

LIQUID

*Confidential Presentation to:*

Federal Reserve and S.E.C.

Liquidity Management  
At Lehman Brothers

*March 26, 2008*

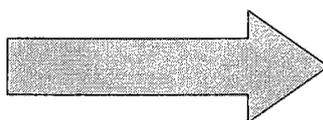
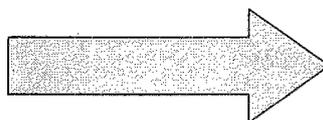
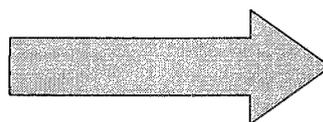
LEHMAN BROTHERS

## Core Principles of Capital & Liquidity Management

Our capital & liquidity management is based on four principles.

### Liquidity Strategy Principle

- ◆ We must remain in a constant state of liquidity readiness
- ◆ We should not rely on asset sales or increases in unsecured borrowings or funding efficiencies in a liquidity crisis
- ◆ We should not overestimate the availability of secured financing in a liquidity crisis
- ◆ Legal entity structure constrains liquidity flows which should be explicitly accounted for in liquidity planning



### Implication To Funding Framework

- ◆ Maintain a **large cash position** in the Holding Chain, sufficient to absorb the impact of a very severe liquidity event
- ◆ **Do not plan on reducing balance sheet for liquidity reasons** in a liquidity event (although may do so for risk reasons)
- ◆ Establish '**Reliable Secured Funding**' levels by asset category by counterparty
- ◆ Separate Cash Capital Model for each **regulated entity** and the Holding Chain; treat all excess cash in restricted entities as 'trapped'

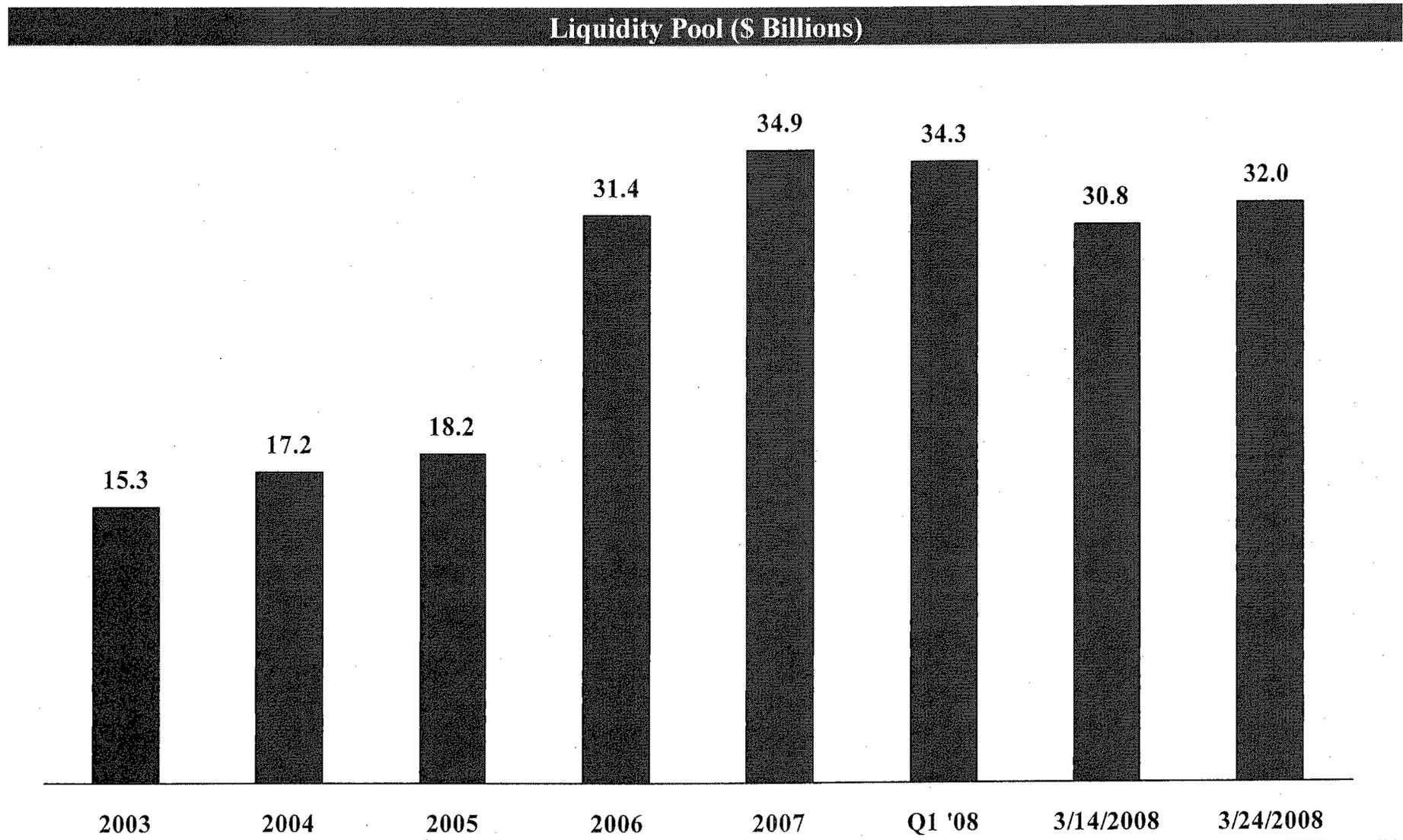
# Components of the Funding Framework

## Lehman Brother's Funding Framework Is Divided Into Four Pillars:

Four Pillars	Funding Framework
<b>Cash Capital Model</b>	<ul style="list-style-type: none"> <li>◆ Is a measure used to assess our long-term (&gt; 1 year) funding requirements.</li> <li>◆ Is used to fund illiquid assets, all unencumbered assets, net trade and margin receivables and trapped cash</li> <li>◆ Our general policy is to operate with an excess of long-term funding sources over our long-term funding requirements of at least \$2 billion</li> </ul>
<b>Reliable Secured Funding Model</b>	<ul style="list-style-type: none"> <li>◆ Assess the amount of secured funding the firm might lose in a liquidity event</li> <li>◆ Output of the model is used as a tool to manage our secured liability book to mitigate these losses</li> </ul>
<b>Maximum Cumulative Outflow (MCO) Model</b>	<ul style="list-style-type: none"> <li>◆ Short-term liquidity model which identifies other cash outflows which may materialize in a stressed liquidity event, characterized by our inability to roll maturing unsecured Lehman debt</li> <li>◆ Our policy is to have a liquidity pool that is large enough to cover these outflows</li> <li>◆ This liquidity pool is invested in instruments that can be monetized at short notice in all market environments.</li> </ul>
<b>Contingency Funding Plan</b>	<ul style="list-style-type: none"> <li>◆ It is a detailed action plan to manage a stress liquidity event, including a communication plan for creditors, investors, and employees.</li> <li>◆ The plan considers two types of liquidity events – a Company-specific event; and a broader market-wide event, which also affects the entire market.</li> </ul>

# Liquidity Pool

◆ Since 2007, Holdings' liquidity pool has fluctuated in the low \$30 billion range.



# Management Of Liquidity Pool

- ◆ Liquidity pool is invested in cash and cash equivalents (e.g., money market funds) and good quality collateral for which we have ample unused funding capacity with external counterparts
  - Investment grade securities (Treasuries, Agencies, Corporates and Asset-Backed Securities)
  - Liquid equities
- ◆ Not included in the liquidity pool are unencumbered assets (\$64 billion in unregulated subsidiaries and \$99 billion in regulated subsidiaries as of February 29)

## Composition Of Liquidity Pool As Of February 29, 2008

\$ Billions

Investment Type	Pledge Value*				
	LBHI	LBI	LBIE	Total	
	Pledge Value	Pledge Value	Pledge Value	Pledge Value	
	New York Inv	New York Inv	Europe Inv	Global Inv	
<b>1. Cash</b>					
Bank Deposits	675	-	380	1,054	
Other Cash Inv	724	-	-	724	
Money Funds	123	-	-	123	
<b>Total Cash</b>	<b>A</b>	<b>1,522</b>	<b>-</b>	<b>380</b>	<b>1,902</b>
<b>2. Boxed Inventory</b>					
<b>2.1 Tri-party eligible</b>					
Private Label CMO's	-	-	1,282	1,282	
Corporates	-	111	164	275	
Governments / Treasuries	13,510	677	1,261	15,448	
Asset Backed	-	-	-	-	
Equities*	-	619	648	1,267	
Money Markets	-	-	-	-	
Agency MBS	3,334	-	-	3,334	
Agencies	10,762	-	2	10,764	
Canadian	-	-	-	-	
<b>Sub-total Tri-party eligible boxed inventory</b>	<b>B</b>	<b>27,606</b>	<b>1,407</b>	<b>3,356</b>	<b>32,369</b>
<b>C&amp;C Equivs Available to Holding Company (A+B)</b>	<b>C</b>	<b>29,127</b>	<b>1,407</b>	<b>3,736</b>	<b>34,270</b>
<b>Undrawn Committed Facilities</b>					
Chase Facility				2,000	
European Facility				2,500	
<b>C&amp;C Equivs Available to Holding Company</b>				<b>38,770</b>	

**Notes:**

\*Pledge value = Market Value of the collateral \* normal mkt haircut for each asset class

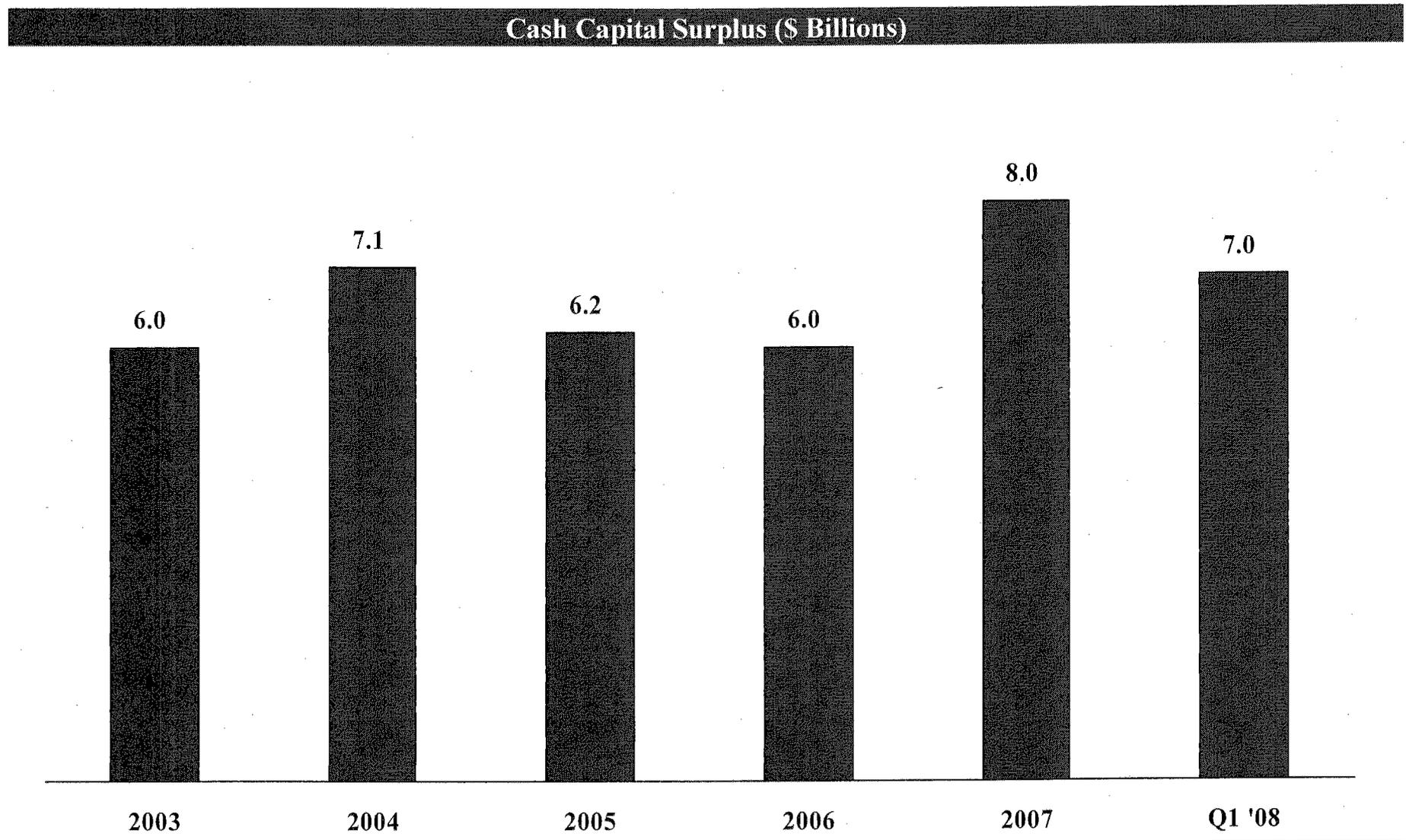
# Management of Cash Capital

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- ◆ Cash capital sources at the Holding Company include:
  - Long-term capital (equity and long-term debt with at least one year of expected life)
    - The limits for the amount maturing over any three, six and twelve month horizon at 12.5%, 17.5% and 30% of the outstanding long-term debt – i.e., \$16.0 billion, \$22.5 billion and \$38.5 billion as of February 29, 2008.
    - Additionally, we diversify our debt holder base by issuing across different markets (U.S., Europe and Asia) and at different points of the yield curve (from 2-3 years to 10+ years).
  - Secured bank lines, typically extendibles, with at least one year till maturity
  - No reliance on hot money such as customer free credits, short term debt
  - Additionally, we also have two syndicated committed unsecured facilities with an overall capacity of \$4.5 billion, which are drawn from time to time and provide additional funding flexibility to Lehman Brothers
  
- ◆ We conservatively assess cash capital uses
  - Illiquid positions, which are completely funded with cash capital. We determine whether a position is illiquid by looking at its fundability in a stress liquidity event. This includes corporate loans and commercial whole loans.
  - Haircuts on funding liquid positions on a secured basis. We see the haircut (i.e., the difference between market and pledge values) as a cash capital use. Haircuts are conservatively estimated and regularly reviewed based on actual Lehman funding experience.
  - Illiquid assets due to operational friction
  - Cash at banks, which is not managed as part of a liquidity pool, is also presumed to be “illiquid” in the sense that it cannot be used to meet a payment due to some operational friction (e.g., it is used in an escrow account).
  - Prefunding on unfunded loans used to mitigate contingent liquidity risk

# Cash Capital Surplus

◆ Cash capital surplus has been around \$6-8 billion.



# Legal Entity Structure

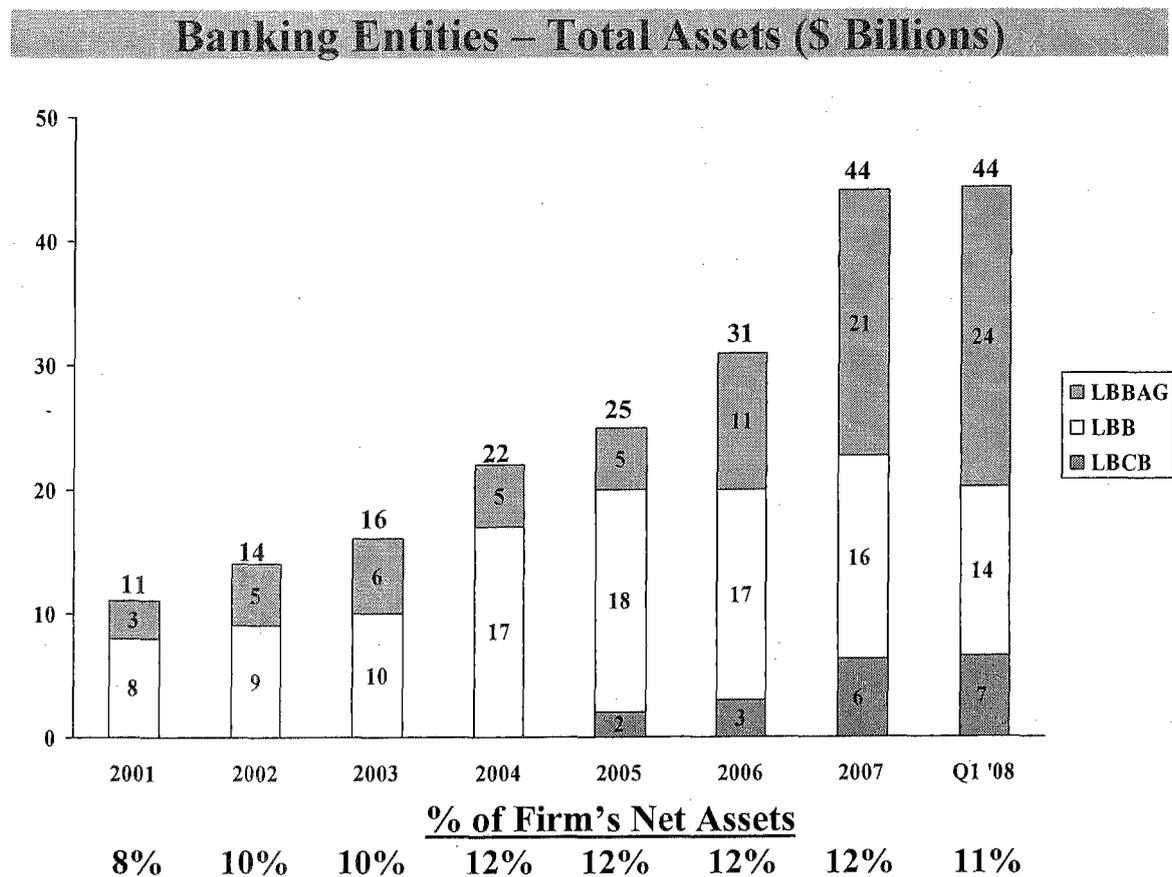
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- ◆ Legal entity structure constrains liquidity flows which are explicitly accounted for in our funding framework
  
  - ◆ Holdings Company Chain
    - LBHI: Holding company
    - LBF and LBSF: Derivatives subsidiaries
    - LB Treasury Co. BV: Main European debt issuing entity
  
  - ◆ Broker dealers
    - LBI, Neuberger Berman and LOTC: U.S. broker dealers
    - LBIE: European broker dealers
    - LBJ: Japanese broker dealers
  
  - ◆ Bank Entities
    - Lehman Brothers Bank: Delaware-based thrift
    - Lehman Brothers Commercial bank: Utah-based industrial bank
    - Lehman Brothers Bankhaus: German bank
- Issues nearly all unsecured debt
  - Holds mostly illiquid (100% cash capital) assets
  
  - Funded with equity and debt from Holdings (LBI also has some external debt)
  - Primarily securities trading, including prime brokerage
  - Bulk of securities are being funded on a secured basis
  
  - Funded with equity and sub debt from Holdings
  - Raise insured term funding (brokered CDs in the U.S.)
  - Primarily fund whole loans and corporate loans
  - Access FHLB system to fund whole assets
  - Also access ECB discount window

# Role Of Banking Entities

Lehman owns 3 banking entities: Lehman Brothers Bank (Delaware-based thrift institution), Lehman Brothers Commercial Bank (Utah-based industrial bank) and Lehman Brothers Bankhaus (German bank). These entities all benefit from depositor protection, meaning that financing can be raised very cost effectively and with very limited sensitivity to Lehman Brothers Holdings (making it a very reliable source of funding). Use of these entities has increased significantly: they are the primary entities for corporate and whole loan funding

- ◆ **LBB** : Funds all US residential mortgage origination. Additionally funds commercial mortgages and investment grade US loans. Can access the Fed discount window.
- ◆ **LBCB** : Funds commercial mortgages, derivative receivables and corporate & industrial loans. Can access the Fed discount window.
- ◆ **LBBAG**: Funds securities on repo and loans (commercial, residential and corporate). Can access the ECB discount window



# ECB Discount Window

- ◆ In 2006, the average utilization of the ECB discount window was approximately EUR 1.0 trillion (\$1.5 trillion using today's exchange rate).

## Eligibility Criteria Of The ECB Discount Window

Eligibility criteria	Marketable assets
Type of asset	ECB debt certificates Other marketable debt instruments: e.g. Central government debt instruments Local and regional government debt instruments Covered bank bonds Debt instruments issued by corporate and other issuers
Credit standards	The asset must meet high credit standards. The high credit standards are assessed using Eurosystem credit assessment framework (ECAAF) rules for marketable assets.
Place of issue	Place of settlement: euro area
Settlement / handling procedures	
Type of issuer / debtor / guarantors	Central banks  Private sector
Place of establishment of the issuer /	Issuer: EEA or non-EEA G10 countries Guarantor: EEA
Acceptable markets	Regulated markets Non-regulated markets accepted by the ECB
Currency	Euro

# Funding Dynamics

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- ◆ Funding framework incorporates responses to potential liquidity events.

Category	Main funding mechanism	Cash flow at risk	Response
Securities	Repo funding in broker dealers	Repo activity reduced	Overfunding of less liquid asset classes
Derivatives	Unsecured funding	Downgrade Margin call	Prefunding 1 notch downgrade Derivative activity typically collateralized; Treasury limits overall unsecured exposure
Mortgages	Primarily banks	Reduction in term deposits	Access to FHLB / ECB
Corporate loans	Banks + Holdings Chain	Commitment funding	Probabilistic prefunding
Prime Broker	Repo funding in broker dealers	Customer free credit withdrawn	No reliance on customer free credit
Unsecured liabilities	Issued by Holdings Chain	Inability to roll maturing debt	Liquidity pool covers one year's requirements

## Managing Secured Liquidity Risk

Short term secured financing represents the largest source of secured funding for the firm. Consequently, one of our key objectives is to insure that we maintain these funding sources in adverse market environments. We do not want to put Lehman Brothers in a position where a lack of liquidity results in an impairment of the franchise.

Lehman Brothers manages its secured liquidity using a four-pronged risk mitigation strategy, which conservatively assumes: (a) no reliance on Holdings' liquidity; (b) no reliance on customer collateral or free credits.

Secured Financing Risk Mitigation Strategy	
<b>Overfunding Of Less Liquid Asset Classes</b>	<ul style="list-style-type: none"> <li>◆ Capital Markets Prime Services as a matter of policy funds more less liquid collateral than it needs, thereby creating a "cushion" in case counterpart stop funding Lehman Brothers or ask for higher quality collateral</li> </ul>
<b>Assess Reliability of Funding Counterparts</b>	<ul style="list-style-type: none"> <li>◆ Reliability of repo counterparties are being assessed continuously on an asset class-by-asset class basis.</li> <li>◆ Funding is typically with counterparties, which have a long and deep funding/trading history with Lehman Brothers (e.g., clearing banks, large asset managers)</li> </ul>
<b>Use Lehman Brothers Bankhaus</b>	<ul style="list-style-type: none"> <li>◆ Contrary to Lehman Brothers Bank or Lehman Brothers Commercial Bank, Lehman Brothers Bankhaus is able to fund good quality collateral (~\$3 billion) held by other Lehman entities, such as LBIE.</li> <li>◆ This collateral can be funded either on an unsecured basis (Bankhaus operates in a deposit-protected environment) or can be repoed to the discount window of the ECB</li> </ul>
<b>"Transforming" Balance Sheet</b>	<ul style="list-style-type: none"> <li>◆ In a severe liquidity event, Lehman Brothers would reduce liquidity-consuming proprietary positions, such as the Matched Book</li> <li>◆ Additionally, we would use our structuring capabilities to create liquid, investment grade securities out of a pool of less liquid collateral (e.g., through CLO or CDO)</li> </ul>

# Overfunding Less Liquid Asset Classes

- ◆ We overfund less liquid asset classes (e.g., high yield corporates) to mitigate the risk of counterparties no longer funding collateral from Lehman or of counterparties asking for higher quality collateral.
  - In a triparty repo transaction, counterparties are automatically allocated the collateral booked on the ticket or better quality collateral if the collateral required is no longer available.

## Repo Book Principal Amount (\$ Billions) – March 18, 2008

	Liquid Collateral			Less Liquid Collateral		
	Booked	Allocated	Booked/ Allocated	Booked	Allocated	Booked/ Allocated
Corporate & Asset-Backed	56.3	47.4	119%	31.7	26.9	118%
Equities	6.8	7.9	85%	14.6	13.6	108%
Money Markets	7.7	8.8	88%	2.1	1.0	200%
<b>Total</b>	<b>70.7</b>	<b>64.1</b>	<b>110%</b>	<b>48.4</b>	<b>41.6</b>	<b>116%</b>

# Reliable Funding Counterparts

- ◆ Top 20 counterparties account for about 70% of the repo book, outside of Governments and Agencies.
  - Reliable counterparts with which Lehman has strong relationships
    - Clearing banks (JPMorgan Chase, Citibank, BONY/Mellon)
    - Large trading clients (State Street, Fidelity)

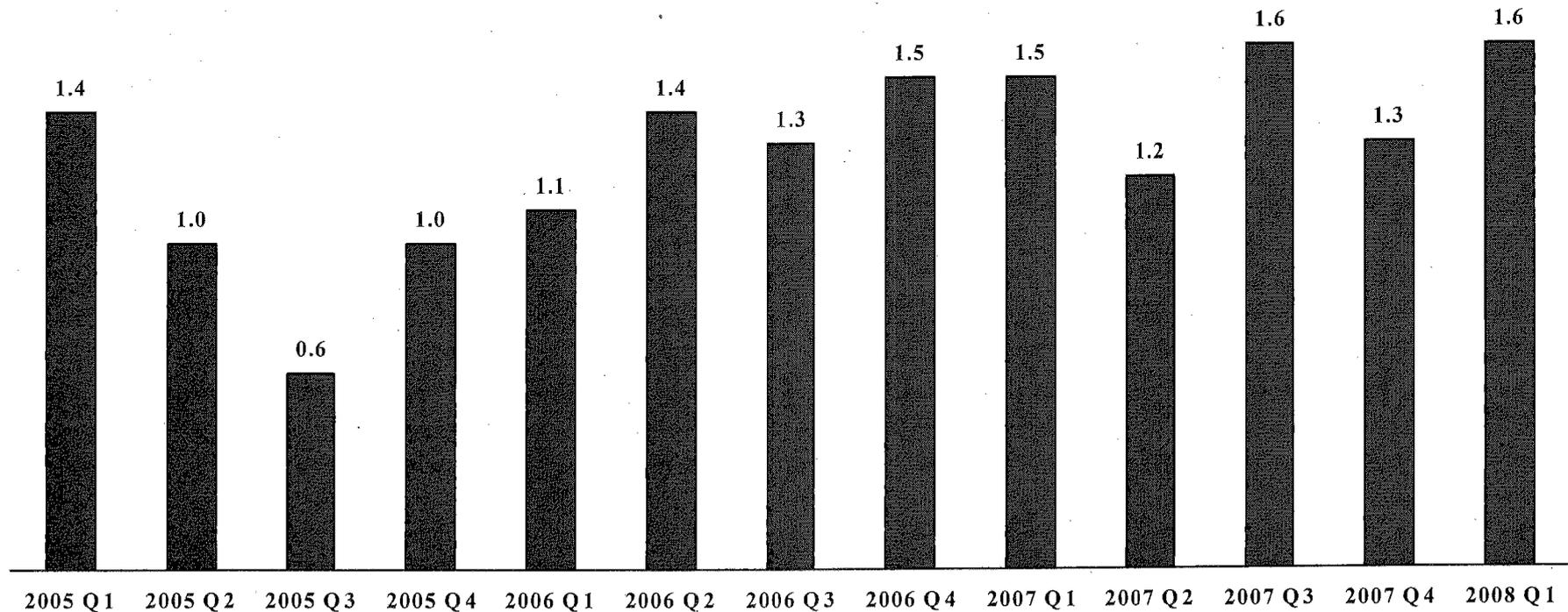
## Repo Book Principal Amount By Counterparty And Asset Class (\$ Millions) – March 18, 2008

Counterparty	Commerical Paper - U.S	Equities - Asia	Equities - Europe	Equities - U.S.	High Grade - Europe	High Grade - U.S.	High Yield - Europe	High Yield - U.S	Munis	PL/ABS - U.S.	Total
State Street	1,400			2,776	758	1,515	661	2,320	1,300	3,925	14,655
JPMorganChase				400				400		11,540	12,340
Dresdner	450	398	584	1,125		500	2,011	1,330	400	1,042	7,840
Fidelity				1,200				4,575		1,500	7,275
Citibank					2,027					4,500	6,527
BONY/Mellon	1,300									4,474	5,774
Barclays			406	976				200		2,000	3,582
RBC			1,609		1,928						3,537
Fortis	0				2,626	0					2,626
LBBW							465		500	1,000	1,965
Dwight								755		1,142	1,897
Rabobank		904	853								1,757
Key Trust				996		0		0		704	1,700
Danske Bank					1,503						1,503
Wells Fargo	1,500									0	1,500
Freddie	1,400										1,400
BOA	1,400										1,400
Northern Trust				950		250					1,200
Navy Federal										1,051	1,051
Natixis		100		800							900
<b>Total</b>	<b>7,450</b>	<b>1,402</b>	<b>3,452</b>	<b>9,223</b>	<b>8,842</b>	<b>2,265</b>	<b>3,137</b>	<b>9,580</b>	<b>2,200</b>	<b>32,877</b>	<b>80,428</b>

# Matched Book

- ◆ The matched book has been using \$1.0-1.6 of unsecured funding in LBI because of differences between the haircuts of the reverse repos and the haircuts of the repos. Although a profitable activity, closing the matched book on a temporary basis would not impact the customer franchise of the Firm.
  - Same logic also applies to other proprietary positions that the Firm

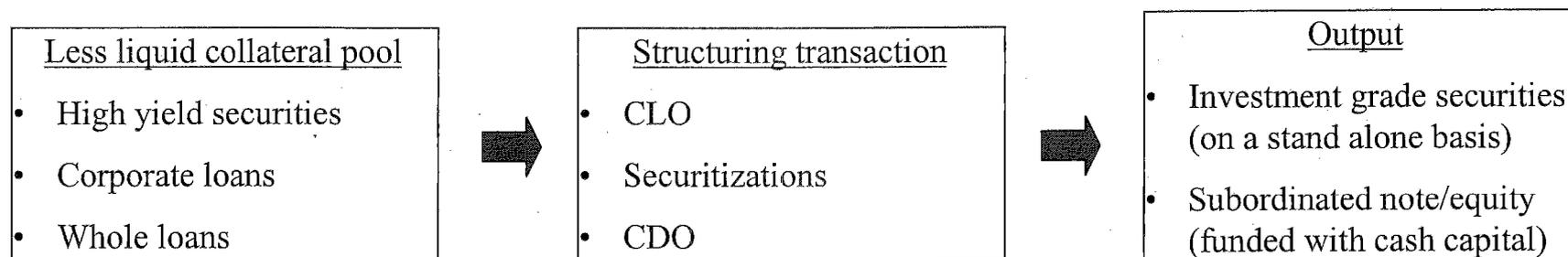
**Average Daily Unsecured Funding Requirements Of The Matched Book (\$ Billions)**



## “Transforming” Less Liquid Assets

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- ◆ At a fairly short notice (1-2 weeks), Lehman Brothers can “transform” less liquid assets such as high yield securities or loans into investment grade securities, which can be treated as any other investment grade securities from a secured funding perspective and a subordinated note/equity, which would be funded with cash capital.
  - For example, recent Freedom CLO transaction (\$2.8 billion of corporate loans) resulted in the creation of \$2.2 billion of investment grade securities and \$0.6 billion of subordinated notes



# Role Of Primary Dealer Credit Facility

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- ◆ Hard to assess role of PDCF on Funding Framework
  - 6 month facility or permanent facility?
    - 6 month facility, because of its short life, has limited liquidity value
  - Back up line (~Fed discount window; also reflected in the frequency-based fee) or regular operations (~ECB discount window)?
    - Back up line, because of its signaling value, has limited liquidity value
  
- ◆ Assuming that PDCF is there to stay and that the Federal Reserve encourages primary dealers to use it, PDCF would provide additional cushion in a severe liquidity event
  - Lessen the need to overfund investment grade securities book (particularly investment grade private label);
  - And/or allow the growth of assets (either Lehman's and/or customers'), which should increase liquidity and transparency for some investment grade asset-backed securities
  - However, it would not lessen the liquidity risk associated with funding below investment grade securities or equities
    - In all scenarios, Lehman would continue to overfund these asset classes, seek term repos or fund these securities with term funding on an unsecured basis if not enough reliable repo capacity can be found

# Contingency Funding Plan

Philosophy and Guiding Principles Of The Funding Framework

## The Contingency Funding Plan (CFP) Is A Detailed Action Plan To Be Activated In A Liquidity Event

- ◆ The Contingency Funding Plan (CFP) includes the following components:
  - Creates an executable plan for a comprehensive response to extreme liquidity events by geographical region, functional area, and business
  - Defines roles and responsibilities within the management framework to execute the plan
  - Provides key contact points within and outside the firm for decision making and implementation
  - Identifies key resources within the firm, including senior management, information, and operational support that need to be mobilized to implement the plan
  - Incorporates a comprehensive communication strategy to consolidate feedback to senior management and creditor institutions.
  
- ◆ It was last activated in the aftermath of September 11, 2001 as a precautionary measure.
  - We did not have a liquidity event on September 11, 2001. On the other hand, we were very long cash and were able to provide liquidity to European banks that had trouble funding their dollar positions. The plan was activated primarily because of the state of disarray of the secured funding markets.

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## Appendices

# Plan For Funding Lehman Brothers In A Liquidity Event

\$ billions

	Total	Loss of liquidity					
		1 Day	1 Week	1 Month	3 Months	6 Months	1 Year
<b>Unsecured funding</b>							
Outflows							
Derivatives	0.5		0.3	0.3			
Loan funding	2.0		1.0	(1.0)	2.0	1.0	(1.0)
Secured funding shortfall	-		4.8	(3.3)	0.5	(1.0)	(1.0)
STD repayment	32.0	3.0	1.0	4.0	4.0	6.0	14.0
Other	1.0		1.0				
<b>Total</b>	<b>35.5</b>	<b>3.0</b>	<b>8.0</b>	<b>-</b>	<b>6.5</b>	<b>6.0</b>	<b>12.0</b>
Inflows							
Liquidity pool	31.0	10.0	21.0				
Issuances (structured notes)*	12.0		0.3	0.8	2.0	3.0	6.0
Committed unsecured facilities	4.5		4.5				
<b>Total</b>	<b>47.5</b>	<b>10.0</b>	<b>25.8</b>	<b>0.8</b>	<b>2.0</b>	<b>3.0</b>	<b>6.0</b>
<b>Surplus / (Deficit)</b>	<b>12.0</b>	<b>7.0</b>	<b>17.8</b>	<b>0.8</b>	<b>(4.5)</b>	<b>(3.0)</b>	<b>(6.0)</b>
<b>Secured Funding</b>							
Outflows							
<i>Non investment grade securities (Corporates, ABS)</i>	7.5	2.0	4.0	0.5	0.5	0.5	% Repo Book ~25%
<i>Lower quality equities</i>	3.5	1.5	1.5		0.5		~25%
Reduction in repo capacity (less liquid collateral)	11.0	3.5	5.5	0.5	1.0	0.5	
<i>Investment grade securities (Corporates, ABS)</i>	3.5	0.5	1.5	0.5		0.5	~5%
<i>Equity</i>	1.5	0.5	0.5		0.5		~25%
Reduction in repo capacity (liquid collateral)	5.0	1.0	2.0	0.5	0.5	0.5	
Other	1.0		1.0				
<b>Total</b>	<b>17.0</b>	<b>4.5</b>	<b>8.5</b>	<b>1.0</b>	<b>1.5</b>	<b>1.0</b>	<b>0.5</b>
Inflows							
Repo cushion	6.0	6.0					
ECB facilities	3.0		1.0	2.0			
Federal Reserve PDCF	-						
Matched book unwind	1.0		0.3	0.8			
Other prop book unwind	1.5	0.5	0.5	0.5			
Reducing balance sheet / customer funding	-						
Asset "securitization"	6.0			1.0	1.0	2.0	2.0
<b>Total</b>	<b>17.5</b>	<b>6.5</b>	<b>1.8</b>	<b>4.3</b>	<b>1.0</b>	<b>2.0</b>	<b>2.0</b>
<b>Surplus / (Deficit)</b>	<b>0.5</b>	<b>2.0</b>	<b>(6.8)</b>	<b>3.3</b>	<b>(0.5)</b>	<b>1.0</b>	<b>1.5</b>

\*: We do not rely on structured note issuance to remain compliant with our funding framework

# “How Lehman Brothers Could Use PDCF” Scenario

\$ billions

	Total	Loss of liquidity						
		1 Day	1 Week	1 Month	3 Months	6 Months	1 Year	
<b>Unsecured funding</b>								
Outflows								
Derivatives	0.5		0.3	0.3				
Loan funding	2.0		1.0	(1.0)	2.0	1.0	(1.0)	
Secured funding shortfall	-		12.8	(10.8)	1.0	(1.5)	(1.5)	
STD repayment	32.0	3.0	1.0	4.0	4.0	6.0	14.0	
Other	1.0		1.0					
<b>Total</b>	<b>35.5</b>	<b>3.0</b>	<b>16.0</b>	<b>(7.5)</b>	<b>7.0</b>	<b>5.5</b>	<b>11.5</b>	
Inflows								
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<b>Secured Funding</b>								
Outflows								
<i>Non investment grade securities (Corporates, ABS)</i>	15.0	4.0	8.0	1.0	1.0	1.0		% Repo Book ~50%
<i>Lower quality equities</i>	7.0	3.0	3.0		1.0			~50%
Reduction in repo capacity (less liquid collateral)	22.0	7.0	11.0	1.0	2.0	1.0		
<i>Investment grade securities (Corporates, ABS)</i>	17.5	2.5	7.5	2.5		2.5	2.5	~25%
<i>Equity</i>	3.0	1.0	1.0		1.0			~50%
Reduction in repo capacity (liquid collateral)	20.5	3.5	8.5	2.5	1.0	2.5	2.5	
Other	1.0		1.0					
<b>Total</b>	<b>43.5</b>	<b>10.5</b>	<b>20.5</b>	<b>3.5</b>	<b>3.0</b>	<b>3.5</b>	<b>2.5</b>	
Inflows								
Repo cushion	6.0	6.0						
ECB facilities	3.0		1.0	2.0				
Federal Reserve PDCF	15.0	2.0	7.0	2.0		2.0	2.0	
Matched book unwind	1.0		0.3	0.8				
Other prop book unwind	1.5	0.5	0.5	0.5				
Reducing balance sheet / customer funding	11.0		1.0	8.0	1.0	1.0		
Asset "securitization"	6.0			1.0	1.0	2.0	2.0	
<b>Total</b>	<b>43.5</b>	<b>8.5</b>	<b>9.8</b>	<b>14.3</b>	<b>2.0</b>	<b>5.0</b>	<b>4.0</b>	
<b>Surplus / (Deficit)</b>	<b>-</b>	<b>(2.0)</b>	<b>(10.8)</b>	<b>10.8</b>	<b>(1.0)</b>	<b>1.5</b>	<b>1.5</b>	

\*: We do not rely on structured note issuance to remain compliant with our funding framework