Liquidity at the Market Level

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Balance Sheet Size and Leverage: Households

Figure 1:
Non-Financial, Non-Farm Corporations

Figure 2:
Security Dealers and Brokers

Figure 3:

[Graph showing the relationship between Leverage Growth (Percent Quarterly) and Total Asset Growth (Percent Quarterly). The graph includes a scatter plot with data points spread across the axis.]
Figure 4:
Total Assets and Leverage

Lehman Brothers

Merrill Lynch

Morgan Stanley

Bear Sterns

Goldman Sachs

Citigroup Markets 98-04
Figure 5: Leverage and Total Assets Growth
Asset weighted, 1992Q3-2007Q4, Source: SEC
Explaining Leverage

Capital $K$ is set to total value at risk (VaR)

$$K = V \times A$$

Hence, leverage $L$ satisfies:

$$L = \frac{A}{K} = \frac{1}{V}$$

Procyclical leverage arises from counter-cyclical nature of value at risk. Measured risk is low during booms and high during busts.
Assets and VaR/Assets

Log VaR/Assets vs. Log Assets

- Bear Sterns
- Goldman Sachs
- Lehman Brothers
- Merrill Lynch
- Morgan Stanley
- Fitted values

7
Figure 6:
VaR/Equity and Leverage
Implications

• Just as shortage of capital is the problem “on the way down”, excessive capital is the problem “on the way up”.
  – Countercyclical policies should aim to make constraints bind “on the way up”.
  – Accounting issues (especially marking to market) is crucial.

• Capital requirements are not enough. Focus should also be on liquidity standards
  – Prudent contractions of balance sheets by Bear Stearns’s creditors was a run from the point of view of Bear Stearns
  – Liquidity requirements focus on the composition of assets (and of liabilities) rather than size of equity cushion relative to total assets.