A New Covered Bond Program: QFC Structure

September 16, 2008

Contents

Section 1 Executive Summary 1 2 Issuer Costs and Investor Uncertainties Addressed by Proposed Structure 4 3 Potential Impact on FDIC Position 11

4-Mar-11 12:07 p:\lukket\executive board\corporate development\absalon ii\marketing material\web material\downloads\a new covered bond program qfc structure (repaired).docx **Executive Summary**

Section 1

Section 1

Executive Summary

Executive Summary

- As discussed at the Inaugural Covered Bond Summit, the case for covered bonds as a funding tool for US financial institutions has strengthened given the current landscape of the global financial markets.
- Indeed, covered bonds fit the FDIC's mandate to protect depositors:
 - Serves as diversification of funding for financial institutions
 - Reduces over-reliance on the FHLB
 - Provides a form of fixed rate term financing
 - Provides incentive for issuers to maintain strict underwriting guidelines as the credit risk remains on balance sheet
 - Aligns interests of the FDIC and bank issuers

Benefits of a Covered Bond Program								
Access to Deep, Stable, Liquid Market	 Diversifies Funding Sources: Total global outstanding covered bonds: over €2 trillion Different investor base to RMBS and unsecured markets Less Volatile Market: Weathered market fluctuations better than other types of term fixed income financing Features more robust and steady investor base in central banks, stabilization funds and sovereign wealth funds For these types of investors, covered bonds have recently become even more attractive compared to other options like RMBS 							
Frees up Borrowing Capacity at FHLB (if at capacity)	 During recent liquidity crisis the FHLB provided member banks with relatively stable funding totaling \$1.15 trillion in October, an increase of \$182 billion since June. 							
Supplies Term Financing with Very Efficient Use of Collateral	 Higher advance rates than available via FHLB advances leaving more collateral for unsecured investors 							
Offers Flexible Collateral Management	 Means to season collateral which accommodates potential true-sale securitization Ability to actively add and remove collateral, more flexibility to substitute collateral 							
Provides Efficient Asset-Liability Management	 Flexible duration management tool Proposed structure permits The issuer the option to account for both the asset and liability at fair value under FAS 157/159 							

- Despite these benefits, the current US covered bond structure is not optimal due to:
 - Lack of specific written framework resulting in investor uncertainty of outcome in default scenario
 - Potential shortfall in cashflow resulting in a higher swap cost
- Due to the limitations of the current covered bond structure, we are proposing using QFC technology, specifically the Master Repurchase Agreement ("Repo"), to incorporate many of the features of the commonly used financial instrument and its benefits for both counterparties.
- Repos are:
- Characterized by widespread use in the financial markets, including the Federal Reserve
- Understood to provide significant liquidity as a funding mechanism for market participants
- Highlighted by extensive use during the recent global liquidity squeeze
- In this follow-up presentation, we discuss:
 - Benefits the Repo structure provides to the covered bond market and bank issuers
 - Cost savings these benefits provide to US bank issuers through eliminating inefficiencies and investor uncertainties
 - Likely impact this structure will have on the FDIC versus the current US market structure

The Bankruptcy Reform Act of 2005 codified over 20 years of case law and statutory amendments.

The FDIC recognized the Act as achieving four key goals.

- 1. Harmonize the key statutes governing the insolvency of financial market participants so that all participants in the markets will be able to better assess and manage risks
- 2. Update and expand the definitions of the protected contracts to accommodate developments in the marketplace
- 3. Expand the availability of cross-product netting under the FDI Act and the Bankruptcy Code
- 4. Clarify the powers of the FDIC as conservator or receiver for a failed bank to maximize the value of the QFC portfolio and, where appropriate, minimize the impact on other market participants by transferring QFCs to open institutions or to a bridge bank

Section 2

Issuer Costs and Investor Uncertainties Addressed by Proposed Structure

Proposed Covered Bond Structure

Improves Covered Bond Economics for Issuer, Facilitates Market Development

- When evaluating whether to issue covered bonds banks typically compare the cost of alternative funding options as a significant factor in their analysis.
 - The proposed repo structure eliminates or significantly reduces the cost of the issuing covered bonds through reducing swap costs and investor uncertainty leading to:
 - More economical funding source, as detailed in this section
 - Greater incentive for additional covered bond issuers to enter the US covered bond market
 - A large portion of the increase in the cost of the covered bond relative to FHLB Advances is due to the increased swap cost which is discussed on the following page

		Pre-July 2	2007			Today						
	MBS Securitization	Unsecured Debt <i>(A-)</i>	FHLB Advances	EUR CB		MBS Securitization	Unsecured Debt <i>(A-)</i>	FHLB Advances	EUR CB			
Assumed Structure												
AAA Size	97.0%	NA	85.0%	93.0%		92.5%	NA	80.0%	91.5%			
O/C Size	3.0%	NA	15.0%	7.0%		7.5%	NA	20.0%	8.5%			
FHLB Stock			3.8%					3.6%				
Funding Costs												
AAA Funding Cost	L+35-40 bps	L+45-50 bps	L+2 bps	L+5 bps		L+250 bps	L+325 bps	L+5 bps	L+65-80 bps			
Funded O/C Cost (Wtd Avg.)	L+200-250 bps	NA				L+325 bps	NA					
Unfunded O/C Funding Cost	-	NA	L+45-50 bps	L+45-50 bps		-	NA	L+325 bps	L+325 bps			
FHLB Stock Dividend Rate			6.00%					6.00%				
Aggregate Funding Cost	L+34-40 bps	L+45-50 bps	L+8-9 bps	L+8 bps		L+250 bps	L+325 bps	L+78 bps	L+87-101 bps			
Other Expenses												
Aggregate Swap Cost	6 bps ^(a)	NA	NA	+3.2 bps		6 bps ^(a)	NA	NA	+46 bps			
Transaction Expenses	10.0 bps	7.1 bps	0 bps	2.4 bps		10.0 bps	7.1 bps	0 bps	2.4 bps			
AAA Funding Cost + Other Expenses	L+39-44 bps	NA	L+2 bps	L+11 bps		L+254 bps	NA	L+14 bps	L+113-128 bps			
Aggregate Funding Cost + Other Expenses	L+44-50 bps	L+52-57 bps	L+8-9 bps	L+13 bps		L+260 bps	L + 332 bps	L+78 bps	L+136-149 bps			
Covered Bonds vs. Cheapest Alternative		4-5 bps	3			59 71 boo						
(i.e., FHLB Advances)												
(a) Conversion to uncapped MBS.												

All-in Cost: Sample Single-A minus Issuer (under current structure)

Repo Structure: Eliminates Additional Cost Related to FDIC Automatic Stay

- Issue: FDIC Receivership Delay. Under the current US covered bond structure, it must be assumed <u>no</u> payments are made by the FDIC during the 90 day automatic stay period.
 - Furthermore, these payments are not recoverable the FDIA only permits interest accrued through the date of appointment of the receiver
 - Therefore a third party guarantee and/or a cash reserve must be incorporated into the structure to cover these potential interest shortfalls
 - In the existing US covered bond deals issued to date the swap counterparty has guaranteed to cover any interest shortfalls – as it is currently the most cost effective option
- Associated Cost: 2.75 30 bps. Under the current structures the additional cost has ranged between 2.75 bps to as wide as 25 30 bps in the disrupted credit market of the past 4 months.



Repo Structure: Eliminates Additional Negative Carry Cost

- Issue: Additional cost related to the negative carry between the GIC rate and the coupon on the covered bonds in the event of an issuer default.
 - There is no make whole payment (cost of replacement) under the current mortgage bond structure; therefore a third party guarantee and/or a cash reserve must be incorporated into the structure to cover potential shortfall
 - In the existing US covered bond deals issued to date the swap counterparty has guaranteed to cover any interest shortfalls
 - In Repo structures, the termination payments provide an additional source of cashflow that can be used to replace the GIC thus eliminating the related negative carry
- Associated Cost: 0.4 15.0 bps. Under the current structures where the swap counterparty covers this risk, the additional cost has ranged between 0.4 15.0 bps



7

Repo Structure: Reduces Swap Counterparty Risk

- Issue: Additional swap counterparty risk. The swap counterparty in the current structure not only covers the interest rate and currency risks but also covers the potential interest shortfalls ("credit risks") resulting in a limited number of swap counterparties willing to provide the swap, especially in times of distress, since:
 - Additional credit risks are more complex / difficult for the swap counterparty to hedge versus a simple interest rate and/or currency swap
 - Available hedges for credit risks are imperfect so the downside to the swap counterparty could be considerable
- The limited swap counterparties willing to bid puts increased swap counterparty credit risk on the investors as it would be more difficult to replace the swap counterparty if necessary.
- The recent volatility of CDS spreads underscores how difficult it will be to find swap counterparties willing to enter into this structured swap.
- Associated Cost: Simplifying the swap to a basic currency swap and/or interest rate swap broadens the universe of potential swap bidders to lowering the cost as well as facilitating any needed replacement of the swap counterparty.
- Increased competition will likely reduce the swap cost
 - Quantifying the exact concession is very difficult since the market to date has only included a handful of bidders
- The increased swap counterparty risk may also result in higher funding costs demanded by the covered bond investors, especially during market disruptions when liquidity is most important

Repo Structure: Reduces Funding Cost

Issue: Increased funding cost due to perceived investor uncertainty. The coupon demanded by investors is higher on the US covered bond due in part to the lack of a specific CB legislative framework.



(a) Not duration adjusted (Duration: German Public Pfandbriefe: 2.7, German Mortgage Pfandbriefe: 3.3, UK: 5.9, Spanish: 6.7, Ireland: 4.2, Obligations Foncieres: 4.9, US: 4.7)
 (b) To date French legislative covered bonds have been backed by public collateral and French structured covered bonds by mortgage collateral, which further magnified tiering between legislative and structured CB. Source: Deutsche Bank, As of December 12, 2007

- Additional Cost: 1 10 bps. In the European CB market, transactions trade in two categories legislative or structured.
 - Pre-July structured CBs traded with a premium of approximately 1 3bps due to the lack of legislation
 - In the liquidity crisis of the past 3 months, the tiering has become even more pronounced
 - While it's difficult today to quantify the spread tiering related solely to the lack of legislation versus the credit concerns, we estimate the spread premium related to lack of legislation to be 5 – 10 bps today
- Simply using a QFC would likely not be viewed by investors as an exact equivalent to establishing a legislative framework, nevertheless, we believe there would be a partial spread pick-up of 1 5 bps
- Written guidance from the FDIC would help reduce this spread premium further as well as help establish CBs as a rulesbased issue to fit the criteria of legislative bonds for the ECB and for BIS II purposes.
 - In July, the UK government presented a proposal to establish a legislative framework

Repo Structure: Summary of Reduced/Eliminated Cost

In summary, utilizing the QFC structure would reduce the annual expense of the covered bond program by approximately \$20 – 120 million, depending upon market conditions and outstanding issuance.

Additional Costs Eliminated/Reduced	Cost p.a.	\$10 billion program	\$20 billion program
90-day uncertain payment of interest during an FDIC stay which is covered by the swap counterparty	10 – 30 bps	\$10 – 30 million	\$20 – 60 million
Investor uncertainty of outcome in a default results in a spread premium of between 1 – 5 bps	1 – 5 bps	\$1 – 5 million	\$2 – 10 million
Floating rate liability vs. preferred fixed rate liabilities to finance mortgages	10 bps	\$10 million	\$20 million
Requires standby GIC	0.4 – 15.0 bps	\$0.4 – 15 million	\$0.8 – 30 million
Total Annual Expense	21 – 60 bps	\$21 – 60 million	\$43 – 120 million

All-in Cost: Sample Single-A minus Issuer ^(a)										
Funding Source	Pre-J	uly 2007	Today							
	Current Covered Bond Structure	Proposed Repo Structure	Current Covered Bond Structure	Proposed Repo Structure						
FHLB Advances	L + 8-9 bps		L + 78 bps							
MBS	L + 44-50 bps		L + 260 bps							
Unsecured debt	L + 52-57 bps		L + 332 bps							
Covered Bonds	L + 13 bps	L + 9 bps	L + 136-149 bps	L + 115-128 bps						
Covered Bonds vs. Cheapest Alternative (i.e., FHLB)	4 – 5 bps	0 – 1 bps	58 – 71 bps	37 – 50 bps						

(a) Assumptions on page 5.

Potential Impact on FDIC Position

Section 3

Potential Impact on FDIC Position

Section 3

Structural Review

• The covered bond structure using Repos will be very similar to the existing Mortgage Bond structure.

	Mortgage Bond	Repo	Repo structure same as Mortgage Bond?
Cover Pool	Eligible mortgages and substitution assets	Same	4
Cover Pool Pledge	Pledged to Mortgage Bond Trustee	Pledged under hold in custody repo	
CB Series-specific?	Each series of CB benefits from a series of Mortgage Bonds	Same – each series of CB will have one or more related repos	\checkmark
Tenor	Matches CB tenor	Same	\checkmark
Substitution Rights	Bank has full rights of substitution of the Cover Pool, subject to ACT	Same – Bank has full rights of substitution under each Repo, subject to ACT	~
Asset Coverage Test ("ACT")	Based on Asset Percentage	Based on Asset Percentage	\checkmark
Application of Collections	Collections are retained by the Servicer provided it makes CB payments and no triggers are hit	Same	✓
Collateral Trigger (for loan file segregation)	Long-term ratings and other triggers	Same	~
Collections Trigger (for collections segregation)	Long- and short-term ratings trigger	Same	~
Swap Structure	Covers interest/currency mismatch and potential 120-day liquidation delay	Covers interest / currency mismatch and potential 30-day liquidation delay	
GIC Structure	Standby in case of liquidation	Same	\checkmark
Operative Documents	Mortgage Bond Indenture Related Series Supplement	Master Repurchase Agreement Related Confirmations	

Repo Analysis: Value of Repo Contract versus Risk of Bank Default

- The value of the repo contract, at the time of insolvency, will vary depending on prevailing interest rates.
 - If interest rates are higher, the repo contract has greater value to the Receiver/FDIC
 - If interest rates are lower, the repo contract has less value to the Receiver/FDIC
- Historically banks have been more likely to become insolvent in a higher rate environment, as shown below, the repo structure would therefore result in greater economic value at the time of distress.



Sources: Bank Defaults – FDIC Closings and Assistance Transactions Fed Funds – Board of Governors of the Federal Reserve System

Note: Probabilities were calculated using a cubic spline of average default and rate incidences at 0.5% intervals.

Cost of cover assumes bank default after year 2 of a 5-year contract, see the following page for sample calculations.









Repo Analysis: Assumptions and Scenarios

For illustrative purposes, we provide sample calculations for a Repo structure compared to the Mortgage Bond structure. We show two scenarios, of when interest rates are lower or higher than the repo rate to show the resulting impact on the FDIC.

General Assumptions							
At CB Issuance (Base Case Rate = 6%)							
Collateral Balance	\$107						
Repo Purchase Price	\$100						
Repo Rate	6%						
Repo Tenor	5 years						
CB Principal Balance	\$100						
CB Coupon	6%						
CB Tenor	5 years						

Scenarios: Assumes Bank Default at end of year 2

	Low Rate Scenario (= 5%)	High Rate Scenario (= 7%)
Loan Balance	\$110	\$104
Remaining Repo Tenor	3 years	3 years

For simplicity of the example, we assumed accrued interest was \$0 for the repo structure since the settlement is assumed to occur on Day 1. Additionally, accrued interest on the mortgage bond structure was assumed to be \$0 as the FDIC only pays accrued interest up to the date of receivership.

Repo Analysis: Sample Low Interest Rate Scenario

- While the probability of insolvency is low, if a sponsor were to become insolvent when rates are low the decision to <u>repudiate</u> or to take <u>no action</u> on the covered bond obligation would likely favor the FDIC.
 - Since the collateral is worth more than par, any proceeds above the par value can be used towards the bankruptcy proceedings
 - Liquidation of the collateral would be easier due to the favorable market conditions



Repo Analysis: Sample High Interest Rate Scenario

While the probability of insolvency is low, if a sponsor were to become insolvent when rates are high, the decision to <u>affirm</u> the covered bond obligation would likely favor the FDIC.

- A liquidation of the pool may be difficult, so avoiding the situation would minimize complications.



(a) Assumes repudiation or other termination of repo.

Section 3

Potential Impact on FDIC Position

QFC Covered Bond Program

Likely FDIC Impact: Summary

• The following summarizes the possible outcomes and FDIC impact under both rate scenarios described.

		Lov If FDIC Rep	w Rate Scen	n ario kes No Action	ı		High Rate ScenarioEither ScIf FDIC Repudiates or Takes No ActionIf FDIC A						Either Scenario		
Mortgage Bond	-	Cover Pool Proceeds Payment due: Mortgage Bond Par Total to FDIC	+ Accrued	\$ \$	110.0 100.0 10.0		= Co Pa - M To	over Pool yment du Mortgage tal to FD	Proceeds e: Bond Par + IC	Accrued	\$ 104. <u>100.</u> \$ 4.	0 0 0		 FDIC may keep or transfer rights and obligations of Bank to 3rd party: 	Kommentar [d6]: K:\ABS\CREDIT_C ARD_ABS\COVERED BONDS\COUNTRYWIDE\DEALS\SERI ES 1 (STRUCTURING MANDATE)\RATING AGENCY PRESENTATION\Sample calcs.xls (Sheet2)
	= - -	Cover Pool Proceeds Payment due: Repo Repo Cost of Cover Total to FDIC		\$ \$	110.0 100.0 <u>2.7</u> 7.3		= Co Pa - F - F To	ver Pool I yment du Repo Repo Cos tal to FD I	Proceeds e: t of Cover IC		\$ 104.0 100.0 (2.0 \$ 6.0)) <u>3)</u>		 FDIC may keep or transfer rights and obligations of Bank to 3rd party. 	Kommentar [d7]: K:\ABS\CREDIT_C ARD_ABS\COVERED BONDS\COUNTRYWIDE\DEALS\SERI ES 1 (STRUCTURING MANDATE)\RATING AGENCY PRESENTATION\Sample calcs.xls (Sheet2)
Repo	Years 1-2 Year 3 Year 4	BOY Reinvestment Balance Rate Assumes Bank Default at end of 102.72 5%	Total Investment Earnings (BOYBal*5%) of year 2 5.14 5.09	Coupon Payable to Investors (\$100*6%) 6.00 6.00	Shortfall/ Excess (0.86) (0.91)	EOY Balance	Years 1-2 A Year 3	BOY Balance ssumes Ban 97.38	Reinvestment Rate k Default at end 7%	Total Investment Earnings (BOYBal*7%) of year 2 6.82 6.82	Coupon Payable to Investors (\$100*6%) 6.00	Shortfall/ Excess	EOY Balance 98.19		Kommentar [d8]: K:\ABS\CREDIT_C ARD_ABS\COVERED BONDS\COUNTRYWIDE\DEALS\SERI ES 1 (STRUCTURING MANDATE)\RATING AGENCY PRESENTATION\Sample calcs.xls (Sheet2)
parison	Year 5 Cost of Co	over 100.95 5%	early termin	ation of high	(0.91) (0.95) (2.72)	100.90 100.00	Year 4 Year 5 Cost of Cove Repo cor environm	Year 4 98.19 7% 6.87 6.00 0.87 99.07 Year 5 99.07 7% 6.93 6.00 0.93 100.00 Cost of Cover 20.62 18.00 2.62 100.00 100.00 Repo contract is valuable as a lower cost loan in the higher rate environment 99.01 100.00 100.00							Kommentar [d9]: K:\ABS\CREDIT_C ARD_ABS\COVERED BONDS\COUNTRYWIDE\DEALS\SERI ES 1 (STRUCTURING MANDATE)\RATING AGENCY PRESENTATION\Sample calcs.xls
Comp	 Repo may result in a reduction of gain to the FDIC Repo can be sold for a gain when transferred to a new counterparty Repo contract can potentially be terminated with a net gain to the FDIC 							(Sheet2)							

Section 3

Calculation of Repo Cost of Cover

- An important characteristic of a QFC/Repo is the termination payment that is owed or received in the event the QFC/Repo is terminated early.
- This is often referred to as the "cost to cover". The cost to cover is defined as the loss or expense in entering into a replacement Repo agreement on similar terms (including all fees, costs and other expenses); or the amount that would be required to obtain the economic equivalent of a Repo agreement.
- In order to ensure a sufficient payment to the CB holders we would clearly define the termination payment.
- The termination payment would be the net present value of the fixed interest rate differential against the notional principal amount at each scheduled payment date for the remainder of the transaction. The swap curve will be the market data source to determine the current fixed rate.
- The exact calculation of the cost of cover will be based on mutual agreement between the FDIC, De Novo Bank and the rating agencies.