Meeting between Staff from the Banking Agencies and Representatives of J.P. Morgan
March 11, 2013

Participants: Norah Barger, Jordan Bleicher, Sean Campbell, Mona Elliot, Anna Harrington, and David Lynch (Federal Reserve).

Bobby Bean, John Feid, and Karl Reitz (FDIC)

Roger Tufts and Kurt Wilhelm (OCC)

Matthias Arnsdorf, Claire Ellingford, Adam Gilbert, Albert Moffitt, and Vidyasagar Pulavarti (J.P. Morgan)

Summary: Representatives from J.P. Morgan (the "Representatives") met with staff from the Federal Reserve, the FDIC, and the OCC to discuss issues related to the proposed rule issued by the Federal Reserve and other prudential regulators on margin and capital requirements for covered swap entities under Title VII of the Dodd-Frank Act and the consultative documents of the Working Group on Margining Requirements. The Representatives focused on the interaction between capital and margin requirements. The areas discussed are described more fully in the attachment.

Attachment

INTER-AGENCY DISCUSSION ON MARGIN AND CAPITAL

March 11, 2013

J.P.Morgan

Agenda

	Page
Executive Summary	**1**
Initial Margin and Capital	3
Collateralized Counterparties	6
CVA Risk Capital Charge	13
Centrally Cleared Exposures	20
Conclusions	22

Executive Summary

Margin requirements for non-centrally cleared derivatives

JPM is participating in the formal comment process conducted by several trade associations, so we will not comment on that paper in this discussion today.

We do feel that the interaction between capital and margin should be examined closely as final rules are being considered.

Comments ahead of finalizing Basel III rules

Prior to the issuance of final rules for Basel III implementation, we would like to request additional consideration of certain aspects that have been under much comment from the industry, specifically:

- Credit for systemic risk reduction through the use of single name proxy hedges as well as over-hedges
- Integration of CVA market risk sensitivities in the trading book VaR and Stress VaR
- Allow derivative LGDs in line with CVA valuation and risk management

While we recognize that many of these points have been previously raised and even responded by BCBS in the prior FAQs, we still would like to reiterate the importance of these issues. The overarching theme of our commentary centers on an ideal alignment between our prudent risk management practice with its associated capital framework.

Agenda

	Page
Executive Summary	1
Initial Margin and Capital	**3**
Collateralized Counterparties	6
CVA Risk Capital Charge	13
Centrally Cleared Exposures	20
Conclusions	22

Initial Margin and Capital

Interaction between initial margin and capital

- Margin is intended to reduce counterparty exposure, and should result in the need for less capital.
- A portfolio with a large number of trades will exhibit dynamics that require margin to be modelled over time.
- The delta of the portfolio will change with market moves.
- Furthermore, as exposures roll off and new trades come in, margin requirements will change.
- These expected future margin amounts mitigate your expected exposures to the counterparty and will typically offset much of the EPE for collateralised counterparties subject to margin rules.
- This should then significantly reduce CVA, CVA RWA and Credit RWA.

Initial Margin and Capital

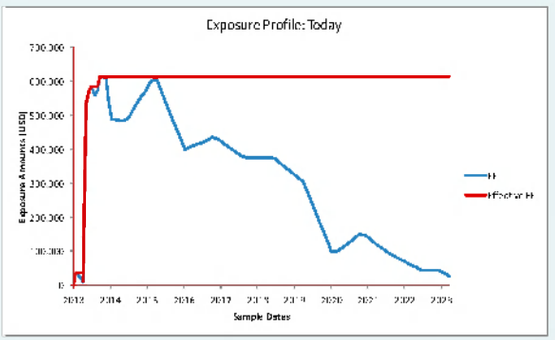
Example: margin requirements for a swaption plus swap hedge

- We can take an example of a 10y USD interest rate swaption plus corresponding swap hedge.
  - Notional $100m, 200bps ITM, expiring in 3 months.
- There is no margin required today, however as the portfolio moves forward through time, delta changes and so does expected margin.

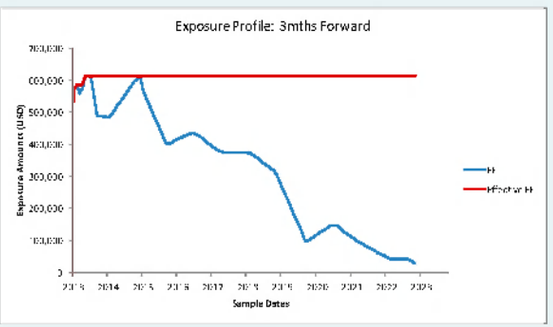
	Today	current 3m	with margin 3m
Effective EPE	$450,014	$603,837	$0
EAD	$630,020	$845,371	$0
Risk Weight	47.5%	47.5%	47.5%
RWA	$299,259	$401,551	$0
Capital	$28,430	$38,147	$0
Swaption Delta	($94,000)	$0	$0
Swap Delta	$94,000	$94,000	$94,000
Net Delta	$0	$94,000	$94,000
Initial Margin (LCH equiv)	$0	$3,150,000	$3,150,000

- The margin covers the EAD by almost 4 times, hence neutralizing the counterparty exposure.
- Therefore, after accounting for margin, the EAD will go to zero.
- In order to get the appropriate capital reduction, we can either:
  - Naively ignore default RWA for margined counterparties, but this has difficulty with the suggested thresholds in BCBS 242.
  - Properly model anticipated margin over time in the capital model.
- Modeling future margin will be a challenge for banks and require time for development, implementation and regulatory approval.

Today, the swaption is delta hedged, generating minimal EE until the option expires.



In 3mths time, the option has expired and exposes the delta of the swap



J.P.Morgan

Agenda

	Page
Executive Summary	1
Initial Margin and Capital	3
Collateralized Counterparties	**6**
CVA Risk Capital Charge	13
Centrally Cleared Exposures	20
Conclusions	22

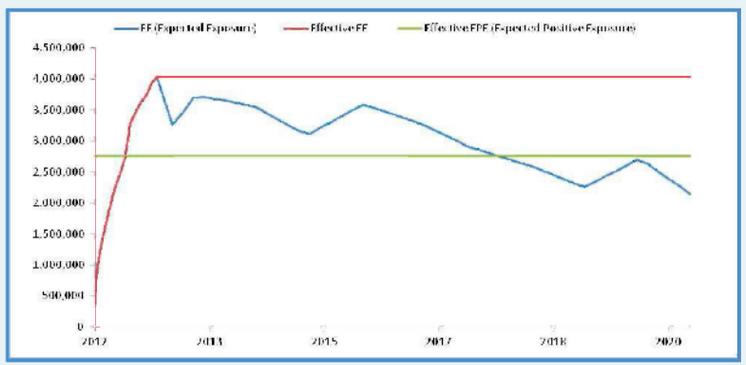
Collateralized Counterparties

Fully collateralized broker dealers generate disproportionate RWA

- In theory, we have seen how margin should offset the capital required for fully collateralized counterparties.
- In practice, however, the counterparty RWA for broker dealers is driven by settlement risk as well as the market risk.
- Margin offsets the market risk piece, but not all of the settlement risk.
- Our internal methodology for modeling expected exposures captures timing differences around settlement of transactions.
  - There is typically a short delay between when we pay out cash and when we receive back our collateral.
  - This can be thought of as settlement risk.
  - These events are pronounced in the short end due to larger expected cashflows and higher granularity of simulation dates.
- We see many of these spikes in our exposures to broker dealers which then determine the capital we are required to hold.
  - Credit Risk RWA under IMM uses the expected exposure profile over time to calculate EAD.
  - The rule dictates that exposures are not allowed to decline, such that; Effective EE(t) = Max(Effective EE(t-1); EE(t))
  - This is intended to capture the rollover risk from the likelihood that the exposure is replaced.

- As a consequence of this max exposure approach we have a disproportionate amount of RWA to these highly collateralized counterparties.
  - Broker dealers contribute over 10% of the Credit RWA.
- In Basel III, the stressed EE profile is required in the Credit Risk RWA, making this effect even more pronounced.

Illustration of the exposure calculation for Credit RWA

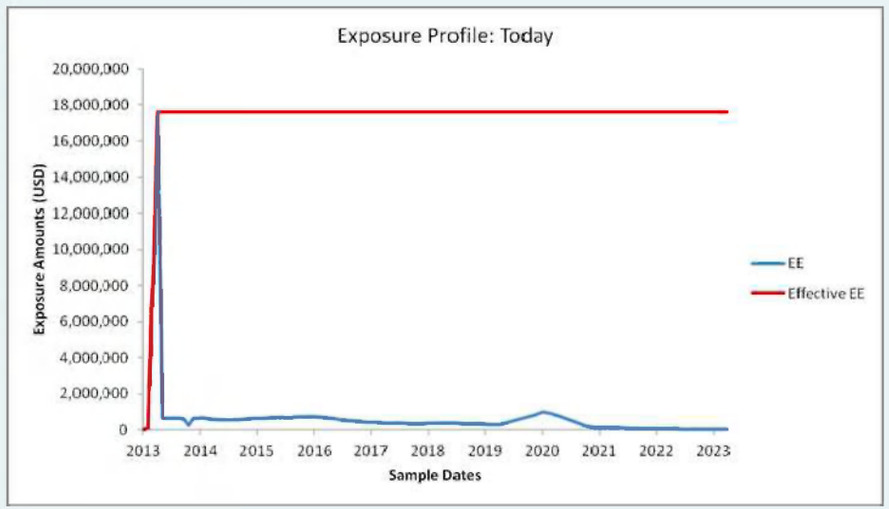


Collateralized Counterparties

Prior example switched from a long to short option

- If we revisit the example from slide 5 and change the direction, we can see the RWA of a sold option.
- Prior to the trade expiry, we have sent margin to our counterparty. Once the option expires and payment is made, the mtm will move to zero and collateral is returned the following day. In this example, the mtm/collateral is $17.72mm.
- Today that option/swap package will have zero initial margin, so unable to offset the collateral return spike, resulting in a seemingly large RWA.

	Today	current 3m
Effective EPE	$15,072,984	$666,457
EAD	$21,102,177	$933,040
Risk Weight	47.5%	47.5%
RWA	$10,023,534	$443,194
Capital	$952,236	$42,103
Swaption Delta	($94,000)	$0
Swap Delta	($94,000)	($94,000)
Net Delta	($188,000)	($94,000)
Equivalent LCH margin	$0	$3,150,000

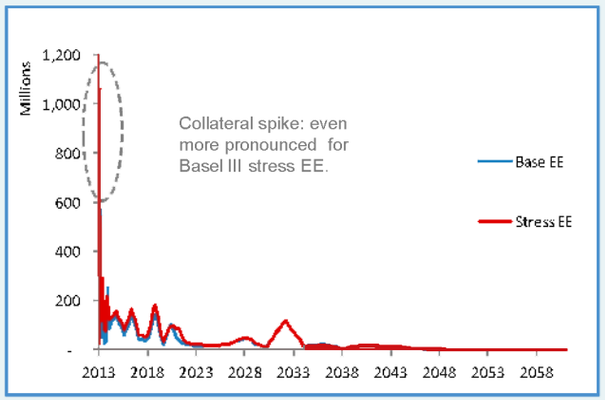


- While this example may seem like an extreme case, we certainly have plenty of real examples in our portfolio today
  - Large cashflows and corresponding collateral movements are occur frequently in a large broker-dealer portfolio

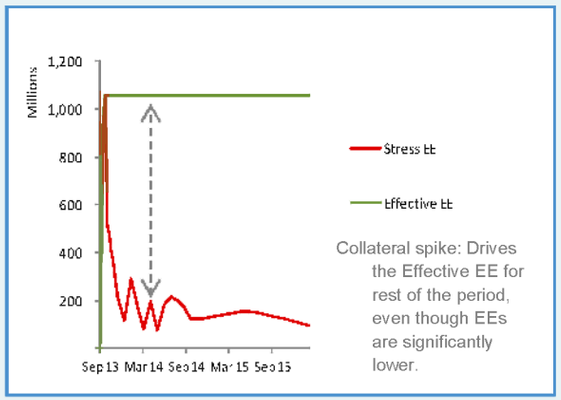
Example 1: Credit RWA for a broker dealer – How big is the spike?

Broker Dealer 1: Bilateral CSA with 0 threshold, daily margining

Broker Dealer 1 EE Profiles



Broker Dealer 1 Effective EE Profile



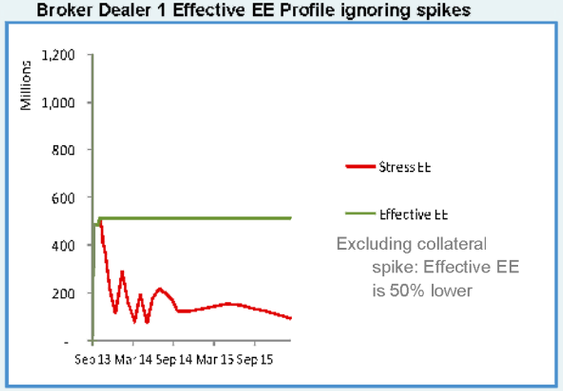
Credit RWA calculation

- EAD = Effective EPE * 1.4 = $1.1bn * 1.4 = $1.5bn
- RWA = EAD * Risk Weight (k * 12.5) = $1.5bn * 30% = **$450m**
- Capital = $450m * 9.5% = $43m

Credit RWA calculation **without** collateral spike

- EAD = Effective EPE * 1.4 = $0.5bn * 1.4 = $0.7bn
- RWA = EAD * Risk Weight (k * 12.5) = $0.7bn * 30% = **$210m**
- Capital = $210m * 9.5% = $20m

Broker Dealer 1 Effective EE Profile ignoring spikes

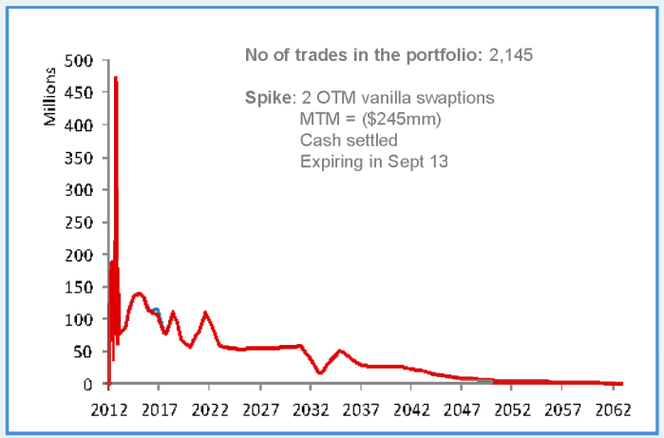


Collateralized Counterparties

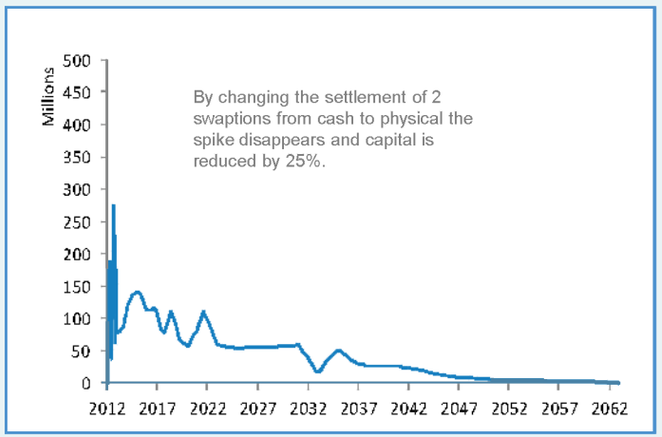
Example 2: Credit RWA for a collateralized counterparty – How did we reduce the impact?

Broker Dealer 2: Bilateral CSA with 0 threshold, daily margining

Broker Dealer 2 EE Profile



Broker Dealer 2 EE Profile post change to settlement



Credit RWA calculation

- EAD = Effective EPE * 1.4 = $330m * 1.4 = $470m
- RWA = EAD * Risk Weight (k * 12.5) = $470m * 47.5%= **$220m**
- Capital = $220m * 9.5% = $21m

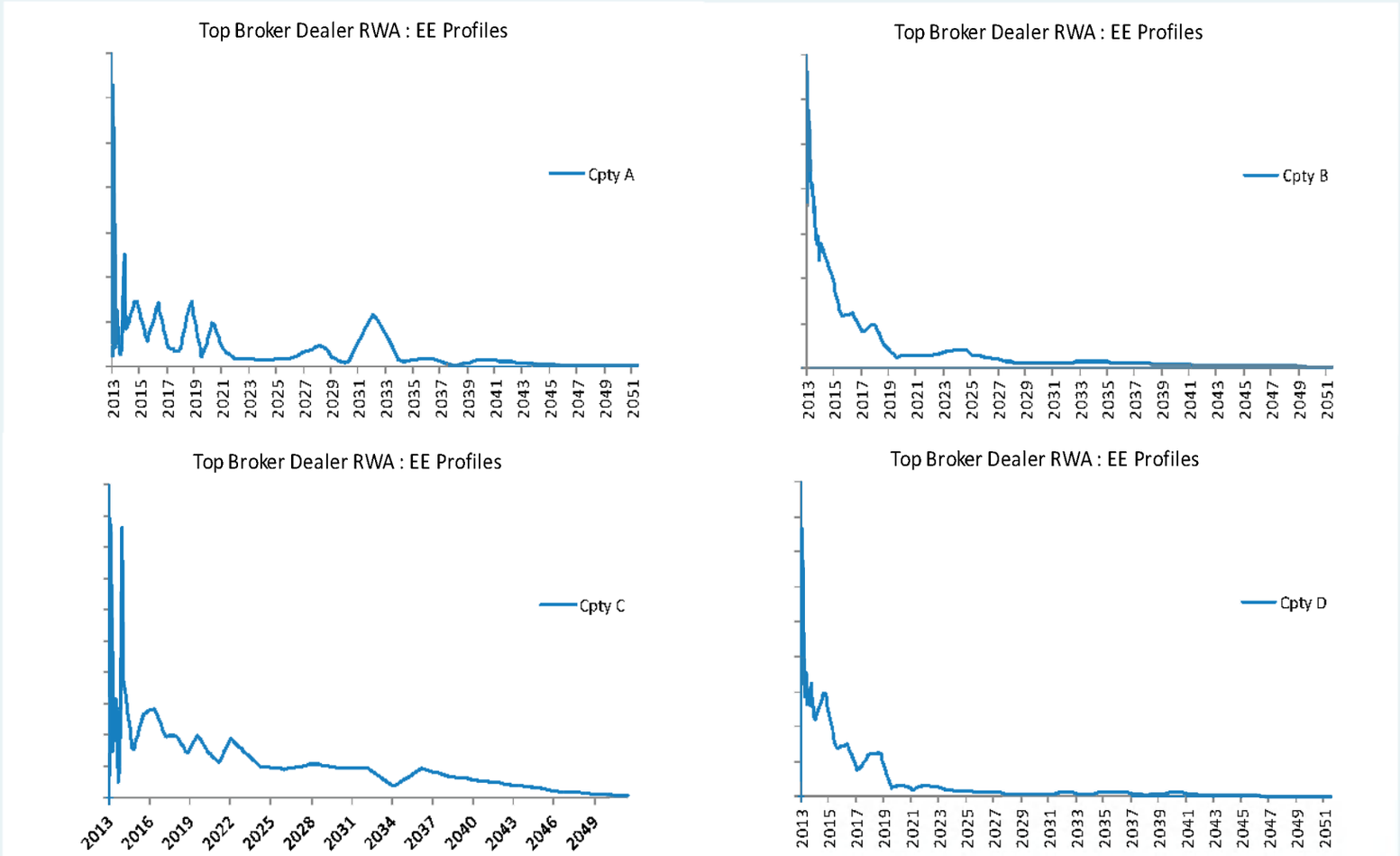
Credit RWA calculation **after** change in settlement on 2 trades from cash to physical

- EAD = Effective EPE * 1.4 = $250m * 1.4 = $360m
- RWA = EAD * Risk Weight (k * 12.5) = $360m * 47.5% = **$170m**
- Capital = $170m * 9.5% = $16m

- The future RWA impacts of this spike grows through the time, as the high water mark (rollover) has greater effect

Collateralized Counterparties

Exposure spikes are common for broker dealers



Collateralized Counterparties

Cause and effects of the coliateral return spikes

- The exposure spikes arise from the timing mismatch between outflow payment (T) and subsequent collateral return (T+1)
- Sample outflows include
  - Expiry & payment of sold cash settled options
  - Final cashflows of FX forwards, cross currency swaps and zero coupon swaps
  - Interim cashflows of resetting notional cross currency swaps
- For cleared transactions, the derivative payment is immediately offset by the collateral balance
- Due to the collateral return spikes, we can think about the exposure as :
  - **Exposure = Collateral Return Spike + Margin Period of Risk ("MPOR")**
- Let's reconsider our example from slide 5. We need only 25% of the IA to offset the MPOR exposure
  - Presumably, we could consider using the remaining 75% of IA to offset the Collateral Return Spike
  - The remaining IA may not be enough to fully offset this spike, which would result in additional capital to be held
  - We would need to model the dynamic IA through time to get future offset to the Collateral Return Spike imposed exposure
- Other alternatives to manage the collateral spike imposed risk can include:
  - Bilateral negotiation: early termination of trades, convert cash settlement to physical
    - Will this activity be hindered by mandatory clearing rules?
  - Industry/vendor solution to compress multilateral payments
  - Devise a payment protected system to net derivative payments in exchange for variation margin
  - Reconsider this effect in the upcoming Basel III final rules
    - Should this settlement exposure be distinguished from methods under derivatives?
    - Potential consideration of derivative payment and collateral return as DvP/PvP, applying unsettled transaction rules?
      - T+1 collateral return is "equal to or less than the market standard" and shorter than 5 days

Agenda

	Page
Executive Summary	1
Initial Margin and Capital	3
Collateralized Counterparties	6
CVA Risk Capital Charge	**13**
Centrally Cleared Exposures	20
Conclusions	22

- European exemptions in CRD IV
- Single name proxy hedges
- CVA market hedges
- Market LGD

CVA Risk Capital Charge

CVA Risk Capital Charge – Exemptions for Europe

- CVA and the CVA capital charge uses the expected exposures without the effective EE high watermark assumption. Therefore the settlement risk spikes have minimal impact.
- The majority of CVA risk comes from uncollateralized counterparties, where the margin rules will not apply.
- European implementation of Basel III ("CRD IV") exempts many uncollateralized clients from the CVA capital charge; specifically non financials, pension funds and sovereigns.
- More than 40% of our CVA RWA is with counterparties that would be exempt under CRD IV.
- The remaining counterparties are Financials which, as covered earlier, are expected to have very little CVA and RWA given future margin rules.
- To give an idea of how market pricing could differ:
  - a 30y IRS for a corporate client with no CSA and a spread of 200bps can generate CVA capital costs of around 13bps running for a US bank (dependent on model and hedge performance), which would compare to zero for a European bank.
- We **do not** request a similar exclusion in the U.S. Rules, as we support the calculation of capital for these exempt counterparties and do not follow the rationale being applied in Europe.
- However we do request some modifications to the proposed rule for CVA capital, which are covered in the following pages:
  - **Include single name proxy hedges** of CVA.
  - **Combine the CVA market sensitivities** with the market risk hedges feeding the trading book VaR and Stress VaR.
  - **Allow derivative LGDs** in line with internal CVA modeling.

CVA Risk Capital Charge

CVA Risk Capital Charge – Single Name Proxy Hedges

- Single name proxy hedges cannot be recognised in the Advanced CVA capital charge, irrespective of whether basis risk between the exposure and the hedge is appropriately captured.
  - Index CDS, however, can be used as a proxy hedge.
  - This creates asymmetry in the rules between the types of hedges that are considered eligible.
- There is no liquid CDS market available for a significant number of our counterparties.
  - We manage the CVA risk with the most suitable hedge, which can be a single name CDS that is related to the systemic risk of the actual credit.
- If single name proxies are not eligible, banks are incentivised to hedge their CVA with index CDS, thereby introducing more basis risk and volatility.
- Capital should not be in conflict with prudent risk management.
  - With capital becoming a restrictive factor for banks, some may be incentivized to favor RWA eligible hedge over the appropriate economic hedge.
- Over-hedging, on a single-name level, is prohibited but is allowed for Index CDS hedges.
  - Again, this creates asymmetry between types of hedges. It also creates significant operational and control issues if we are required to split hedges between banking and trading.

CVA Risk Capital Charge

Example: Comparing Single Name Proxy Hedges to Index Hedges

- The historical analysis below shows the magnitude of risk that would be introduced if we replaced some of our single name proxy hedges with index.
  - We took the bucketed credit spread sensitivity to 2 quasi sovereign entities, where the risk is of comparable size.
  - We calculated the daily volatility, VaR and worst day loss for both the actual proxy hedge and then the index hedge.

Hedge performance of single name proxy compared to index

$m	CVA Risk Hedge Type	Quasi Sov A **Single Name Proxy**	Quasi Sov A iTraxx Main	Quasi Sov A Unhedged	Quasi Sov B **Single Name Proxy**	Quasi Sov B iTraxx Main	Quasi Sov B Unhedged
Daily P&L Vol	2009	0.1	3	3	0.8	4	3
	2010	0.3	4	5	0.6	3	3
	2011	0.1	2	3	0.3	2	3
	2012	0.2	3	3	0.3	2	3
VaR 99% 10d	2009	2.0	21	24	8.5	24	23
	2010	1.8	32	38	3.3	24	28
	2011	0.6	16	22	2.7	17	28
	2012	2.4	26	23	2.4	20	22
Worst Day Loss	2009-12	2.3	16	25	4.2	17	16

- The proxy hedge generates risk from a mismatch in the curve positions of the CVA risk compared to where we are able to hedge it. This reflects the P&L volatility realized by the CVA portfolio for this name.
- The spread on the index hedge is driven by many other factors unrelated to the name we are hedging and therefore more basis risk is introduced.
- We believe that single name proxy hedges should be considered eligible provided that the basis is sufficiently captured by the model and they are managed as part of the CVA portfolio.

CVA Risk Capital Charge

CVA Risk Capital Charge – Market Hedges of CVA

- The CVA risk capital charge is based on a credit VaR methodology, computed on a standalone basis.
- The CVA desk actively hedges the CVA mtm sensitivity to underlying markets, in addition to the base credit exposure
  - A concentration of similar client activity typically results in a directional CVA hedge portfolio.
  - The sensitivity of CVA to rates can be material as indicated in the standalone VaR below.
    - This is a critical risk and pnl item for us to mitigate
- The rules require us to feed only the hedge side of the interest rate position into the trading book VaR and Stress VaR.
- Including the hedge side of the position in the Market Risk RWA can easily reduce the VaR and StressVaR by over 10%.
  - They can be materially diversifying to the risk elsewhere in the bank.

Regulatory VaR for Market Risk RWA – The potential impact of CVA interest rate hedges

CVA mkt hedges only	
Day 1	154
Day 2	148
Day 3	134
Day 4	122
Day 5	119
Day 6	117
Day 7	117
Average	130

All excl. CVA mkt hedges	
Day 1	147
Day 2	144
Day 3	124
Day 4	121
Day 5	117
Day 6	116
Day 7	111
Average	126

All	
Day 1	155
Day 2	121
Day 3	119
Day 4	117
Day 5	112
Day 6	105
Day 7	100
Average	118

- Given the materiality of the hedges required, including them in Market Risk RWA gives a false representation of the risk.
  - Reducing certain concentrations in the CVA book can be a net RWA increasing event.
- Our recommendation is to feed the market sensitivities of the CVA, alongside the hedges, into the trading book VaR.
  - This is what we do for our 10Q VaR published in our SEC filings and used for risk management.

CVA Risk Capital Charge

CVA Risk Capital Charge – Market LGD for Derivatives

- The pvbp formula for the CVA capital charge specifies the use of a market LGD.
- The LGD embedded in the market CDS spread reflects the expectation of recovery on a senior unsecured bond. Given that derivative receivables are not deliverable into the CDS contract they are likely to have a different recovery rate which is often higher.

$$CVA = P(Default) \cdot EPE \cdot LGD \cdot Duration$$

- Where;

$$P(Default) = CDS\ Spreads \div (1 - RR_{CDS})$$

$$LGD = Loss\ Given\ Default = (1 - RR_{derivative})$$

- The unobservable derivative LGDs can be estimated using all relevant empirical data including, but not limited to, the derivatives recovery rates realized in the past.
- The table below provides some of the most recent recovery rate analysis, considering both historical JPM experience and independent Moodys data.

Summary of Recovery Rate Studies

Source	Avg JPM RR	Avg Unsecured RR	Avg JPM LGD	Avg Unsecured LGD	Implied Alpha
JPM IB Historical Experience	61%	36%	39%	64%	0.61

Source	Unsecured Loan RR	Unsecured Bond RR	Unsecured Loan LGD	Unsecured Bond LGD	Implied Alpha
Moodys 2012 Default Study Post Default Trading	47%	37%	53%	63%	0.84
Moodys 2012 Default Study Ultimate Recoveries	80%	49%	20%	52%	0.38

CVA Risk Capital Charge

CVA Risk Capital Charge – Market LGD for Derivatives

- For the purpose of CVA risk management we use LGDs reflective of the expected derivative recovery rate.
- The impact of switching to an LGD that reflects the market recovery on a senior unsecured bond increases the portfolio CVA by around a third.
- This material difference in internal CVA and regulatory CVA, results in the regulatory CVA appearing artificially underhedged.
  - This creates a material disconnect between realized P&L volatility and the CVA VaR feeding the RWA.
- The use of a different recovery expectation for a derivative contract compared to the unsecured bond can be incorporated in a number of ways:
  - Instead of marking the CVA using market CDS curves you can use CVA specific curves that embed a derivative recovery rate.
  - You could incorporate the anticipated derivative recovery as an adjustment to the Expected Exposures used for CVA.
- We believe it is appropriate to use the expected recovery rate of the derivative contract in the Regulatory CVA calculation, in line with how internal CVA is marked and risk managed.

Agenda

	Page
Executive Summary	1
Initial Margin and Capital	3
Collateralized Counterparties	6
CVA Risk Capital Charge	13
Centrally Cleared Exposures	**20**
Conclusions	22

Centrally Cleared Exposures

JPM views

- Basel interim-final rules for capital requirements for bank exposures to CCP's (BCBS 227) together with the clarifications in BCBS Counterparty Risk FAQ (BCBS 237) address some of the industry's concerns
  - However the framework is still largely risk in-sensitive due to the 'standardized' nature of computing capital requirements for default fund exposures
  - Method 1 for default fund RWA is driven by information provided by CCP's, governance / responsibility for data should be established by regulators. It is unlikely that CCP's will provide information in time for quarterly results.
- There are several inconsistencies in the rule which require further change / clarification
  - Application of Method 2 will result in 0 capital requirement for default fund contribution of clearing members who do not have a house business – this will result in significant competitive disadvantage for banks like JPM and undercapitalization in some banks
- Several aspects of the rules require clear guidance from the regulators
  - Clarity on QCCP recognition framework and treatment for 2013 (in the US rules)
  - Eligibility of client collateral posted with CCP as risk mitigant in fully segregated and omnibus accounts in various jurisdictions
  - Framework for indirect clearing
  - Capital requirements for porting arrangements provided by banks

Agenda

	Page
Executive Summary	1
Initial Margin and Capital	3
Collateralized Counterparties	6
CVA Risk Capital Charge	13
Centrally Cleared Exposures	20
Conclusions	**22**

Conclusions

Implementation of contemporaneous margin and capital

As we expect reduced derivatives exposure through full credit for margin, we request careful consideration when determining timelines in the final margin rules.

Review approach towards risks imposed through timing of derivatives collateral return

The size of short term exposures is often larger than the term exposure margin period of risk. Through the introduction of using stressed parameter inputs under Basel III, this impact is further exaggerated. We would like to confirm the approach and see whether any grace period should be considered, such as the DvP or PvP methodology used for unsettled transactions.

CVA Capital Charge

JPM is not requesting RWA exemptions similar to those in the European implementation of Basel III, under CRD IV. We do not follow the rationale being applied in Europe. We do, however, reiterate the impact this has on the competitive landscape in the global markets.

We seek credit for the use of over-hedge and single name proxies, as they are primary risk management tools used to mitigate CVA P/L volatility. CVA P/L variability was the primary driver to introduce a CVA Capital Charge under Basel III.

We would like to include the CVA market risk sensitivities with the market risk hedges feeding trading book VaR and Stress VaR. At times, the size of the standalone hedge book VaR can be comparable to that of the bank. In addition, standalone hedges can potentially even diversify risk for the bank, reducing the overall market risk capital requirement.

We would like to distinguish derivatives specific LGD to align incentives of CVA valuation and risk management in line with the corresponding capital charge.

Centrally Cleared Exposures

There are several areas we seek guidance and consideration in the final rules.