

Counterparty Risk, Impact on Collateral Flows, and Role for Central Counterparties

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Summary of presentation

- **Counterparty Risk** is large and even more concentrated than year ago
- Counterparty Risk has adversely impacted **high-grade collateral flow and global liquidity**
- Is **Central Counterparties (CCPs)** a solution?

What is Counterparty Risk from OTC derivatives (especially when a large LCFI fails)

- Systemic/counterparty risk from OTC derivatives has typically been defined by using **receivables**, as viewed by OCC and other researchers.
- We define this risk (i.e. the risk to others in the global system if a large financial institution goes under) by looking at **derivatives payables**, after netting for ISDA Master agreements and after considering the assigned cash collateral.
- ISDA transactional netting of OTC derivatives, executed under the Master Agreement, allows the parties to **allocate capital only against the net figure**, rather than the gross amount.
- Such derivatives payable obligations will have to be **re-priced immediately** by others who would have lost their counterparty.
- **Notional** values of OTC contracts are not relevant if LCFI goes under

Notional, Gross and Netted

-some definitions, source IMF WP 09/173

- **Notional amounts** are defined as the nominal value of all OTC derivative deals. These amounts provide a measure of the size of the market, but do not provide a measure of risk. Risk arises from open derivatives stems from several factors including price changes, volatility, leverage and hedge ratios, duration, liquidity etc.
- **Gross market values** are derived from the replacement cost of open contracts that are in a current position at current market prices and thus, in the event of a counterparty default, would roughly represent defaulted claims on counterparties. Although gross market values provide a rough aggregate measure of counterparty risk, these values do not account for netting and therefore overstate the risk from open contracts.
- We define the exposure of the financial system to the failure of a particular counterparty as the derivatives liabilities of the counterparty to all others in the financial system. These liabilities stem from the counterparty's OTC derivatives payables *after* netting under a master netting agreement such as ISDA, which have been *further reduced* by assigning cash or equivalent collateral.

**Notional amounts of derivatives are sizable...
...but do provide a measure of risk**

(source: OCC Quarterly Report on Derivatives,
in millions of US \$, end March'09)

RANK	HOLDING COMPANY	STATE	TOTAL ASSETS	TOTAL DERIVATIVES
1	JPMORGAN CHASE & CO.	NY	\$2,079,188	\$81,108,352
2	BANK OF AMERICA CORPORATION	NC	2,323,415	77,874,726
3	GOLDMAN SACHS GROUP, INC., THE	NY	925,987	47,749,124
4	MORGAN STANLEY	NY	626,023	39,125,255
5	CITIGROUP INC.	NY	1,822,578	31,715,734
6	WELLS FARGO & COMPANY	CA	1,285,891	5,104,561
7	HSBC NORTH AMERICA HOLDINGS INC.	IL	401,825	3,418,393
8	TAUNUS CORPORATION	NY	368,367	1,273,249
9	BANK OF NEW YORK MELLON CORPORATION, THE	NY	203,883	1,144,421
10	STATE STREET CORPORATION	MA	144,858	644,839
11	BARCLAYS GROUP US INC.	DE	342,544	387,253
12	GMAC LLC	MI	179,551	325,012
13	SUNTRUST BANKS, INC.	GA	179,216	294,989
14	PNC FINANCIAL SERVICES GROUP, INC., THE	PA	286,472	251,188
15	METLIFE, INC.	NY	491,407	179,420
16	KEYCORP	OH	98,371	128,454
17	NORTHERN TRUST CORPORATION	IL	78,465	124,405
18	U.S. BANCORP	MN	263,624	113,076
19	REGIONS FINANCIAL CORPORATION	AL	141,950	88,792
20	FIFTH THIRD BANCORP	OH	119,313	77,637
21	BB&T CORPORATION	NC	143,425	75,704
22	CITIZENS FINANCIAL GROUP, INC.	RI	167,541	63,536
23	CAPITAL ONE FINANCIAL CORPORATION	VA	177,387	51,533
24	TD BANKNORTH INC.	ME	128,655	40,208
25	CIT GROUP INC.	NY	75,653	40,133
TOP 25 HOLDING COMPANIES WITH DERIVATIVES			\$13,055,590	\$291,479,995

Why netting does not result in 'zero' derivative assets/liabilities

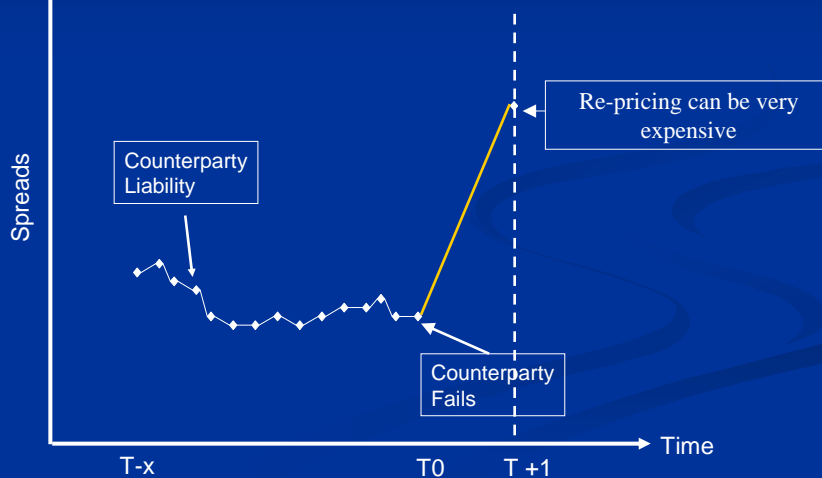
- Netting : The reason there will always remain 'residual' derivatives payables, after ISDA's netting agreements and after assigned cash collateral is:
- 1) Sovereigns, AAA insurers/corporates/large banks, the Berkshire Hathways do not post, or mark-to-market collateral. Collateral is posted in an OTC derivatives context because it correlates to the requesting side's analysis of that party's likelihood of default, the risk of the transaction that is being collateralized, its tenor, relationship with the client, liquidity and so forth.
- 2) those who do post collateral only meet the threshold as per the ISDA Credit Support Annex (which does not mandate 100% cover)
- CCPs will require collateral to be posted from all participants. It is not yet clear if the collateral requirements will vary based on the entity type, rating or riskiness of the portfolio.

An example: Goldman Sach's Derivatives position
 (source 10Q filing for March-end'09, page 36, in \$ mill)

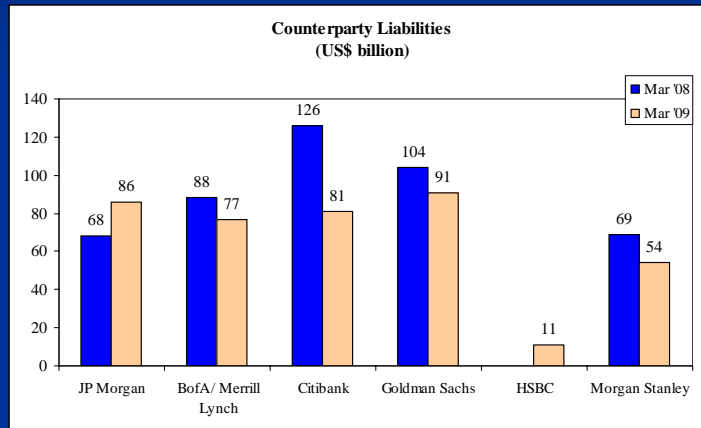
	March 2009	
	Derivative Assets	Derivative Liabilities (in \$ mil)
Derivative contracts for trading activities		
Interest rates	\$ 1,171,827	\$ 1,120,430
Credit	469,118	427,020
Currencies	92,846	85,612
Commodities	80,275	77,327
Equities	100,291	92,612
Subtotal	\$ 1,914,357	\$ 1,803,001
Derivative contracts accounted for as hedges under SFAS No. 133⁽¹⁾		
Interest rates	\$ 24,347 ⁽⁴⁾	\$ 1
Currencies	50 ⁽⁵⁾	31
Subtotal	\$ 24,397	\$ 32
Gross fair value of derivative contracts	\$ 1,938,754	\$ 1,803,033
Counterparty netting ⁽²⁾	(1,685,348)	(1,685,348)
Cash collateral netting ⁽³⁾	(149,081)	(27,065)
Fair value included in "Trading assets, at fair value"	\$ 104,325	
Fair value included in "Trading liabilities, at fair value"		\$ 90,620

• Repricing can be sizable when a large Counterparty Fails

After-netting derivative payables (and reducing this figure by the assigned cash collateral) is what we call "counterparty risk"



Counterparty Liabilities at major U.S. Banks (source WP 09/173)



Counterparty Risk has adversely impacted securities lending :

- 1) Securities lending by major custodians is down sizably (snapshot from top three custodian show more than \$800 bn decline by from end-07 to end 08); others major custodians (Citi and HSBC) also show significant decline

Table 2. Securities Lending by Major Custodians
(billions of dollars)

	Dec 31, 2007	March 31, 2008	June 30, 2008	Dec 31, 2008
Bank of NY	\$619	\$637	\$567	\$341
State Street	\$558	\$591	\$550	\$325
JPMorgan	\$385	\$411	\$362	\$169
Total	\$1,562	\$1,639	\$1,479	\$825

Source: 10Q and 10K reports

Counterparty Risk has adversely impacted collateral pledging:

2) Fair value of securities received as collateral, which can be pledged is down sizably at major banks (almost \$2.5 trillion—see change from Nov 07 to Nov 08).

	Nov05	Nov06	Nov07	May08	Aug08	Nov08	Mar09
LEH	528	621	798	518			
MS	798	942	948	953	877	294	283
GS	629	746	891	869	832	579	610
MER	538	634	855	865	676	327	
UBS (Euros)			1491			651	
DEUT (Euros)			449			230	

Counterparty Risk has led to sizable build up of liquidity buffers with large banks:

3) Liquidity buffers are sizable at major banks (almost \$1.5 trillion across all major banks with big derivative books)

UBS	\$200
BAC	\$170
GS	\$164
MS	\$145

Typical reasoning for hoarding good quality collateral

Goldman Sachs's in their recent 10Q, page 135:

- “Our most important liquidity policy is to pre-fund what we estimate will be our likely cash needs during a liquidity crisis and hold such excess liquidity in the form of unencumbered, highly liquid securities that may be sold or pledged to provide same-day liquidity”
- “The U.S. dollar-denominated excess is comprised of only unencumbered U.S. Government securities, U.S. agency securities and highly liquid U.S. agency mortgage-backed securities, all of which are eligible as collateral in Federal Reserve open market operations, as well as overnight cash deposits. Our non-U.S. dollar-denominated excess is comprised of only unencumbered French, German, United Kingdom and Japanese government bonds and overnight cash deposits in highly liquid currencies.”
- Market sources indicate that LCFIs have deposited AAA (and lower rated) collateral with NY Fed and ECB. However, AAA collateral varies between sub-prime/CDO products that are/were AAA, and unencumbered US, French, German and UK government bonds that are also AAA.

Adverse impact of counterparty risk

- Think of it almost \$5 trillion (i.e. from reduced repo, reduced pledged collateral, and large liquidity buffers) of risk capital and balance sheet capacity that may have otherwise been applied to proprietary trading, market-making and arbitrage activities.
.....and the velocity of collateral is not unity (but higher); so impact on global liquidity > \$5 trillion
- Thus global liquidity has suffered due to “ineffective/ reduced” high-grade collateral use
- What does this entail for monetary policy?

Will central counterparties (CCPs) reduce counterparty risk? some policy considerations

- A Central Counterparty (CCP), or more than one, may reduce systemic risk from LCFIs by transferring it to the CCP(s) that are sufficiently capitalized.
- It is increasingly likely that globally there will be more than one CCP, although optimally, one global CCP that address all OTC contracts would have the most efficient capital allocation. (Duffie and Zhu, 2009)
- Collateral requirements are likely to increase overall, despite cross-netting capabilities between CCPs. Is there sufficient capital at large banks for higher (initial) collateral/margin posting to the CCPs, in light of the scarcity of collateral flow discussed above? In general, CCPs will require more capital than the status quo. (Discuss “standardized” contracts)
- What would constitute adequate capital for a CCP? Counterparty Liabilities (shown earlier) is a good starting point.
- Most regulatory efforts, until recently, were focused only on CDS, which is less than 10 percent of all OTC derivatives. Risks may increase if clearing was only applied to one category of OTC derivatives, as big dealers in OTC derivatives offset CDS and other OTC derivative positions.
- Is CCP a public good with associated implicit (national) guarantees, or members will underwrite all costs, including those when a large member defaults? Will there be interoperability (or linking) of CCPs?
- Will the existence of CCPs encourage more derivative activity?

Conclusion

- Removing the “too-big-to-fail” notion requires additional capital from those LCFIs that are dominant in the OTC derivatives space.
- Otherwise, regulators risk the possibility that the present tax payer bailouts in containing systemic risk will merely be switched to future implicit guarantees via CCPs