



# Collateral Damage

A discussion paper

*“All great truths begin as blasphemies”*

*George Bernard Shaw*

**Paris, October 2009**  
Con Keating  
BrightonRock Assurance



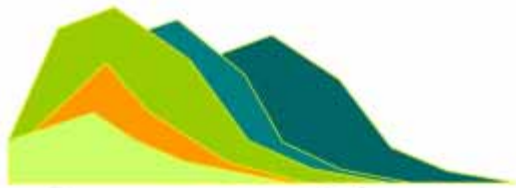
## Collateral

- Enhances security
- But lowers monitoring incentives
- Initial and ongoing due diligence
- This is the prime traditional banking function
- Traditional banking – payments system, liquidity allocation and credit creation.
- Collateral is a symbol of distrust but banking is based upon trust



## Trust and Transparency

- In the naïve efficient market inefficiencies and failures must be due to informational disparities
- To which more transparency is a universal solution
- “Transparency certainly destroys secrecy;
- But it may not limit the deception and deliberate misinformation that undermine relations of trust.
- If we want to restore trust we need to reduce *deception* and *lies* rather than *secrecy*.
- Some sorts of secrecy indeed support deception, others do not.
- Transparency and openness may not be the unconditional goods that they are fashionably supposed to be.
- By the same token, secrecy and lack of transparency may not be the enemies of trust.”



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## Markets and Uncertainty

- Uncertainty must be bounded for financial markets to function.
- Participants by convention ignore this uncertainty in order to capture the gains to trade.
- It is necessary to conceal this.
- This uncertainty is both generic and strategic
- Strategic is the “lemons” problem.
- Strategic problems can often be resolved by repeat games.
- Trust is key to the market functioning



## The Brothers Karamazov

- In this play the Russian colonel misappropriates R4,500 which he deposits at interest with the banker Trifonov
- The deposit is periodically renewed and interest paid to the colonel who consumes it.
- When the colonel is being replaced, he asks for the money back
- And Trifonov responds: *“I’ve never received any money from you and couldn’t possibly have received any.”*



## Trust again

- This was an iterated game
- Where the potential for future gain sustains the recurrence of co-operation
- And limiting this potential induces defection
- Consideration of future flows matters
- Individual wealth is only 20% financial and real estate
- The other 80% is human capital – available over a lifetime.
- Future contributions to pension schemes should also be considered in this light.
- Trust is relational – which is problematic for transactional bankers



## Corporate governance

- Trust, morality and ethics are often invoked as social capital and to justify extending shareholder responsibilities to achieve social objectives.
- Earlier we were speaking about convention and trust in the means of achieving an objective.
- The objective or end in finance is usually the furtherance of self-interest.
- Pursuing social objectives amounts to redistribution of wealth...by a process of stealth.
- Confusion here is one reason that whistleblowers are treated as Cassandra
- And also outcasts.



## Friedman

- *“There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.”*
- *“In a free-enterprise, private-property system, a corporate executive is an employee of the owners of the business. He has direct re-sponsibility to his employers. That responsibility is to conduct the business in accordance with their desires, which generally will be to make as much money as possible while con-forming to the basic rules of the society, both those embodied in law and those embodied in ethical custom.”*



## Bagehot

- The role of the central bank as lender of last resort is to lend to solvent but illiquid banks against good collateral.
- But is it possible for a bank to have good collateral and be unable to find open market liquidity?
- Recall they are not dependent upon credit, they can sell their good assets.
- Liquidity is a common factor for all assets. It destroys the diversity myth.



## Liquidity and Collateral

- An unsecured deposit is pure liquidity
- Collateralised (secured) lending represents a reduced liquidity transfer.
- Think of the pathological situation where the collateral is cash!
- Haircuts reduce even further the liquidity transfer – below the outright sale value.



## Re-hypothecation

- This is the right of a borrower of securities to use them to raise other finance
- This was significant activity among prime brokers
- If you have lodged collateral with a dealer in the UK which that dealer has repo-ed with some other counterpart
- Then your position is now that of **general unsecured creditor**.
- There are still more than £10 billion of transactions unresolved in the Lehman bankruptcy due to this.



## Credit

- The defining characteristic is a promised deferred payment.
- It is an expectation of liquidity
- The promise is from some body external
- Even government securities carry credit risk
- Though not to government itself
- This justifies the old US practice of “*treasuries only*” for collateral
- But central banks historically accepted private sector paper, suitably discounted.



## The Curve

- The government curve is a term structure of liquidity
- It is credit
- Similarly a loan book is a term structure of liquidity
- The bank may be financing these with short term deposits.
- Funding liquidity is a potential issue
- But to regulate funding liquidity is to regulate the term structure of bank credit.



## Dynamic Provisioning

- Make provisions against loans, when performing
- Release these when non-performing
- How, other than for taxes, does this change the world?
- This is simply an accounting classification
- In one I declare profits and pay taxes, and later declare losses and tax refunds
- In the other I make provisions and retain taxes, only to release these later.
- How does this change the total quantum of risk??



## Credit Standing

- Taking collateral increases the likelihood of default.
- Though it lowers the consequence
- It only very rarely eliminates the loss entirely
  
- Bank Credit Cycle
- One – lend against cash-flow projected
- Two – lend against cash-flow and take security
- Three – lend against security without recourse



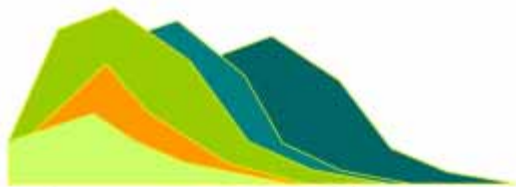
## A Case Study

- Two years ago, a UK industrial concern borrowed £100 million to finance expansion for 12 years at Libor +5/8%
- Their investment bankers suggested fixing the swap at 5.5%, and the swap contains a credit support agreement
- This is sound risk management
- The ten year swap rate declined to 4% and the company was called for £12.2 million of cash collateral under the CSA.
- It had to borrow this from its bankers.
- Effectively this makes the loan smaller and shorter in term
- And indeterminate in final cost.



## Pensions

- The regulatory “make-good” requirement for pension deficits is another illustration of this collateral problem.
- The cost is driven by the volatility of liabilities minus assets and the difference between the cost of borrowing and the return on new assets.
- 20% volatility 1% margin and 40 year term results in an expected cost of 24% of liabilities.

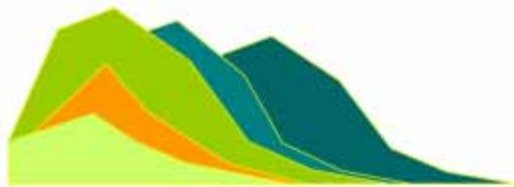


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# How Much is Collateral used? Derivatives

	Net current credit exposure						Total fair value of collateral						
	Banks	Mono	HF	Sov	Corp	All CP	Weight	Banks	Mono	HF	Sov	Corp	All CP
JPMorgan Chase Bank NA	86958	691	3759	3953	69684	165045	0.30	79697	17	11238	11	16380	107343
Goldman Sachs Bank USA	90312	0	16	3677	18314	112319	0.20	98508	0	17	1931	2039	102495
Bank of America NA	24618	1983	799	929	42864	71193	0.13	22548	19	1809	0	18859	43236
Citibank National Assn NY	70832	99	2099	2085	41978	117093	0.21	25291	27	4023	154	25951	55446
Wachovia	6965	1303	1478	7	15771	25524	0.05	3834	0	73	0	2168	6075
HSBC Bank USA National	19027	1453	525	367	8872	30245	0.05	4060	0	622	3	981	5666
Wells Fargo Bank	6782	0	0	0	140	6922	0.01	5270	0	2	0	144	5416
Bank of New York	3796	30	665	259	3476	8226	0.01	1003	34	23	0	151	1211
State Street Bank & Trust	839	0	82	188	1572	2680	0.00	565	0	13	0	4	583
Suntrust Bank GA	767	0	0	0	2011	2778	0.00	576	0	8	0	169	753
National City Bank OH	147	0	0	0	285	432	0.00	153	0	0	0	0	153

Fair Value of Collateral	Cash U.S. Dollar	Cash Other	U.S. Treas Securities	U.S. Gov't Agency	Corp Bonds	Equity Securities	All Other Collateral	Total
% Collateral Composition	61.4%	22.9%	1.3%	3.2%	0.3%	1.3%	9.6%	100.0%



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## Derivative make-up

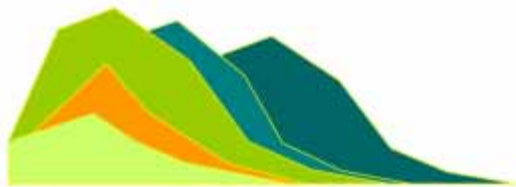
\$ in billions	Q2 '09	Q1 '09	\$ Change	% Change	% of Total Derivatives
Interest Rate Contracts	171,903	169,373	2,531	1%	85%
Foreign Exchange Contracts	15,166	14,872	294	2%	7%
Equity Contracts	2,042	2,174	(133)	-6%	1%
Commodity/Other	909	938	(29)	-3%	0%
Credit Derivatives	13,440	14,607	(1,167)	-8%	7%
<b>Total</b>	<b>203,460</b>	<b>201,964</b>	<b>1,496</b>	<b>1%</b>	<b>100%</b>

Note: Numbers may not add due to rounding.

Swap contracts, at 67% of total notional derivatives, continue to represent the bulk of derivative contracts.

\$ in billions	Q2 '09	Q1 '09	\$ Change	% Change	% of Total Derivatives
Futures & Forwards	24,704	23,579	1,125	5%	12%
Swaps	135,602	133,862	1,740	1%	67%
Options	29,714	29,916	(203)	-1%	15%
Credit Derivatives	13,440	14,607	(1,167)	-8%	7%
<b>Total</b>	<b>203,460</b>	<b>201,964</b>	<b>1,496</b>	<b>1%</b>	<b>100%</b>

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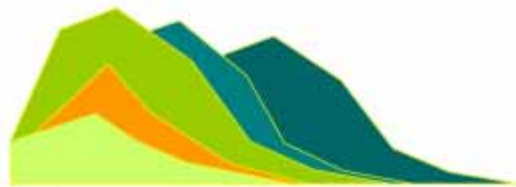


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## Concentration

### Concentration of Derivative Contracts (\$ Billions)\*

	\$	%	\$	%	\$	%
	Top 5 Bks	Tot Derivs	Non-Top 5 Bks	Tot Derivs	All Bks	Tot Derivs
<b>Futures &amp; Fwrds</b>	22,670	11.1	2,034	1.0	24,704	12.1
<b>Swaps</b>	132,513	65.1	3,090	1.5	135,602	66.6
<b>Options</b>	28,809	14.2	904	0.4	29,714	14.6
<b>Credit Derivatives</b>	12,546	6.2	894	0.4	13,440	6.6
<b>TOTAL</b>	196,538	96.6	6,922	3.4	203,460	100.0



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## Balance Sheets

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL RISK-BASED CAPITAL	BILATERALLY		TOTAL CREDIT (%)	
						NETTED CURRENT CREDIT EXPOSURE	POTENTIAL FUTURE EXPOSURE	EXPOSURE FROM ALL CONTRACTS	TOTAL CREDIT EXPOSURE TO CAPITAL
1	JPMORGAN CHASE BANK NA	OH	\$1,663,998	\$79,941,219	\$142,825	\$165,044	\$239,116	\$404,160	283
2	GOLDMAN SACHS BANK USA	NY	119,678	40,477,262	20,191	115,739	70,250	185,989	921
3	BANK OF AMERICA NA	NC	1,450,830	39,064,884	137,630	61,669	126,654	188,324	137
4	CITIBANK NATIONAL ASSN	NV	1,165,400	31,943,721	112,475	84,425	150,805	235,230	209
5	WELLS FARGO BANK NA	SD	1,100,177	5,111,215	117,660	51,299	32,497	83,796	71
6	HSBC BANK USA NATIONAL ASSN	VA	158,959	3,152,580	19,724	30,188	29,706	59,893	304
7	BANK OF NEW YORK MELLON	NY	162,003	1,271,036	15,972	6,200	4,414	10,614	66
8	STATE STREET BANK&TRUST CO	MA	150,465	539,065	10,775	4,432	4,320	8,751	81
9	SUNTRUST BANK	GA	170,140	295,908	16,737	5,251	1,681	6,932	41
10	NATIONAL CITY BANK	OH	141,714	178,217	16,863	1,391	746	2,137	13



## Replication and Dynamic Strategies

- Induce path dependency and short-term dependence
- This is costly
- These lie at the heart of risk management techniques
  
- Could it be that the banking system is an inappropriate locus for the production and provision of financial risk management instruments and services?
  
- Could it be that the medium of transmission of financial contagion is precisely collateral?