clarify and clearly defined the cover as contractual payments in respect of outstanding principal balance or due and payable amount (and not *all possible* contractual payments) the obligor may have on the reference exposure, we suggest that clause (2) be revised to read as follows: "(2) Covers all or a pro rata portion of all contractual payments of the obligor in respect of outstanding principal balance or due and payable amount on the reference exposure;"
  - With reference to paragraph 189 of the BCBS Paper, we suggest that clause (4) be revised by inserting the word "unilaterally" after the words "Is non-cancelable" but before the words "the protection provider".
  - With reference to paragraphs 307 and 484 of the BCBS Paper, we suggest that clause (5) be revised by deleting the word "sufficient" therein.
- Rules of recognition:

We suggest that clause (2)(i) in Section 33(b) [Rules of recognition] (page 403) be revised by inserting the words ", in terms of priority of payment," after the word "ranks" but before the words "pari passu (that is, equally)" to clarify the point that the ranking requirement is only with respect to priority of payment.

## 2. CCDS

In its July 2005 paper titled "The Application of Basel II to Trading Activities and the Treatment of Double Default Effects", the BCBS noted that exposure to credit risk through a loan is different in several respects from exposure to counterparty credit risk ("CCR") associated with OTC derivative contracts. For example, unlike a loan where such exposure is unilateral in nature (i.e., only the bank as lender has the credit risk), "CCR creates a bilateral risk of loss [since depending on market conditions at the time of valuation,] the market value of the transaction can be positive or negative to either counterparty to the transaction." In addition, in the case of a loan (c.g., a term loan), the amount at exposure is fixed at inception. In contrast, the amount of exposure in the case of most OTC derivative contracts "is uncertain and can vary over time with the movement of underlying market factors."

These characteristics have prompted banks to measure, manage, and mitigate their exposure to CCR associated with OTC derivative contracts differently from their exposure to credit risk through loans. For example, Citigroup uses the contingent credit default swap (CCDS) to

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manage and mitigate this type of CCR. The CCDS enables a bank to hedge the market-rate dependent, time-varying nature of counterparty credit risk.

The CCDS is a type of credit default swap (CDS) that has one important feature not found in a traditional CDS: A CCDS is similar to a CDS in that upon default of the referenced obligor, the seller of the CCDS will pay the buyer the contract notional. Unlike the traditional CDS where the notional amount is fixed at inception, the notional amount of the CCDS is not fixed but changes with the movement of the underlying market factors affecting the reference derivative. The notional amount of the CCDS is the mid-market value of a referenced derivative transaction if/when the referenced obligor experiences a credit event.

From a more general perspective, just as a CDS enables the buyer to hedge against an increase in the credit risk premium of a bond or loan, a CCDS enables the buyer to hedge against an increase in the credit risk premium of an OTC derivative contract. The credit risk premium of an OTC derivative contract is its Credit Value Adjustment (CVA). The CVA is an adjustment made to the market value of an OTC derivative contract to take into account the credit risk of the counterparty.

The derivative referenced by the CCDS contract will typically be a plain vanilla, simple OTC derivative contract. The underlying OTC derivative contract that the CCDS is hedging may be a plain vanilla, simple derivative or a derivative with more complex terms and conditions. In the former case, the change in the market value of the CCDS may fully offset the change in the CVA of the underlying OTC derivative contract. In the latter case, there may be some residual change in the CVA of the underlying OTC derivative contract that is not fully hedged by the CCDS.

The residual, unhedged exposure may arise because a) of differences between the terms and conditions of the referenced OTC derivative (usually a plain vanilla contract) and the terms and conditions of the underlying OTC derivative (which may be more complex) and/or b) the floating market rates of the referenced OTC derivative (e.g. 3 month USD LIBOR) may be highly correlated with but not identical to the floating market rate of the underlying OTC derivative being hedged (e.g. 3 month CP rate).

In this context, the OTC derivative exposure profile will need to be decomposed, as appropriate, into a component that is hedged by the CCDS and a residual component that is not hedged, in analogy to what is done for loans that are only partially hedged with a CDS.

We propose that the overall treatment of CCDS contracts used to hedge counterparty credit risk should be similar to the treatment of CDS contracts used to hedge the credit risk of loans: subject to the appropriate conditions, banks should have the option of using either the "substitution approach" or the "double-default" risk weight formula in measuring Risk Weighted Assets for counterparty credit risk.

Although the overall treatment of CCDS contracts should be similar to that of CDS contracts, some of the definitions and conditions for using these contracts should differ since as noted above, exposure to credit risk through a loan is different in several respects from exposure to counterparty credit risk associated with OTC derivative contracts.

ANNEX 1 OF CITIGROUP'S COMMENTS ON NPR  
REPLIES TO SPECIFIC QUESTIONS AND OTHER TOPICS

March 19, 2007

For example:

- Effective Notional Amount and Effective EPE

For a CDS contract hedging a loan, the NPR defines the "effective notional amount". Unlike a loan, the EAD for counterparty credit risk is calculated, in the Internal Model Method, by the simulation of the Effective EPE of a single transaction or of multiple transactions that qualify to be treated as a netting set.

Under the "substitution approach", the Effective EPE to a counterparty would need to be decomposed into a hedged Effective EPE and an unhedged Effective EPE. The former would be multiplied by the risk weight using the PD of the qualified seller of the CCDS; the latter would be multiplied by the risk weight using the PD of the underlying obligor. Under the "double default" approach, the hedged Effective EPE would be multiplied by the risk weight determined by the double default formula while the unhedged Effective EPE would be multiplied by the risk weight using the PD of the underlying obligor.

Accordingly, the concept of "effective notional amount" is not relevant to the measurement of EAD for CCR. The critical computation in the use of a CCDS is the decomposition of the EPE profile (over the life of the netting set) into a hedged EPE profile and an unhedged EPE profile. Once each of these has been simulated, the corresponding Effective EPE profiles could then be immediately derived. The decomposition will depend on how effectively the exposure of the underlying OTC derivative transaction (or netting set) is replicated by the exposure of the referenced OTC derivative. As explained above, when the underlying derivative and the referenced derivative have identical terms and conditions, there will be no unhedged residual exposure. In other cases, there may be an unhedged residual exposure, which would give rise to the unhedged EPE profile over time.

- Eligible Credit Derivative Provider

A bank may recognize the credit risk mitigation benefits of an eligible credit derivative used to mitigate counterparty credit risk only if it purchased the eligible credit derivative from an eligible credit derivative provider.<sup>4</sup> The agencies have noted that "derivatives aren't like other products [and t]rading in these complex instruments...requires highly skilled personnel and advanced technology to support the requisite risk management infrastructure...[with] the critical importance of credit quality to assure performance on contracts..."<sup>5</sup> Accordingly, if the hedged exposure is an OTC derivative contract, or

<sup>4</sup> We suggest that an eligible credit derivative provider be defined as follows: "Eligible credit derivative provider, with respect to an eligible credit derivative obtained by a [bank], means: (i) an entity that is primarily in the business of providing credit protection, actively manages the credit risks from its portfolio, has agreed to be reviewed by one of the agencies, and has been assigned a PD to its rating grade by the bank, such PD to be equal to or lower than the PD associated with a counterparty credit rating in the lowest investment grade rating category, or (ii) an eligible double default guarantor; provided that, in either case, the eligible credit derivative provider is not an affiliate of the [bank] recognizing the credit risk mitigation benefits of the eligible credit derivative."

<sup>5</sup> Dugan, John C. "Derivatives: A Broader Industry Issue." New York Bankers Association. Phoenix, Arizona. 10 Nov. 2006.

**ANNEX 1 OF CITIGROUP'S COMMENTS ON NPR**  
**REPLIES TO SPECIFIC QUESTIONS AND OTHER TOPICS**

March 19, 2007

multiple OTC derivative contracts subject to a qualifying master netting agreement, and a bank wishes to recognize the credit mitigation benefits of an eligible credit derivative used to hedge this type of exposure, then the eligible credit derivative should be one issued by an eligible credit derivative provider. Consequently, we suggest that the following sentence be added as clause (2)(iii) in Section 33(b) [Rules of recognition] (page 403): "(iii) To the extent the hedged exposure is an OTC derivative contract, or multiple OTC derivative contracts subject to a qualifying master netting agreement, the eligible credit derivative is issued by an eligible credit derivative provider."

- No Cross-default / Cross-acceleration Requirement

The cross-default/cross-acceleration requirement should not apply if the hedged exposure is an OTC derivative contract, or multiple OTC derivative contracts subject to a qualifying master netting agreement. Although some parts of the debt market (e.g., leveraged loans) have incorporated obligations from OTC derivative contracts in the cross-default/cross-acceleration clauses in the loan/bond documents, that practice is not prevalent in other parts of the market and there are a large number of loan/bond documents that do not include obligations from OTC derivative contracts in their cross-default/cross-acceleration clauses. In addition, unlike failure to pay on borrowed money such as a loan or a bond, failure to pay on an OTC derivative contract would not trigger a credit event with respect to the reference credit – another detail that indicates this requirement may not be suitable in the context of counterparty credit risk. Consequently, we suggest that clause (2)(ii) in Section 33(b) [Rules of recognition] (page 403) be revised to read as follows: "(ii) (A) The reference exposure and the hedged exposure share the same obligor (that is, the same legal entity), and (B) except where the hedged exposure is an OTC derivative contract, or multiple OTC derivative contracts subject to a qualifying master netting agreement, legally enforceable cross-default or cross-acceleration clauses are in place; and".

- No Restructuring Requirement

A bank seeking to recognize an eligible credit derivative that does not include a restructuring as a credit event should not have to reduce its recognition of this instrument by 40 percent if the hedged exposure is an OTC derivative contract, or multiple OTC derivative contracts subject to a qualifying master netting agreement. The current rule basically encapsulates the idea that to the extent the hedged exposure (e.g., a term loan) is different from the reference exposure (e.g., a bond issued by the same issuer), the term loan is still considered fully hedged if, among other things, legally enforceable cross-default/cross-acceleration clauses are in place in the documents governing both the term loan and the bond. However, for reasons noted in the prior paragraph, cross-default/cross-acceleration requirement is not appropriate if the hedged exposure is an OTC derivative contract, or multiple OTC derivative contracts subject to a qualifying master netting agreement. In addition, unlike a restructuring of the term loan, a restructuring of an OTC derivative contract would not trigger, all other things being equal, a credit event with respect to the reference credit – a detail that already renders restructuring as a credit event in an eligible credit derivative ineffective in terms of capturing a restructuring of an OTC derivative contract. Consequently, we suggest that the phrase "Except where the hedged exposure is an OTC derivative contract, or multiple

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OTC derivative contracts subject to a qualifying master netting agreement," be inserted at the beginning of the preamble of Section 33(e) [Credit derivative without restructuring as a credit event] (page 408).

Wholesale and Retail Lease Residuals

The agencies are proposing a treatment for wholesale lease residuals that differs from the New Accord. A wholesale lease residual typically exposes a bank to the risk of a decline in value of the leased asset and to the credit risk of the lessee. Although the New Accord provides for a flat 100 percent risk weight for wholesale lease residuals, the agencies believe this is excessively punitive for leases to highly creditworthy lessees. Accordingly, the proposed rule would require a bank to treat its net investment in a wholesale lease as a single exposure to the lessee. There would not be a separate capital calculation for the wholesale lease residual. In contrast, a retail lease residual, consistent with the New Accord, would be assigned a risk-weighted asset amount equal to its residual value (as described in more detail above).

Comment Lease Residuals (Retail and Wholesale)

Citigroup supports the treatment of all Commercial lease residual investments in lease contracts as part of one single exposure to the lessee (for both Retail and Wholesale).

On August 11, 2005, Citigroup sent a proposal on treatment of Commercial lease residuals to regulators (see attached), which was equally applicable to Commercial Retail and Wholesale exposures. Consequently, Citigroup advocates a single weighting of PD, LGD and EAD for all leases, as for all loans, regardless of how the lease exposure is managed or the level of residual value. EAD should include, apart from the updated value of the flow of contractual rentals, the amount of the residual value, because LGD already integrates the losses on residual value. Citigroup believes that this approach, as outlined in NPR Wholesale leasing transactions is appropriate for all Commercial Wholesale and Retail leases.

In summary, the benefits of including lease residual value as part of the total lease exposure, as cited in the proposal, are:

- The end-of-lease realization and the Obligor Risk correlate to the pricing of the total lease transaction, which is both "ability to pay" and "recovery amount" dependent.
- Historical Credit/Residual experience is already built into the PD/LGD framework and should be applied to the whole lease transaction, not a fraction of it (total net investment due includes residual value) (1).
- GAAP requires that residual value in a lease or portfolio of leases reflects the lower of cost or fair value, when impairment is determined during the Lease Term.
- Asset Ownership of the collateral by the lessor provides additional coverage that actually mitigates credit risk more than if the collateral is owned by the borrower as in a loan transaction (2).



# **Citigroup Counterparty Credit Risk Model**

## **Integration of the CCDS into estimates of Risk Capital**

July, 2007



## Introduction

This document covers the functional requirements for the incorporation of CCDS into risk capital estimates on the assumptions that:

- Citi receives approval for the use of EPE as an Internal Model Method for the calculation of regulatory capital under the auspices of Basel 2.
- The substitution approach is used for the incorporation of CCDS.
- Counterparty risk is not transformed into Market Risk for the purposes of regulatory capital calculations.
- Effective EPE is required to be calculated at the netting agreement level, and for non-netted transactions, at an individual trade level.

This document does not consider the following cases, which are deemed unlikely to occur:

- CCDS involved in hedging positions that are already margined, and in particular, those that are cross-product margined.
- CCDS involved in hedging positions where we do not have strong legal opinion on the method of close-out in the event of default.

The assumption here is that these cases will be fielded upstream of the calculation and excluded from the calculation.

In summary, these functional requirements surround the following concepts:

- A. The exposure net of the effect of the CCDS contributes to exposure-at-default for the underlying credit, and risk-weighted accordingly.
- B. The exposure of the derivative position referenced by the CCDS is risk-weighted according to the quality of the protection seller.



## Requirements

Exposure to the counterpart to the CCDS is the potential replacement cost of a CCDS, and is unaffected by considerations of effectiveness of the hedge, incorporation in the synthetic netting protocol, or the substitution approach. The CCDS transaction itself should be included in the finance/risk reconciliation and EAD calculation for the counterpart to the CCDS.

To each CCDS booking there should be assigned one or more reference derivatives that detail the overall position covered by the protection. These **reference derivatives** should not be considered actual trades confirmed with the underlying credit; they create no entries on the ledger, and therefore should be excluded from the finance/risk reconciliation concerning the ledger.

To each CCDS booking should be assigned the identifier of a legally enforceable netting agreement Citi has with the underlying credit, or single non-netted transaction with the underlying credit that will dictate the transaction-set under the EPE method to which the CCDS will be incorporated. For the remainder of this document, we will refer to this level of aggregation as the "netting-set" where, in the case of a single non-netted position, the trivial interpretation is understood.

For eligible CCDS protection, the reference derivatives should be incorporated in the full-revaluation simulation as per the synthetic netting protocol. Reference derivatives from bought protection generate only non-positive values in the simulation. Synthetic netting must be limited in scope to the tenor of protection, not the tenor of the reference derivatives.

Reference derivatives may only be used to offset fully simulated exposure, and not exposure contributions from Credit Exposure Factors (CEFs).

Where a special CEF is assigned to a derivative based on the effect of the hedge, the reference derivatives must be linked to the original derivative, and excluded in those situations where the original derivative is rejected from the simulation.

Where we sell a CCDS, the reference derivatives should be incorporated in the appropriate netting-set of the underlying credit. Reference derivatives from sold protection only generate non-negative values in the simulation.

The exposure net of the effect of the CCDS should be risk-weighted according to the legal counterpart of the netting set. Under the AIRB method, the effective maturity,  $M$ , should be based on an effective exposure determined from the exposure net of the effect of the CCDS.



## Requirements (continued)

For each netting-set, and counterpart to a CCDS that has contributed to that netting-set, the EPE Service should calculate the exposure from the set of reference derivatives that relate to each counterpart to a CCDS. This exposure should be risk-weighted according to the counterpart to the CCDS. Under the AIRB method, the effective maturity should be based on this synthetic netting-set alone. The risk-weight calculator and aggregator should be receptive to EAD values that do not relate to a finance position on the ledger in this sense.

## Example 1

Citi enters into a \$100MM 10yr pay fixed swap with corporate ABC, and simultaneously buys a 5yr CCDS from XYZ referencing \$90MM of same derivative with ABC. This example demonstrates that the purchased CCDS is an effective hedge for 90% of the underlying counterparty credit exposure for the first five years.

### Transactions

- Swap: ABC, \$100MM 10yr pay fixed swap. Reconciled to general ledger.
- CCDS: XYZ, 5yr bought protection on a \$90MM 10yr pay fixed swap. Reconciled to general ledger.

### Reference Derivative

- \$90MM 10yr pay fixed swap, protection terminates at 5yrs.

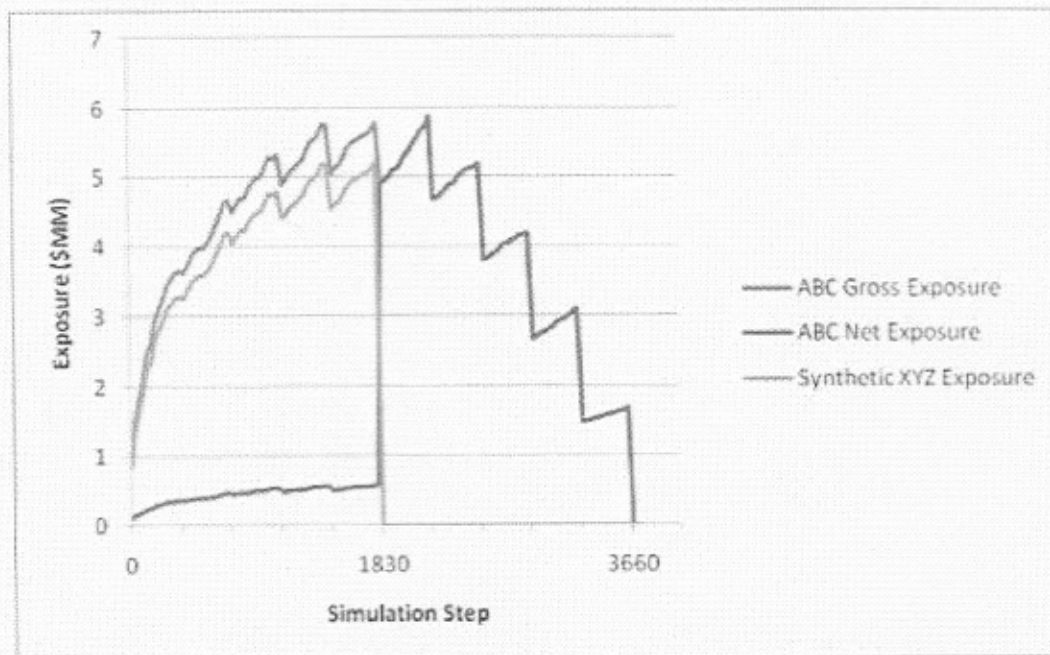


Figure 1: Effect of a partial hedge in Example 1 – Simulation Step in days.

## Example 2

Citi enters into a \$100MM 10yr pay fixed swap with corporate ABC, and simultaneously buys a 10yr CCDS from XYZ referencing \$100MM of the same derivative to hedge the underlying counterparty credit exposure. Subsequently, Citi sells a 5yr CCDS to TUV referencing the same derivative. This example demonstrates that the purchased and sold CCDS are captured consistently, preventing an inadvertent arbitrage between the trading and banking books.

### Transactions

- Swap: ABC, \$100MM 10yr pay fixed swap. Reconciled to general ledger.
- CCDS: XYZ, 10yr bought protection on a \$100MM 10yr pay fixed swap. Reconciled to general ledger.
- CCDS: TUV, 5yr sold protection on a \$100MM 10yr pay fixed swap. Reconciled to general ledger.

### Reference Derivatives

- \$100MM 10yr pay fixed swap, protection terminates at 10yrs.
- \$100MM 10yr rec fixed swap, protection terminates at 5yrs.

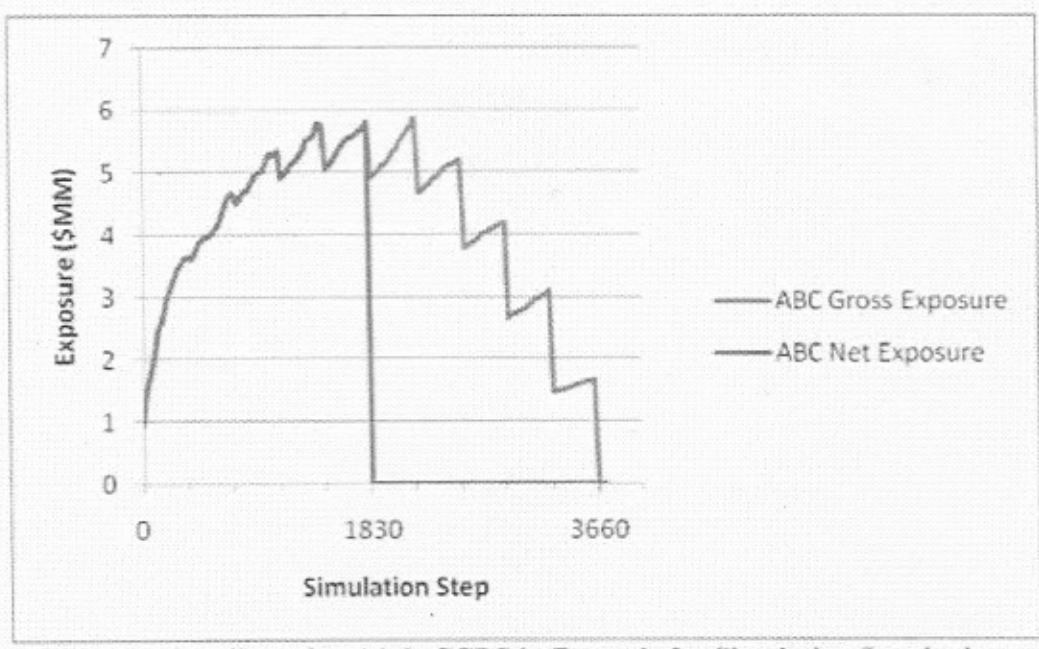


Figure 2: Net effect of multiple CCDS in Example 2 – Simulation Step in days.

## Example 2 (continued)

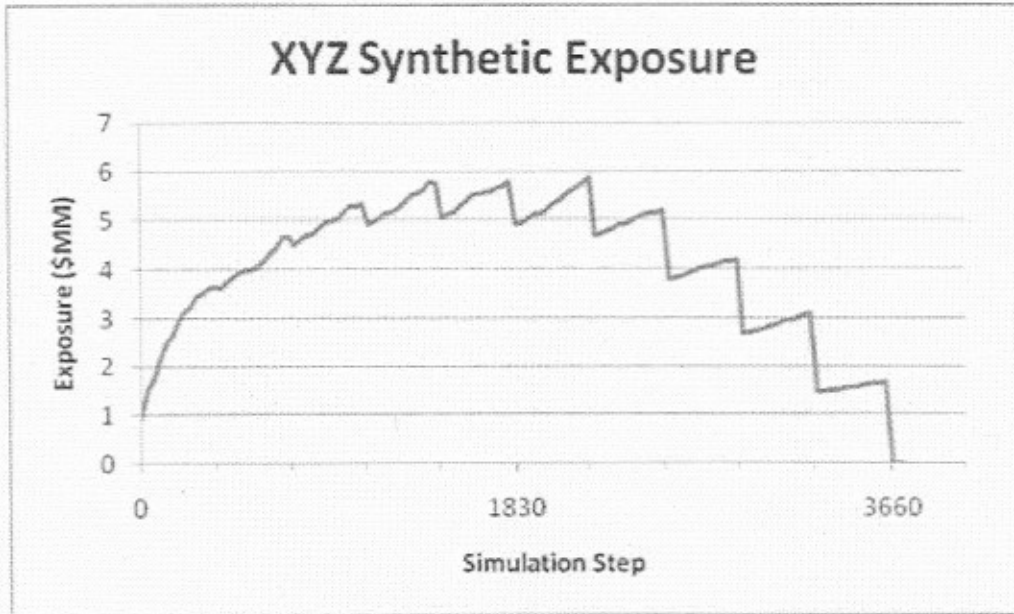


Figure 3: XYZ synthetic exposure equals ABC original exposure in Example 2 – Simulation Step in days.

### Example 3

Citi has a \$100MM 10yr pay fixed swap, and a 5yr exotic cap with corporate ABC. Citi buys a 5yr CCDS from XYZ on \$150MM 10yr pay fixed swap with ABC given the cap has fundamentally pay fixed characteristics in extreme interest rate rising scenarios. The exotic cap is rejected by the EPE Service, and a CEF applied. This example demonstrates that the purchased CCDS is only effective on the simulated counterparty credit exposure, and is not effective on counterparty credit exposure generated from the CEF.

#### Transactions

- Swap: ABC, \$100MM 10yr pay fixed swap, reconciled to the ledger.
- Exotic: ABC, 5yr exotic cap, CEF = \$2MM, reconciled to the ledger.
- CCDS: XYZ, 5yr protection on \$150MM 10yr pay fixed swap, reconciled to the ledger.

#### Reference Derivative

- \$150MM 10yr pay fixed swap, protection terminates in 5yrs.

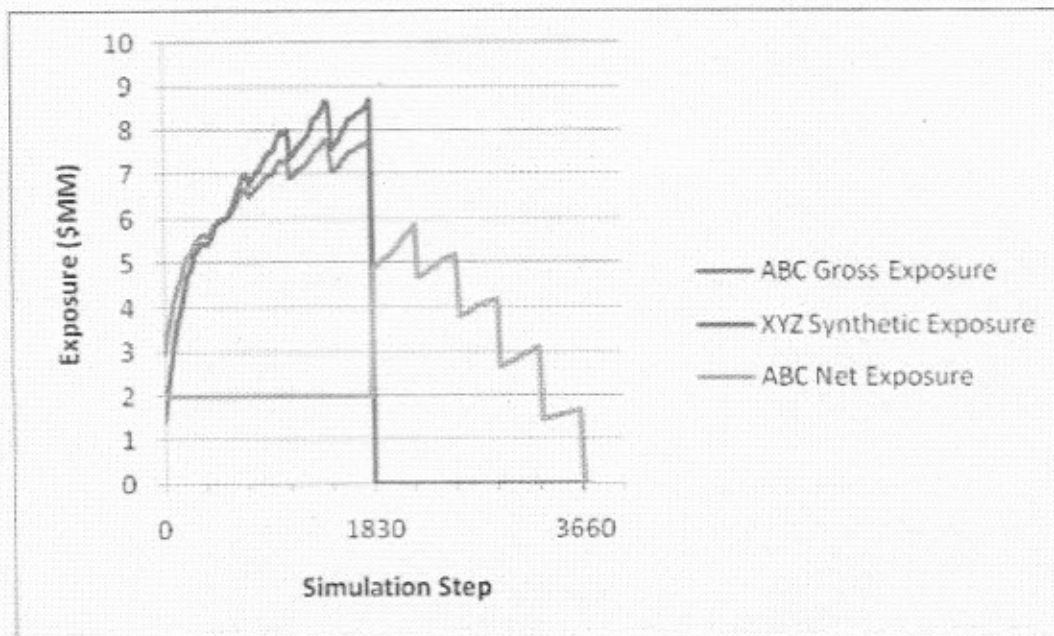
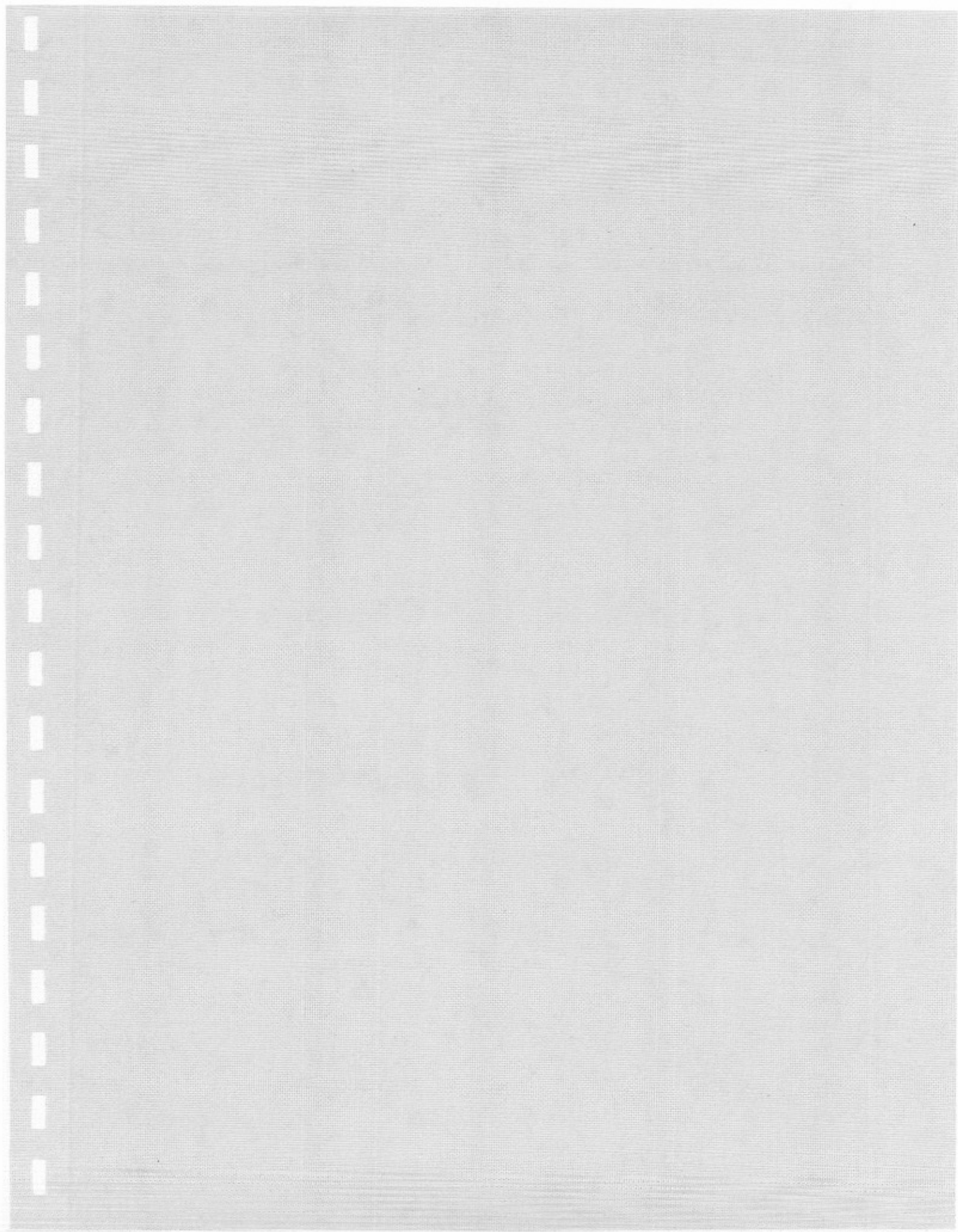


Figure 4: Overhedge does not offset CEF-based exposure in Example 3 – Simulation Step in days.





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# **Citigroup Counterparty Credit Risk Model**

## **Integration of the CCDS under the current capital adequacy rules**

July, 2007





# Counterparty Credit Risk under the Basel I Framework

## Measuring Counterparty Credit Risk

With respect to an OTC derivative contract, Counterparty Credit Risk ("CCR") is defined as the risk that the bank's counterparty would default on the OTC derivative contract before the final settlement of the OTC derivative contract's cash flows.

Under the Basel I Framework, the bank determines the credit equivalent amount ("CEA") of an OTC derivative contract by using the Current Exposure Method ("CEM"). According to the CEM, the CEA is the sum of the replacement cost ("RC") of the OTC derivative contract plus an "add-on" (which is an estimated amount used to reflect the potential future exposure over the remaining life of the OTC derivative contract, determined in accordance with the Basel I Framework).

$$\text{CEA} = \text{RC} + \text{Add-On}$$

## Regulatory Risk-weighted Assets

The regulatory risk-weighted asset amount ("RWA") for CCR is defined as the product of the CEA multiplied by the risk weight of the counterparty.

$$\text{RWA} = \text{CEA} \times \text{Risk Weight}$$

## Counterparty Credit Risk Mitigation

The Basel I Framework currently recognizes two forms of CCR mitigation:

- **Netting Arrangements:** If a legally enforceable bilateral netting contract is in place to create an identifiable netting set (for example, an ISDA Master Agreement between the bank and the counterparty that satisfies the requirements of the Basel I Framework), the RC is the larger of zero or the net RC across all OTC derivative contracts in the netting set and the add-on is adjusted to reflect the existence of the netting set.
- **Margin Arrangements:** If the OTC derivative contract or the netting set is subject to a margin agreement (for example, an ISDA Credit Support Annex between the bank and the counterparty that satisfies the requirements of the Basel I Framework), the CEA is further reduced by the fair market value of posted collateral.



## The Corporate End-User Market

### Counterparty Credit Risk Mitigation

Since most of the activities in the market sector involving the corporate end-user are predominantly hedge-related and corporate end-users are reluctant to enter, or prohibited from entering, into margin arrangements, netting and margin arrangements are effectively not available in this market sector.<sup>1</sup>

### CCDS as an Effective CRM for Counterparty Credit Risk

The regulatory capital cost of operating in this market sector has significantly increased as a consequence of the lack of effective CCR mitigation technique. However, in recent years, market participants have responded proactively to this problem by developing new financial instruments (for example, the CCDS) and integrating these instruments into their market economic capital models to manage CCR.

To the extent CBNA can demonstrate effective regulatory risk transfer through the use of certain CCDS ("Eligible CCDS"), CBNA requests that these Eligible CCDS be recognized as effective credit risk mitigant ("CRM") with respect to CCR exposures from OTC derivative contracts under the Basel I Framework<sup>2</sup>. Consequently, to the extent CBNA enters into an Eligible CCDS, the RWA of the hedged OTC derivative contract (or portfolio of OTC derivative contracts) should then be the result of the following:

$$RWA_{total} = RWA_{ccds} + RWA_{net\ end}$$

Given,

$$RWA_{ccds} = \text{Max}(((RC_{ccds} + AddOn_{ccds}) - Collateral_{ccds}) * RW_{ccds}, 0); \text{ and}$$

$$RWA_{net\ end} = \text{Max}(((Adjusted\ RC + AddOn_{net\ end}) - Collateral_{net\ end}) * RW_{net\ end}, 0)$$

<sup>1</sup> Many corporate end-users are prohibited from entering into margin arrangements due to existing negative pledge covenants.

<sup>2</sup> In addition to this application, CBNA has also request that the CCDS be recognized as an approved CCR mitigant under the BASEL II Framework via its formal response to the BASEL II NPR.

Where,

**RCnet end** is the larger of zero or the net RC across all OTC derivative contracts in the netting set<sup>3</sup>;

**Adjusted RC** is the larger of zero or the **RCnet end** after adjusting for the effect of the Eligible CCDS<sup>4</sup>; and

**AddOnnet end** is the net Add-On after adjusting for the effect of the Eligible CCDS<sup>5</sup>.

### Analogy to the Current CDS/Loan CRM Protocol

As indicated above, the Risk Weight of the CCDS provider is substituted for the Risk Weight of the original corporate end-user counterparty with respect to that portion of the CEA covered by the Eligible CCDS and the Risk Weight of the original corporate end-user counterparty is taken into account against that portion that is not covered by the Eligible CCDS. This methodology is analogous to the current protocol applied to CDS/Loans, where the loan exposure amount covered by the related CDS is risk-weighted by the percentage applicable to the CDS provider and the loan exposure amount not covered by the related CDS is risk-weighted by the percentage applicable to the original borrower.

Consequently, this application can be seen as a natural extension of the current CDS/Loans protocol applied to CCDS/OTC Derivative Contracts.

### To discourage CCDS reciprocity

Furthermore, to encourage the transfer of CCR from the banking sector we would also recommend that where a CCDS is executed between two regulated entities<sup>6</sup> it only be recognized as an effective CCR mitigant if the CCDS provider confirms that the credit risk arising from the CCDS is reported as CCR. This would discourage potential regulatory capital arbitrage between the banking and trading books through the execution of reciprocal CCDS transactions between regulated entities.

<sup>3</sup> **RCnet end** = Max (the net replacement cost across all OTC derivative contracts in the netting set, 0).

<sup>4</sup> **Adjusted RC** = Max ((**RCnet end** - **RCccds**), 0).

<sup>5</sup> **AddOnnet end** = (0.4 \* **AddOngross end**) + (0.6 \* **Adjusted NGR** \* **AddOngross end**) where **AddOngross end** is the gross Add-On for the netting set, and **Adjusted NGR** is the remainder of **Adjusted RC** divided by **RCgross end**.

<sup>6</sup> Defined as a regulated financial institution operating under the Basel II capital adequacy framework.





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**Novarum Group LLC**

**Eligible Contingent Credit Default Swap  
Hedge Provider**

July, 2007



## Effective Regulatory Risk Transformation and Transfer

Regulatory agencies have noted, “derivatives aren’t like other products [and] trading in these complex instruments...requires highly skilled personnel and advanced technology to support the requisite risk management infrastructure...[with] the critical importance of credit quality to assure performance on contracts...”. The contingent credit default swap (“CCDS”) is a 2<sup>nd</sup> generation credit derivative product designed specifically to hedge the market-rate dependent, time-varying nature of counterparty credit risk. The risk management of a CCDS is a highly specialized discipline within the derivatives industry requiring the application of advanced analytical and technological methods.

### Eligibility criteria for the CCDS hedge provider

Accordingly, in Citigroup’s comments on the Basel II NPR<sup>2</sup>, it is recommended that in order to encourage effective regulatory risk transformation and transfer of counterparty credit risk (“CCR”), a CCDS only be recognized as an effective CCR mitigant under the proposed rules where the CCDS provider:

- Is independent of the CCDS purchaser, as defined under GAAP and RAP. This restriction eliminates the possibility of regulated entities establishing self-insured captive vehicles to warehouse their CCR;
- Is primarily in the business of providing credit protection and actively manages the credit risks arising from its portfolio. This restriction emphasizes the need for the CCDS provider to demonstrate the requisite core competency in the risk management of this complex hybrid credit risk<sup>3</sup>;
- Has an external or internally implied counterparty credit rating equal to or higher than the lowest investment grade ratings category. The restriction is necessary to ensure that the CCDS provider has the economic resources to effect an orderly reallocation of risk capital in the event of a claim under the CCDS.

<sup>1</sup> Dugan, John C. “Derivatives: A Broader Industry Issue.” New York Bankers Association Phoenix, Arizona. 10 Nov. 2006.

<sup>2</sup> Dated March 19, 2007 – Annex 1.

<sup>3</sup> To discourage the transfer of CCR to institutional investors who may be unable to fully assess the potential magnitude of this complex risk.



### To discourage CCDS reciprocity

To encourage the transfer of CCR from the banking sector, we would also recommend that where a CCDS is executed between two regulated entities<sup>4</sup> it only be recognized as an effective CCR mitigant if the CCDS provider confirms that the credit risk arising from the CCDS is reported as CCR. This would discourage potential regulatory capital arbitrage between the banking and trading books through the execution of reciprocal CCDS transactions between regulated entities.

### Non-bank Institutional Investors

While the recommendations outlined above will encourage the effective risk transfer of counterparty credit risk from the banking system, guidance provided by the OCC under Section C1 of BC-277 regarding customer appropriateness should discourage the transfer of CCR to non-bank institutional investors who may be unable to fully assess the potential magnitude of this complex risk.

However, given the esoteric nature of CCR, it may be appropriate to buttress Section C1 of BC-277 to further ensure that non-bank CCDS providers have the requisite core competency in the risk management of this complex hybrid credit risk. A potential solution could be an additional stipulation that a recognized Banking or Financial Services Regulatory Authority reviews the operations of the CCDS provider.

If the sale of a series of CCDS to a regulated bank by a non-bank institution is considered by the OCC as a material third-party relationship and where the CCDS provider is not a functionally regulated entity, we believe that the OCC has the authority to treat the CCDS provider as being subject to the Bank Service Company Act, 12 USC 1867(c). This interpretation would give the OCC the authority to review the ability of the CCDS provider to fulfill its contractual obligations under the CCDS<sup>5</sup>.

This extension of OCC supervisory authority would ensure that the transformation and transfer of CCR remains within the oversight of a recognized Regulatory Authority.

<sup>4</sup> Defined as a regulated financial institution operating under the Basel II capital adequacy framework.

<sup>5</sup> OCC Bulletin 2001-47, Third-Party Relationships.



**Analogy to the eligibility criteria for a double default guarantor**

The eligibility criteria proposed for the eligible CCDS provider are consistent with those proposed for an eligible double default guarantor under the proposed Basel II rules:

- A financial institution supervised by a recognized Banking or Financial Services Regulatory Authority;
- Has an external or internally implied rating grade equal to or lower than the third-highest investment grade rating category at the time the credit derivative was executed or has a current rating grade equal to or lower than the lowest investment grade rating category; and
- Is in the business of providing credit protection.





## Novarum Group LLC

Under the Citigroup Counterparty Credit Risk Model, hedges in the form of CCDS are currently provided to Citigroup affiliates by Citigroup Counterparty Risk LLC, a non-bank, non-broker-dealer Citigroup corporate chain legal entity that is wholly owned by Citigroup Financial Products Inc.

In order to satisfy the eligibility criteria outlined above, Citigroup will sell Citigroup Counterparty Risk LLC to a newly established independent, non-bank AAA-t-rated<sup>6</sup> company, Novarum Group LLC ("Novarum"):

- Novarum will be established as a Delaware LLC, specializing in the risk management of OTC derivative counterparty credit risk;
- Based upon the proposed capital model and operating guidelines, the independent rating agencies have confirmed that Novarum will be issued a AAA-t counterparty credit rating;
- Citigroup's independent auditors, KPMG, have confirmed that pursuant to the sale of Citigroup Counterparty Risk LLC to Novarum, neither Novarum nor Citigroup Counterparty Risk LLC will be consolidated with Citigroup under U.S. GAAP;
- Citigroup's Bank Regulatory team will be seeking confirmation from the regulatory agencies that pursuant to the sale of Citigroup Counterparty Risk LLC to Novarum, neither Novarum nor Citigroup Counterparty Risk LLC will be deemed a Citigroup "controlled entity" under the 1956 Bank Holding Company Act; and
- Novarum will formally request that its operations be periodically reviewed by the regulatory agencies pursuant to authority granted under OCC Bulletin 2001-47 to supervise "material third-party relationships."

If Citigroup's request for the CCDS to be recognized as an effective credit risk mitigant for counterparty credit risk is adopted under the proposed capital adequacy rules, to the extent that the criteria above are satisfied, Citigroup seeks confirmation from the regulatory agencies that Novarum would be sanctioned as an eligible CCDS hedge provider.

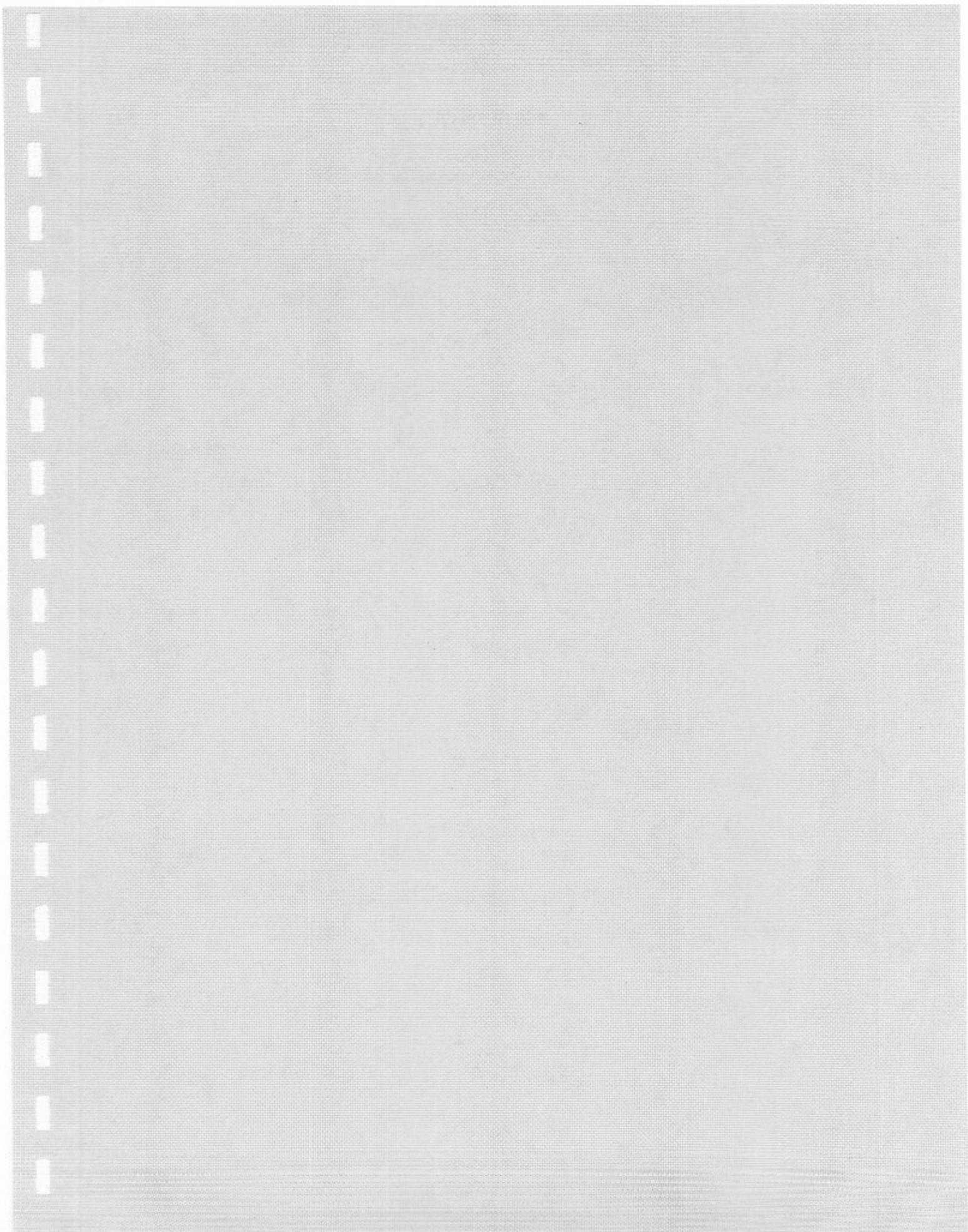
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<sup>6</sup> AAA-t, where lower case t denotes that the counterparty credit rating is based upon a termination model, i.e. in the event that Novarum's counterparty credit rating falls below single A, all trades will be unwound at the current prevailing market value.



## **Alignment with the current capital adequacy rules**

If Citigroup's request for the CCDS to be recognized as an effective credit risk mitigant for counterparty credit risk is adopted under the current capital adequacy rules, to the extent that the criteria above are satisfied, Citigroup requests that Novarum to be accredited a 20% risk-weight under the current capital adequacy rules.





Confidential Treatment Requested  
Draft of June 22, 2007

## Outline of Material Terms/Structure of Novarum

- Current Name:** Citigroup Counterparty Risk, LLC ("**CCR**")
- Current Structure:** Single member limited liability company and wholly owned subsidiary of Citigroup Financial Products Inc. ("**CFPI**"). Established on May 15, 2006, and began operations on September 27, 2006.
- Current Accounting:** Consolidated with CFPI.
- Current Tax Structure:** Treated as a partnership for tax purposes, and part of Citigroup consolidated group.
- Business:**
- (1) Writing contingent credit default swaps ("**CCDS**") to buyers that hedge the possibility that a buyer's counterparty does not pay it when such counterparty owes money under a derivative ("**CCDS Book**")
  - (2) Hedge the book of CCDS with a repackaging of the risks into plain vanilla derivatives that have greater liquidity in the market ("**Hedge Book**")
- Current Business Mix:** Citibank, N.A. ("**CBNA**") and Citibank Canada purchase 100% of the CCDS written by CCR.

CCR decomposes and transforms the risk inherent in the CCDS into plain vanilla derivatives delta positions (e.g., credit default swaps and interest rate, commodity, or cross-currency swaps) that are hedged with the appropriate derivatives market making desks in CBNA. This is CCR's Hedge Book defined above.

CBNA then hedges its side of CCR's Hedge Book with third party professional capital market participants.

In addition, CCR receives the economic return, through a swap, of non-investment grade bonds held by CBNA in connection with CBNA's CCDS hedging program. (These transactions are explained more fully in OCC Interpretive Letter #1051 (Feb. 15, 2006).)



<b>Goal:</b>	<p>Transfer CCR to an independent entity, such that CCDS buyers (including CBNA and other Citigroup entities, as well as third party buyers) can receive appropriate regulatory capital relief under Basel I and II. (Beyond any regulatory capital reduction, Citigroup may be able to either eliminate or reduce, subject to prior approvals from the rating agencies, CFPI's capital contribution to Salomon SwapCo, because this capital may not be necessary if Salomon SwapCo is authorized to purchase CCDS from Novarum (defined below) to cover its book).</p> <p>Bank regulators and ratings agencies have indicated that the entity needs to be deconsolidated for accounting purposes.</p> <p>Federal Reserve has indicated that the entity should not be controlled, from a US bank regulatory perspective, by one of the bank holding companies seeking capital relief (such as Citigroup).</p>
<b>Method of Transfer:</b>	<p>CCR will merge into newly formed Novarum Group LLC ("<i>Novarum</i>"), with Novarum as the surviving company.</p>
<b>Consideration for Transfer:</b>	<p>Consideration will consist of a nominal amount (such as \$1.00) from Novarum.</p>
<b>Market Value Adjustment of CCDS and Hedge Books:</b>	<p>CCR manages its books to be fully hedged/matched to the extent possible within market constraints.</p> <p>An analysis has been undertaken to determine the cost implied in the monitoring, risk management and operation of the two books, as well as the value of any other assets contributed to CCR (such as the NOVA system, described below), to determine the fair market value of CCR.</p> <p>Prior to CCR's sale to Novarum, CFPI will make a market value adjustment to the balance sheet of CCR to ensure that the net asset value of CCR reflects the expected cost of managing the CCDS and Hedge Books over their remaining life. Such adjustment may require that CFPI contribute additional capital to CCR prior to transfer to Novarum in order that the net asset value is consistent with the expected market value adjustment. At Closing (as defined below), CFPI will write-off the net asset value of CCR.</p>



<b>Ownership Structure After Transfer:</b>	<p>Novarum will be owned, through a holding company structure, by 6 individual principals. One of the principals will likely have approximately [30]% of the voting power and equity and the other 5 will have approximately [14]% each.</p> <p>No Citigroup entity will own directly or indirectly, any voting shares or equity of Novarum.</p>
<b>Novarum Principals:</b>	<p>Each of the principals will be an ex-Citigroup employee, and the employment of each will have been terminated at or before the Closing.</p> <p>Each former Citigroup employee will likely receive a lump sum payout of various deferred compensation benefits at the time of their employment termination, all in accordance with the current plan documents and benefits.</p>
<b>Novarum Board of Directors:</b>	<p>Novarum will have a board of directors, consisting primarily of the principals. No Citigroup personnel will be on the board of directors and no Citigroup entity will have the right to appoint any board members.</p> <p>The board will likely have 2 independent board members, as a requirement imposed by the rating agencies. The independent board members will not be Citigroup employees or ex-Citigroup employees.</p> <p>[Citigroup, as a significant customer of Novarum and a lender to Novarum, will be provided with an observer to the board of directors. [Citigroup will lose the right to appoint an observer at the time the Loan Facility (discussed below) is repaid in full.]]</p>
<b>Novarum Management:</b>	<p>Management will consist of the principals or other persons chosen by the board of directors. Citigroup will not have the right to choose or place management at Novarum.</p>
<b>Loan Facility:</b>	<p>Citigroup (potentially through Citibank N.A.) will arrange a [...] year \$[...] million senior unsecured syndicated term loan for Novarum. The loan will be made on arm's-length market terms (as explained in more detail in the term sheet attached as <i>Confidential Appendix A</i>). Citigroup will retain less than 20% of the loan facility. Closing and funding of the loan will be a condition to the transfer of CCR to Novarum. The loan will be subject to Citibank's usual credit policies and</p>



procedures consistently applied.

**Transition Period:**

Citigroup is in the process of operationally deconsolidating CCR from Citigroup so that the rating agencies and regulators can conduct sufficient due diligence on the CCDS Book, Hedge Book, capital, risk management, etc. of Novarum. During this transition period, CCR will still be a wholly owned subsidiary of CFPI, but it will begin migrating systems, operations, physical location and other functions and attributes away from Citigroup.

The transition period will enable the satisfaction of the conditions to Novarum's independence (see below).

At the time of the transfer to Novarum (the "*Closing*"), CCR's operations will be completely independent from Citigroup.

**Certain Conditions to Successful Launch of Novarum:**

It is contemplated that certain rating agency or regulatory conditions must be satisfied in order for Novarum to function correctly and to provide the appropriate regulatory capital relief to its customers:

- Obtaining a provisional AAA counterparty rating from at least one of the three rating agencies
- Third party accounting opinion (from KPMG) that Novarum will not be consolidated with Citigroup or any of its affiliates
- Citigroup does not "control" Novarum for bank regulatory purposes
- Bank and bank holding company regulators agree that Novarum is a "qualifying hedge provider" for purposes of providing regulatory capital relief to its customers
- Rating agencies and Citigroup have approved the governing documents and operating guidelines of Novarum

**Accounting Conditions to Deconsolidation of Novarum:**

Citigroup's Accounting Policy group, together with outside accountants, believe that, pursuant to a FIN 46R analysis, Novarum will not be consolidated with Citigroup provided that (1) all of the ownership, management, etc. structure remains in place substantially as described herein and (2) at least 80% of the loan facility, as one potential absorber of risks in a FIN 46R analysis, is syndicated to other lenders.



A copy of the Citigroup Accounting Policy Financial Reporting Document is included as *Confidential Appendix B*.

**Business Relationships:** At the time of CCR's transfer to Novarum, all CCDS and Hedge Book positions will be with Citigroup and its affiliates.

Immediately following the Closing, Novarum will seek counterparties and customers other than Citigroup and its affiliates. The business contemplates that within approximately 3 years, Novarum will have less than 50% of its CCDS Book and its Hedge Book outstanding with Citigroup and its affiliates.

All of the CCDS and Hedge Book transactions that Novarum conducts or will conduct with Citigroup will be done on arm's-length market terms.

**Covenants or Other Restrictions on Novarum Business:**

Except for the standard covenants in the senior unsecured term loan (which are described in *Confidential Appendix A*), Citigroup will not be the beneficiary of any covenants or other restrictions on Novarum's business that are not shared by all other counterparties and customers of Novarum. The covenants in the term loan will be shared with the syndicate of lenders.

The rating agencies will impose certain capital and operational restrictions on the business of Novarum.

The ISDA and other derivative documentation with all counterparties will include certain trigger events that are common to ISDA documentation for "derivative product companies." For example, the ISDA documentation with all counterparties will include, among others, the following three default trigger events – (1) a ratings downgrade of Novarum below [A-/A3], (2) Novarum fails to maintain required capital levels and (3) Novarum fails to maintain required liquidity levels.

Citigroup and the syndicate of term loan lenders will be the beneficiaries of a negative covenant (typical for arm's-length loan documentation) that will prevent Novarum from modifying its LLC agreement, by-laws or operating guidelines, if such modification would result in a downgrade of Novarum by any rating agency. In addition, the rating





agencies have indicated that any changes to the LLC agreement, by-laws or operating guidelines must be approved by Novarum's board and need to be approved by the rating agencies themselves.

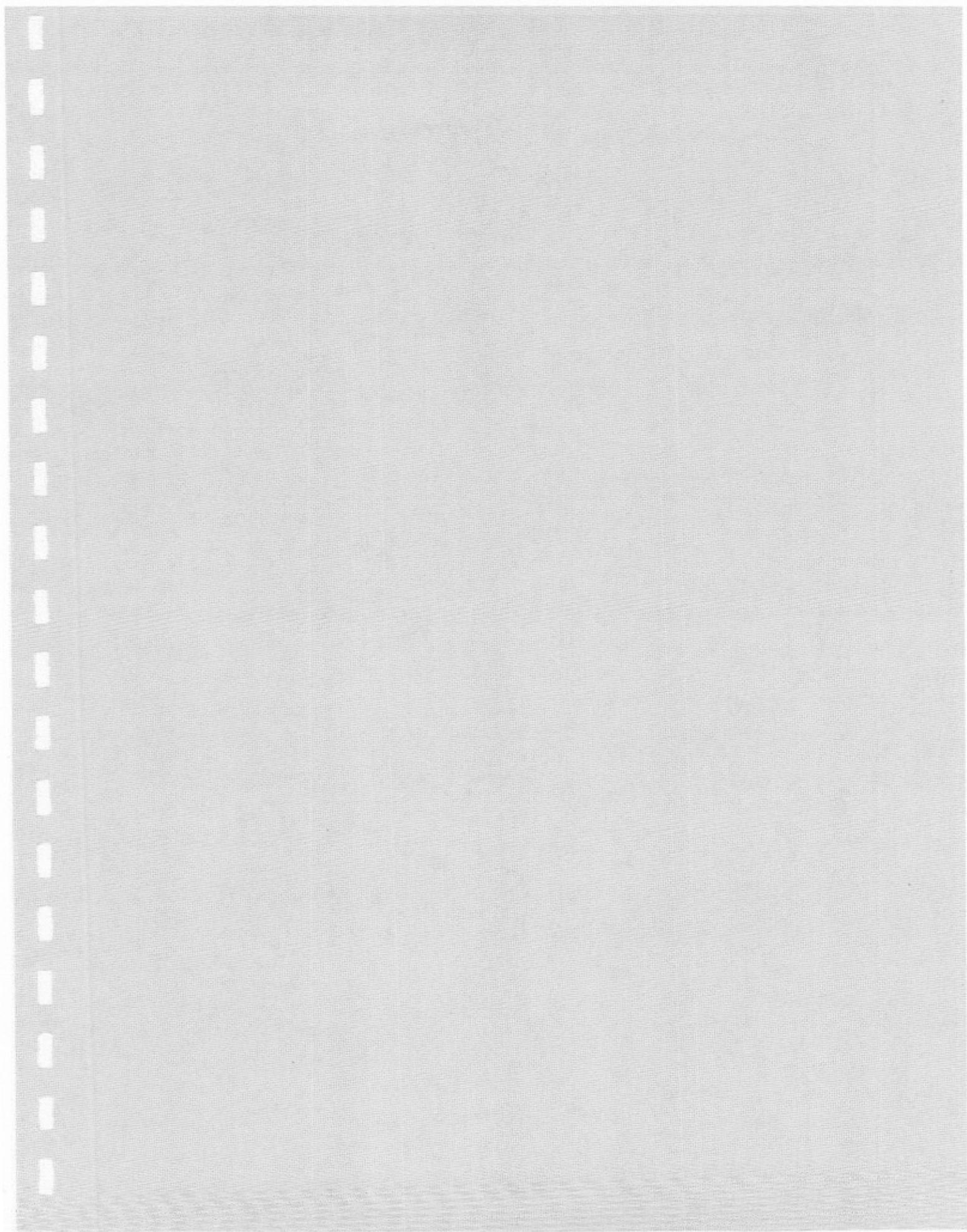
- Exclusivity Rights:** Novarum will be free to transact with all other market participants and Citigroup will not be provided with any capacity guarantee or other form of exclusive transaction rights.
- Operating Procedures:** Novarum has been structured to operate, and shall be operated in accordance with its operating guidelines (as agreed with the rating agencies). Novarum may only enter into authorized instruments and trade with approved counterparties. Material amendments to the operating guidelines may only be amended with the approval of the board and subject to the receipt of rating agency confirmation. Novarum's trades with each of its counterparties will be fully margined at mid-market, *i.e.*, these trades will be subject to a bilateral credit support annex (zero threshold and cash/treasuries as eligible collateral).
- Dividend Policy:** Novarum will be free to declare dividends, subject to any capital requirements imposed by the ratings agencies and subject to the loan payback provision described in the loan term sheet.
- Documentation of Transactions:** ISDA documentation will be negotiated with all counterparties, and certain aspects of the documentation were described above in "Covenants or Other Restrictions on Novarum Business."
- Pricing of Transactions:** Citigroup will not be offered any pricing concessions or special pricing terms. All transactions with Citigroup will be undertaken on arm's-length market terms.
- Systems:** Not supported by Citigroup operations.
- A software program known as NOVA is currently owned and supported by Citigroup. The application code base, associated licenses and intellectual property rights to NOVA will be contributed to CCR prior to the transfer of CCR to Novarum and their value will be taken into account when calculating the net asset value of CCR at the time of transfer. Once



transferred to Novarum, the NOVA system will not need Citigroup's systems for support. NOVA conducts pricing, risk management and the capital monitoring model required to operate the Novarum business.

Novarum's systems and operations will either be supported in-house or outsourced to third party providers. During the transition period, in order to construct independence of operations, the CCR team will migrate off of Citigroup systems.

- Risk Management:** Not supported or aided by Citigroup.
- Prime Broker:** Not yet decided, but not Citigroup.
- Custodian:** Not yet decided.
- Enforcement Trustee:** Not yet decided, but not Citigroup.
- Bank Accounts:** May be held at Citibank, N.A.
- Other Transactions:** Citigroup may be a counterparty to Novarum on some other services and transactions that Novarum desires (*e.g.*, securities borrowing or lending, etc.). Citigroup will engage in those transactions on the same terms and conditions as other third party counterparties of Novarum – *i.e.*, arm's-length market terms.
- Location:** Novarum will not be on Citigroup premises, nor will it lease space from Citigroup.





Draft: 7/11/07

Novarum Group LLC

## S [X] Term Loan Facility Summary of Terms and Conditions

**Borrower:** Novarum Group LLC, a Delaware limited liability company.

**Facility Amount:** \$[approximately \$150,000,000].

**Facility:** A senior, unsecured term loan made to the Borrower in a single drawing on the Closing Date in a principal amount equal to the Facility Amount, which shall be payable, subject to the occurrence of any Deferment Event, at the Maturity Date.

**Maturity Date:** \_\_\_\_\_ [10 years from Closing Date].

**Purpose:** To provide sufficient funds to the Borrower such that the Borrower's counterparty or similar ratings from Standard & Poor's Rating Services ("S&P"), Moody's Investor Service, Inc. ("Moody's"), and Fitch Investor Service, Inc. ("Fitch") (collectively, the "Relevant Rating Agencies") are Aaa/AAA and for general company purposes.

**Agent:** Citi (potentially Citibank N.A. or Citigroup Financial Products, Inc.)

**Lenders:** A syndicate of financial institutions acceptable to the Borrower and the Agent (collectively, the "Lenders"). Citi will retain less than 20% of the Facility Amount.

**Borrowing Options:** LIBOR for interest periods of \_\_ months.

**Pricing:** \_\_\_\_\_.

**Closing Date:** On or prior to \_\_\_\_\_.

**Interest Payment Dates:** End of each applicable Interest Period.

**Optional Prepayments:** The term loan may (subject to the Deferment Event provisions described below) be prepaid without penalty in an amount of \$ \_\_\_\_\_ or integral multiples of \$ \_\_\_\_\_ in excess thereof upon at least three business days' notice and at the end of any applicable interest period.



**Mandatory Prepayments:** The Borrower shall prepay the term loan on the same business day and in the same aggregate amount as any dividend payment by the Borrower.

**Loan Documentation:** The making of the term loan will be subject to the preparation, execution and delivery of mutually acceptable loan documentation, including, without limitation, a credit agreement containing conditions precedent, representations and warranties, covenants, events of default and other provisions customarily found in the Agent's loan documentation for similar financings and others appropriate to the Facility, including, but not limited to, those noted below.

**Conditions Precedent to Closing:**

To include, with respect to the Borrower:

1. Obtaining a provisional AAA/Aaa counterparty rating at least one of the Relevant Rating Agencies on or prior to Closing;
2. The Regulatory Authorities have determined that the Borrower is qualified as a hedge provider under the current BASEL I framework and anticipated BASEL II rules;
3. Citi's Independent Auditor, KPMG, has determined that, after the sale, neither Novarum nor CCR will be consolidated with Citi under GAAP;
4. The Federal Reserve Board or its staff concurs that, after the sale, Citi will not be deemed to have such "control" over either Novarum or CCR so as to adversely affect the ability of Citibank and other Citi entities to obtain appropriate capital relief in respect of transactions with Borrower; and
5. Other conditions customary for facilities of this nature.

**Representations and Warranties:**

Standard for facilities of this type and size, including, with respect to the Borrower: existence and good standing; due authorization, execution and delivery; required consents; no conflict or contravention; enforceability of loan documents; financial information; no material adverse change; no



material litigation; environmental and ERISA matters; compliance with law; payment of taxes; full disclosure; loan proceeds not used to acquire margin stock.

**Covenants:**

Standard for facilities of this type and size, including, with respect to the Borrower: delivery of information and financial reports; access and visitation; maintenance of business; maintenance of property and licenses; insurance coverage; payment of taxes; conduct of business; maintenance of existence; compliance with laws (including ERISA and environmental); negative pledge (except for pledges to (i) its derivative counterparties under ISDA Agreements and (ii) Enforcement Trustee (as described below)); limitation on debt; limitation on mergers, consolidations and sales; transactions with affiliates; limitations on investments, acquisitions and advances; limitation on dividends and certain other restricted payments (except (i) in accordance with Mandatory Prepayment provision and (ii) if and to the extent permitted by the operating guidelines); formation of subsidiaries; limitation on modification of articles of incorporation, by-laws and operating guidelines (except with notice to Lenders and the modification does not result in ratings downgrade). The Enforcement Trustee shall be a third party and shall not be an affiliate of Citi. The role of the Enforcement Trustee has not been determined.

**Events of Default:**

To include:

1. Failure to pay principal, interest, fees or other amounts hereunder other than in connection with a Deferment Event;
2. Representations or warranties materially incorrect when made;
3. Failure to comply with covenants (with cure periods where appropriate);
4. Cross default to other debt of the Borrower or any of its subsidiaries in excess of [\$];
5. Other standard defaults with respect to the Borrower, including insolvency, liquidation, bankruptcy, ERISA and unsatisfied judgments; and



6. Occurrence of a Trigger Event under the ISDA Agreements. In the case of an Event of Default pursuant to clause (6), the accelerated amount shall be due and payable on the business day following the date on which the Borrower makes final settlement payments to its counterparties with respect to derivative transactions as a result of an early termination due to the occurrence of a Trigger Event (such business day, the "Trigger Event Payment Date").
7. Borrower's Moody's rating shall be lower than A3 or the Borrower's S&P or Fitch rating shall be lower than A-.

**Intervening Trigger Events:**

If any amount under the term loan would otherwise be due and payable on or after the day on which a Trigger Event occurs, such amount shall not be due and payable until the Trigger Event Payment Date.

**Intervening Suspension Events:**

If any amount under the Term Loan would otherwise be due and payable on or after the day on which a Suspension Event (as defined in the Borrower's Operating Guidelines) under the ISDA Agreements occurs, such amount shall not be due and payable until such Suspension Event ceases (subject to "Intervening Trigger Events" above).

**Ranking:**

Senior to all other borrowings of the Borrower and *pari passu* with derivative obligations under each ISDA Agreement (except to the extent such obligations are secured), to trade creditors and to claims of the Borrower manager.

**Collateral:**

The Facility is unsecured.

**Pledge of Assets:**

The Lenders acknowledge and agree that (i) the Borrower may pledge its rights under each ISDA Agreement, and its other assets in an amount at least equal to the Required Capital (as defined in the Borrower's Operating Guidelines) to the Enforcement Trustee for the benefit of the Secured Parties [i.e., its derivative counterparties] and (ii) the Enforcement Trustee may directly enforce the rights of Borrower under the ISDA Agreements.



**Deferment of Interest/Principal:**

If a Trigger Event or a Suspension Event would otherwise occur as a result of the Borrower's payment of any interest or principal under the term loan (the existence of this circumstance, a "Deferment Event"), such payment shall be deferred until the date such Deferment Event ceases to exist or the Trigger Event Payment Date, whichever occurs earlier. The LIBOR Margin shall increase by \_\_\_% for the period beginning on the date upon which such Deferment Event begins and ends on the first day such Deferment Event ceases to exist or the Trigger Event Payment Date, whichever occurs earlier.

**Increased Costs:**

The loan documentation will include customary provisions protecting the Lenders in the event of illegality, capital adequacy regulations, and taxes.

**Indemnification:**

The Borrower will indemnify the Lenders and their affiliates against all losses, liabilities, claims, damages or expenses relating to the loan documentation or the Borrower's actual or proposed use of the loans, including, but not limited to, reasonable attorneys' fees and settlement costs (except to the extent determined by a court to have resulted from the indemnitee's gross negligence or willful misconduct).

**Transfers and Participations:**

[No transfer or sale of participations without the prior written consent of the Borrower].

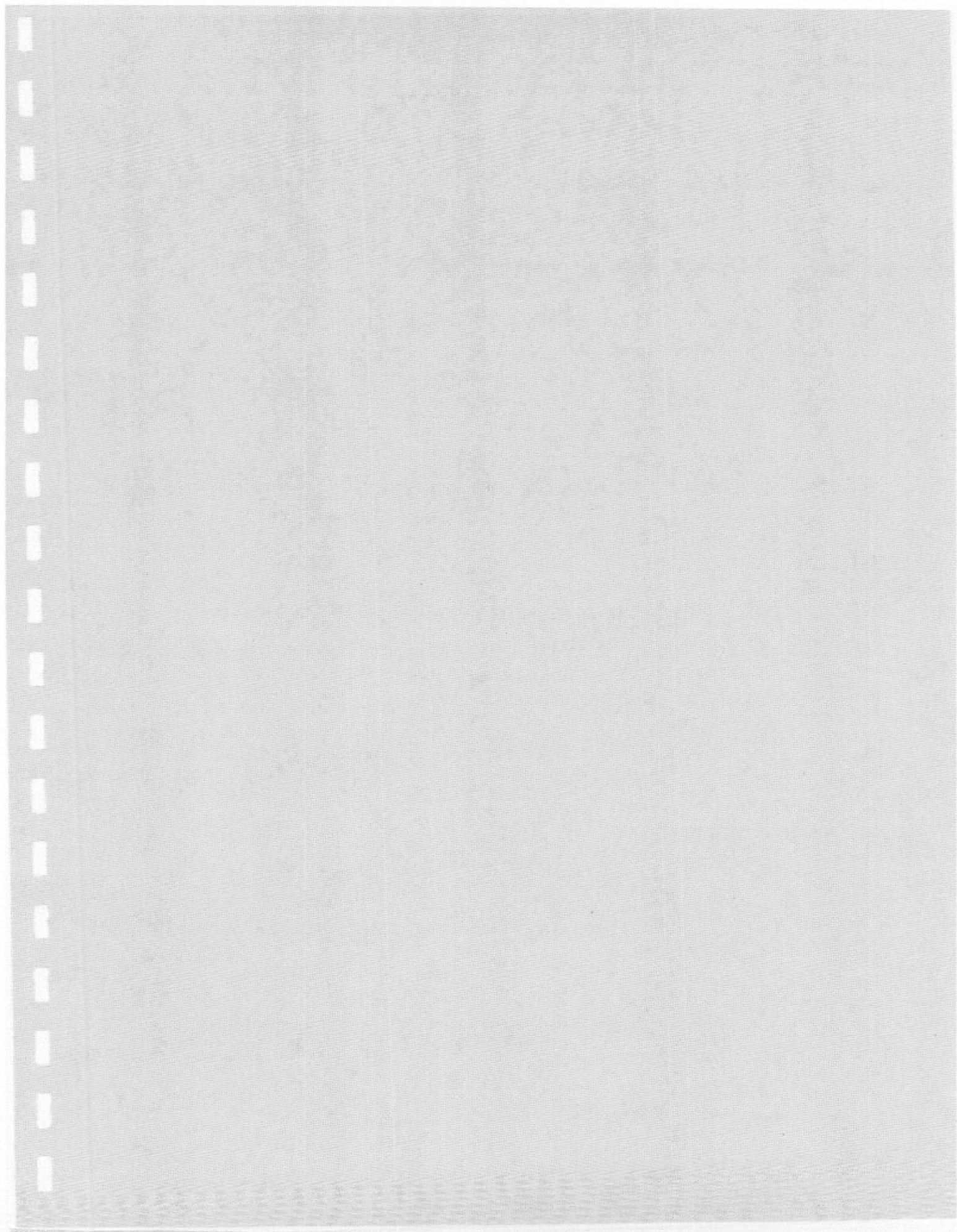
**Expenses:**

The Borrower will pay all legal and other out-of-pocket expenses of the Agent related to this transaction and any subsequent amendments or waivers or related to the enforcement of its rights under the loan documentation.

**Governing Law:**

New York.





<b>Accounting Policy Transaction Documentation Memorandum</b>	
<b>SPE/ Deal Name</b>	Citigroup Counterparty Risk LLC (CCR)/Novarum Group LLC (Novarum)
<b>Transaction Type</b>	N/A
<b>Date Last Revised</b>	May 2007
<b>Prepared by</b>	Bret Dooley
<b>Closing Date or Expected Closing Date</b>	TBD
<b>Open Items</b>	<ul style="list-style-type: none"> <li>• Final determination of terms and pricing</li> <li>• Final review of transaction documents</li> <li>• Management approval</li> <li>• Regulatory approval</li> </ul>
<b>Business Segment Involved</b>	Fixed Income
<b>Booking Legal Entity</b>	CCR
<b>Business Objective</b>	Create an independent operating company in the business of providing contingent credit default swaps (CCDS) to derivative dealers and other interested parties.
<b>Transaction Size</b>	TBD
<b>Citigroup Roles</b>	Seller of CCR legal vehicle Derivative and hedge counterparty Lender (pro-rata with third-party lenders)
<b>Source of Citigroup Earnings/ Benefits</b>	Purchased credit protection from a highly rated, independent entity
<b>Primary Citigroup Economic Risks</b>	Counterparty default
<b>Was the transaction approved by CMAC?</b>	TBD
<b>Is there transaction approval documentation?</b>	TBD

**Transaction Description**

Citigroup has established a dedicated operating company Citigroup Counterparty Risk LLC ("CCR") to provide the various Citigroup OTC derivative businesses with CCDS to mitigate counterparty credit risk. CCR provides CCDS products that cover a majority of OTC derivative instruments (e.g. foreign exchange, interest rates, commodities and equities) and credits actively traded in the CDS market (e.g. sovereign, agency, and corporate). CCR is currently a wholly owned and consolidated subsidiary of CFPI.

**Counterparty Credit Risk and CCR's Role**

Counterparty credit risk is defined as the risk of loss on an OTC derivative contract arising from the counterparty's default prior to the specified maturity date. While the cost of replacing an OTC derivative is known today, its future replacement cost is dependent upon the price movements of underlying market variables and on the remaining unsettled contractual cash flows. Therefore, unlike traditional debt securities where the magnitude of credit exposure is known at inception, the amount of counterparty credit exposure arising from an OTC derivative contract is known only ex-post.

This counterparty credit risk is the one risk arising from banking activities that has not yet been effectively distributed across the financial markets. Credit risk in debt instruments, for example, has been successfully distributed via securitization and other repackaging technologies. However, counterparty credit risk inherent in the OTC derivative market remains highly concentrated in the 4-5 largest dealers.

Traditionally, counterparty credit risk has been mitigated using legal netting and margin arrangements. While these methods have been effectively employed in the dealer market, they are far less effective in the customer market where legal netting benefits are negligible and customers are either reluctant or contractually prohibited from entering into margin arrangements. Increases in the concentration of counterparty credit exposure among large financial institutions and in the minimum regulatory capital requirements proposed under Basel II have made alternative methods of credit mitigation a significant priority to both dealers and regulators of financial institutions.

The CCDS differs from a vanilla CDS in that the contract notional is defined as the prevailing replacement cost of the specified reference OTC derivative if and when the reference credit defaults on its debt obligations. Therefore, in contrast to the vanilla CDS, the CCDS is sensitive to the same underlying market factors that affect the reference OTC derivative and can lessen the possibility of gross over-hedging or under-hedging with respect to exposure to counterparty credit risk. Once the CCDS contract notional is fixed, it is settled under the same terms and conditions used for vanilla CDS.

CCR has been established by Citigroup to act as a "Hub" to execute CCDS trades and associated hedging activity. CCR enters into CCDS with OTC derivatives desks ("Spokes"). For example, assume that Citibank ("CBNA") has an outstanding vanilla pay fixed interest rate swap with IBM. In order to reduce the counterparty credit exposure arising from this position under the legal netting arrangement, CBNA would need to execute an offsetting vanilla receive fixed interest rate swap with IBM, documented under the same ISDA Master Agreement. Alternatively, CBNA could enter into a CCDS with a qualifying CCDS provider where the CCDS reference credit is IBM and the CCDS reference derivative is a vanilla pay fixed interest rate swap. The resulting reduction in credit exposure to IBM may be identical to that which CBNA would have experienced under the legal netting arrangement if it had entered directly into an offsetting vanilla receive fixed interest rate swap with IBM.

DRAFT

CCR, in turn, hedges its portfolio of CCDS dynamically through offsetting positions in the cash securities market, credit derivatives market, and underlying derivatives market. These hedges are determined using a Market Model and are typically executed with the CCDS counterparty. These hedging instruments are vanilla instruments commonly traded in the market; therefore the desks that are counterparties to these hedging instruments would typically incorporate them in their normal trading portfolios and risk manage the positions accordingly.

Per current discussions with the Regulators regarding effective credit risk mitigation instruments under BASEL II, we understand that Risk Weighted Asset stemming from its positions in OTC derivative contract may be reduced under BASEL II only if the bank obtains its CCDS from a provider that is a "qualifying" third party. Among the qualifications is the requirement that the CCDS seller be a non-consolidated and non-controlled (within the meaning of the Bank Holding Company Act of 1956) legal entity of the CCDS buyer. Therefore, Citigroup must either:

- Assign all CCDS transactions from CCR to "qualifying" third parties; or
- Sell CCR to a single "qualifying" third party.

Assume that Option 1 is either not available or economically not viable and Citigroup pursues Option 2 through an arrangement to sell CCR to a newly established AAA-rated company Novarum Group LLC ("Novarum"). Under this agreement:

- Novarum will fully assume the contractual obligations of CCR and the other assets of CCR (primarily, approximately \$150mm in cash). A consortium of lenders, including Citi, will provide an additional senior unsecured term loan facility (the "Loan") to Novarum (approximately \$150mm).
- The cash residing in CCR is primarily from an equity contribution made by CFPI prior to the sale of CCR. CCR will be sold to Novarum for nominal value, thus generating a loss on the sale of CCR in Citi's consolidated financial statements.
- At inception, it is expected that Citi entities will be the sole or primary customers of CCR, and will be counterparties to all of CCR's CCDS and related hedging derivative trades. As Novarum establishes business relationships with other dealers, it is expected that Citi will then be one of multiple business relationships. There is no requirement that Citi remain the primary customer of CCR, and the Principals expect to generate significant interest from other dealers.
- The terms of the Loan remain to be negotiated, but will likely incorporate a mandatory early prepayment feature whereby Novarum will be required to prepay the Loan by an amount equal to any dividend payment made by Novarum. This is to ensure that Novarum's capital is not released to its principals without prior repayment of the Loan by the same amount.

#### Accounting Issue(s)

1. Is Citigroup required to consolidate Novarum?
  - a. Is Novarum a variable interest entity subject to FIN 46R?
  - b. If so, what are Citigroup's variable interests and do they cause Citigroup to consolidate Novarum?
2. What is the appropriate accounting for the deconsolidation of CCR?

**Relevant Accounting Literature**

Accounting Research Bulletin No. 51, *Consolidated Financial Statements*

FASB Statement No. 91, *Consolidation of Majority-Owned Subsidiaries*

FASB Interpretation No. 46-Revised, *Consolidation of Variable Interest Entities*

FASB Staff Position No. FIN46R-6, *Determining the Variability to Be Considered in Applying FASB Interpretation No. 46(R)*

**Accounting Decision and Rationale****Summary**

Novarum should not be consolidated by Citi. CCR should be deconsolidated from CFPI upon the transfer of ownership to Novarum. Any difference between the recorded equity investment in CCR and the nominal sale price on the date of transfer should be recognized as a loss (other expense) by Citi.

**1. Is Citigroup required to consolidate Novarum?**

The primary question is whether Novarum is within the scope of FIN 46.

If it is not, ARB 51 would apply and it is clear that Novarum should not be consolidated by Citigroup. Citigroup will not hold any equity interest in Novarum and will not participate in the profits of Novarum. As currently structured, Novarum will be the wholly-owned subsidiary of a holding company, which in turn shall be owned 100% by its principals (the "Principals"). The Principals will exercise full control over Novarum's operations and actions. In reaching this conclusion, we considered whether Novarum should be considered to be a related party to Citi.<sup>1</sup> Statement 57 provides the following definition of a related party:

Affiliates of the enterprise; entities for which investments are accounted for by the equity method by the enterprise; trusts for the benefit of employees, such as pension and profit-sharing trusts that are managed by or under the trusteeship of management; principal owners of the enterprise; its management; members of the immediate families of principal owners of the enterprise and its management; and other parties with which the enterprise may deal if one party controls or can significantly influence the management or operating policies of the other to an extent that one of the transacting parties might be prevented from fully pursuing its own separate interests. Another party also is a related party if it can significantly influence the management or operating policies of the transacting parties or if it has an ownership interest in one of the transacting parties and can

<sup>1</sup> We considered this analysis even though we note that ARB 51 does not require or permit consolidation of an entity based on the combined ownership interests of a company and its related parties. In particular, a 2001 meeting with the SEC staff discussed the concept of "common management" and noted that combining financial statements may be appropriate, but did not even address the possibility that consolidated financial statements could be required, even when related parties were under common control. However, questions have arisen in practice regarding the appropriate disclosure or accounting treatment in some circumstances. In any event, as discussed below, following the transaction, the Principals should not be considered "related parties" of Citigroup for these purposes.

significantly influence the other to an extent that one or more of the transacting parties might be prevented from fully pursuing its own separate interests.

In this case, the Principals, while former employees of Citi, are not under common control with Citi, and Citi does not have the ability to control Novarum or prevent Novarum from fully pursuing its own separate interests. The Principals are economically and strategically motivated to develop other business relationships and are expected to do so. Therefore, we concluded that Citigroup does not control Novarum, either by equity ownership or by contract, and that Novarum would not be consolidated by Citi under ARB 51.

If, in contrast, Novarum is a VIE subject to FIN 46R, an analysis of Novarum and its design are required to identify variable interests and determine whether Citigroup, as a variable interest holder, must consolidate this entity.

#### VIE Scope Analysis

We believe that Novarum is indeed a VIE subject to FIN 46R.

**Paragraph 4 of FIN 46R** contains a list of scope exceptions, one of which is potentially applicable. Paragraph 4h notes that:

An entity that is deemed to be a business under the definition in Appendix C need not be evaluated by a reporting enterprise to determine if the entity is a variable interest entity under the requirements of this Interpretation unless one or more of the following conditions exist (however, for entities that are excluded by this provision of this Interpretation, other generally accepted accounting principles should be applied):

- (1) The reporting enterprise, its related parties, or both participated significantly in the design or redesign of the entity. However, this condition does not apply if the entity is an operating joint venture under joint control of the reporting enterprise and one or more independent parties or a franchisee.
- (2) The entity is designed so that substantially all of its activities either involve or are conducted on behalf of the reporting enterprise and its related parties.
- (3) The reporting enterprise and its related parties provide more than half of the total of the equity, subordinated debt, and other forms of subordinated financial support to the entity based on an analysis of the fair values of the interests in the entity.
- (4) The activities of the entity are primarily related to securitizations or other forms of asset-backed financings or single-lessee leasing arrangements.

We concluded that Novarum meets this scope exception because a) Citigroup and its employees participated significantly in the design of Novarum and CCR, thus condition (1) applies (and Novarum must be evaluated to determine if it is a VIE under the requirements of FIN 46R) and b) Citigroup is expected to be the sole or a primary customer at the inception of Novarum.

**Paragraph 5 of FIN 46R** defines a VIE as an entity where one of the following conditions exist:

5. An entity shall be subject to consolidation according to the provisions of this Interpretation if, by design, the conditions in a, b, or c exist:
  - a. The total equity investment at risk is not sufficient to permit the entity to finance its activities without additional financial support provided by any parties, including equity holders.

b. As a group the holders of the equity investment at risk lack any one of the following three characteristics of a controlling financial interest:

(1) The direct or indirect ability through voting rights or similar rights to make decisions about an entity's activities that have a significant effect on the success of the entity. The investors do not have that ability through voting rights or similar rights if no owners hold voting rights or similar rights (such as those of a common shareholder in a corporation or a general partner in a partnership).

(2) The obligation to absorb the expected losses of the entity. The investor or investors do not have that obligation if they are directly or indirectly protected from the expected losses or are guaranteed a return by the entity itself or by other parties involved with the entity.

(3) The right to receive the expected residual returns of the entity. The investors do not have that right if their return is capped by the entity's governing documents or arrangements with other variable interest holders or the entity.

c. The equity investors as a group also are considered to lack characteristic (b)(1) if (i) the voting rights of some investors are not proportional to their obligations to absorb the expected losses of the entity, their rights to receive the expected residual returns of the entity, or both and (ii) substantially all of the entity's activities (for example, providing financing or buying assets) either involve or are conducted on behalf of an investor that has disproportionately few voting rights. For purposes of applying this requirement, enterprises shall consider each party's obligations to absorb expected losses and rights to receive expected residual returns related to all of that party's interests in the entity and not only to its equity investment at risk.

Condition (a) exists for Novarum, and it is therefore considered a VIE. Paragraph 5(a) notes that the "total equity investment at risk" does not include amounts provided to the equity investor directly or indirectly by the entity or by other parties involved with the entity (for example, by fees, charitable contributions or other payments), unless the provider is a parent, subsidiary or affiliate of the investor that is required to be included in the same set of consolidated financial statements as the investor.

In Novarum's case, the cash equity contributed by the Principals is expected to be minimal. Although the \$150mm of cash owned by CCR provides sufficient capital from a rating agency perspective, this cash was injected by Citi (to ensure a nominal, rather than a negative, purchase price). Thus, the Principals' equity cannot be considered "at risk" under Paragraph 5(a). Thus, without any "equity investment at risk" in Novarum, condition (a) above does exist and Novarum is considered a VIE, notwithstanding the fact that CCR will obtain a AAA credit rating from rating agencies.

#### **VIE Consolidation Analysis**

**Paragraph 14 of FIN 46R** requires an enterprise to consolidate a variable interest entity if that enterprise has a variable interest that will absorb a majority of the entity's expected losses, receive a majority of the entity's expected residual returns, or both. To identify variable interests and to measure expected losses, we first need to determine what the variability is to be measured and absorbed.

**FSP FIN 46R-6 (the FSP)** requires an analysis of the design of the entity to determine the variability to be considered. In accordance with the FSP, we first analyze the nature of the risks of the entity, and then consider the purpose for which the entity is created and the variability the entity is designed to create and pass on to its interest holders.

Through its CCDS and hedging derivative trades, Novarum is exposed to a number of risks:

1. Credit risk on the entity referenced in the CCDS
2. Market risk (fx, interest rate, equity, commodity, etc.) on the derivative referenced in the CCDS (as it affects the amount of credit risk)
3. Market risk on the hedging derivatives
4. Credit risk on the hedging derivatives
5. Hedging risks – through its replication strategies, Novarum may run a certain level of market risks – interest rate, fx rates, credit spread, commodity, correlation, and basis risks.
6. Various model, legal and operational risks

We believe there are two ways to view the “design” of Novarum. The first approach is to consider the fact that Novarum simply consists of a number of derivative contracts entered into by Novarum and actively managed to an acceptable net risk position. Under this view, the “net variability” of Novarum is concentrated in risks 5 and 6. Under this view, Novarum’s design is to distribute hedging, model and operational risks to Novarum’s variable interest holders, which would be its equity owners and its creditors. This analysis is similar to Example 6 in FSP FIN 46R, which concluded that a pair of offsetting forward contracts should be netted in the risk analysis – essentially the derivative contracts are all deemed “creators” of offsetting variability.

The second approach is to view the derivative contracts entered into by Novarum as creating and absorbing risk. FIN 46R (expressed in paragraph B17) takes the view that generally assets held by an entity are creators of variability and liabilities and equity are variable interests. In particular, paragraphs B10 and B12 note examples of derivative contracts and conclude that instruments such as written put options and forward contracts that are “long” positions in the underlying assets are normally viewed as creators of variability. Applying this view to Novarum, the CCDS would be considered to be the creators of variability, and that variability is distributed among the hedging derivative counterparties and the debt and equity holders.

We believe that the first view is more appropriate. In reaching this conclusion we considered two primary sources of guidance in the FSP.

First, **paragraph 13 of the FSP** notes that the following characteristics of a derivative instrument are ‘strong indicators’ that a derivative instrument is a creator of variability:

- a. Its underlying is an observable market price, rate, index of prices or rates, or other market observable variable (including the occurrence or nonoccurrence of a specified market observable event)
- b. The derivative counterparty is senior in priority relative to other interest holders in the entity.

The hedging derivatives in Novarum meet both conditions. They are vanilla derivative instruments and would be indistinguishable from other derivative instruments typically traded between dealers and end-users in the market. We also noted that while the risk management policies at Novarum will generally require that Novarum’s modeled risk of the CCDS be hedged with the hedging derivatives, the hedging derivatives themselves do not guarantee that Novarum will be fully hedged, and Novarum’s dynamic hedging strategies remain subject to operational and model risks. This is in contrast to a written call or put option or total return swap referencing all CCDS residing at Novarum that would offset all of the risk or return of the CCDS in all cases. Therefore, we believe that the hedging derivatives (risks 3 and 4) should be considered creators of variability, along with risks 1 and 2.



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We also note that Example 6 in the FSP addresses a somewhat similar fact pattern, where an entity has offsetting derivative contracts. In particular, we note the following characteristics similar to Example 6:

- The entity is designed to hold offsetting positions with respect to credit risk. Were it not for the offsetting positions in Novarum, Novarum's capital would be wholly inadequate to support itself (that is, if Novarum were intended to be a risk-taking, rather than risk-neutral, entity).
- The investors in the debt rely on the derivative portfolio as a whole (CCDS and hedging derivatives) to support the cash flows on the debt.
- The hedging derivatives are strongly indicated as creators of variability because their underlyings are based on observable market prices and are pari-passu with the most senior debt holders.

Consequently, we identify Risks 1 and 2 and the variability that Novarum is "designed" to distribute. The instruments that absorb that risk are:

1. the owner's equity
2. the debt

Although a formal agency rating on the Loan will not be sought, we believe that the Loan provided to Novarum will be credit-approved under Citibank's normal procedures and would be expected to approximate an investment grade instrument. The payment provisions requiring principal repayments on the Loan concurrent with any equity distributions further reduce the credit risk associated with the Loan. Based on the anticipated terms, we do not believe that the Loan represents a significant variable interest in Novarum, and in any case will be distributed among a number of lenders on a pari-passu basis.

The equity will absorb the variability in net income of the entity (after the hedging derivatives) and is considered a variable interest.

#### Primary Beneficiary Analysis

For purposes of determining whether Citigroup is the primary beneficiary of Novarum, **paragraph 16 of FIN 46R** requires, in some circumstances, consideration of the interests held by related parties and de facto agents.<sup>2</sup> These de facto agents include:

- a) A party that cannot finance its own operations without subordinated financial support from the enterprise, for example, another variable interest entity of which the enterprise is the primary beneficiary
- b) A party that received its interests as a contribution or a loan from the enterprise
- c) An officer, employee, or member of the governing board of the enterprise
- d) A party that has (1) an agreement that it cannot sell, transfer, or encumber its interests in the entity without the prior approval of the enterprise or (2) a close business relationship like the relationship between a professional service provider and one of its significant clients.

We do not believe that the principals of Novarum are considered de facto agents of Citigroup.

- a. Citigroup is providing no further subordinated financial support to Novarum.
- b. Novarum was established by its Principals, and purchased CCR for a negotiated price, which we believe to be approximate fair value. Because the value of the derivative portfolio, by itself, is negative, CCR is capitalized prior to the sale with sufficient cash to make the purchase price equal to a nominal amount. We do not believe that such a negotiation could be properly characterized as a "contribution" and there are no economic ties to Novarum through ongoing business relationship that would represent a return of that cash.

<sup>2</sup> Because the portion of the Loan retained by Citi is senior and typical investment grade debt, it is not considered a significant variable interest under paragraph B9 of FIN 46. In that case, the discussion regarding de facto agents is not relevant, because paragraph 16 of FIN 46 requires that analysis only by "an enterprise with a variable interest."

- c. The Principals and the directors of Novarum are independent and have no further employment or titles with Citi.
- d. Citi does remain a significant counterparty to Novarum, and will for a period of time until Novarum establishes other business relationships. However, Citi does not have significant business relationships with the Principals themselves, which is what this condition is focused on. Regardless, we considered whether the ongoing relationship with Novarum by itself satisfies this condition. Interpretation 16-3 of the Ernst & Young publication, "Financial Reporting Developments – FASB Interpretation No. 46, Consolidation of Variable Interest Entities" (revised April 2006) notes that "we believe the close business relationship test was constructed to identify a party that provides a significant amount of professional services or similar services to a variable interest entity because that variable interest holder may avoid consolidation of a VIE by arranging to protect its interest or indirectly expand its holdings through other parties." (emphasis added) We note that situation does not exist with Novarum. Citi does not hold any economic interest in Novarum; Citi does not participate in any residual return to the Principals, and is specifically restricted from any control rights over Novarum.

Therefore, we concluded that the Principals are not de facto agents of Citi, and that Citi should consider only its own variable interests in its primary beneficiary analysis.

#### *Other potential variable interests*

Through the final negotiations, it is possible that Citigroup may be counterparty to other operating contracts with Novarum. These will need to be evaluated on a case-by-case basis, but in general as long as the terms are established at market rates, and are not designed to pass on additional business risks to Citigroup, they should not affect this consolidation analysis.

#### **Primary Beneficiary conclusion**

Because Citi's sole variable interest in Novarum is a senior debt investment, and that interest is less than 20% of the debt provided to Novarum, it is clear qualitatively that Citi does not absorb a majority of the risk and rewards of Novarum, and should not consolidate that entity.

#### **2. What is the appropriate accounting for the deconsolidation of CCR?**

Because CFPI's current equity investment in CCR will not be recovered through any debt, equity or other interests, any difference between the sale price of CCR and the current book value of the investment will be charged to expense upon sale. The transfer of any asset with no return in value must be considered as an expense or a loss on the transfer.