

**Liquidity Risk and Correlation Risk:**  
**A Clinical Study of the General Motors and Ford**  
**Downgrade of May 2005**

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# Link between liquidity risk and correlation risk

- Liquidity in financial markets is intimately related to funding liquidity of intermediaries (*see, for example, Grossman and Miller (1988), Shleifer and Vishny (1992, 1997), Gromb and Vayanos (2002) and Brunnermeier and Pedersen (2009)*).
  - Faced with liquidity risk (holding large inventory of an asset), intermediaries may **reduce market-making** provisions.
  - Reduction in liquidity may be pervasive, **extending to other assets** for which they make markets.
  - This induces an **excess co-movement** in prices (beyond fundamentals).

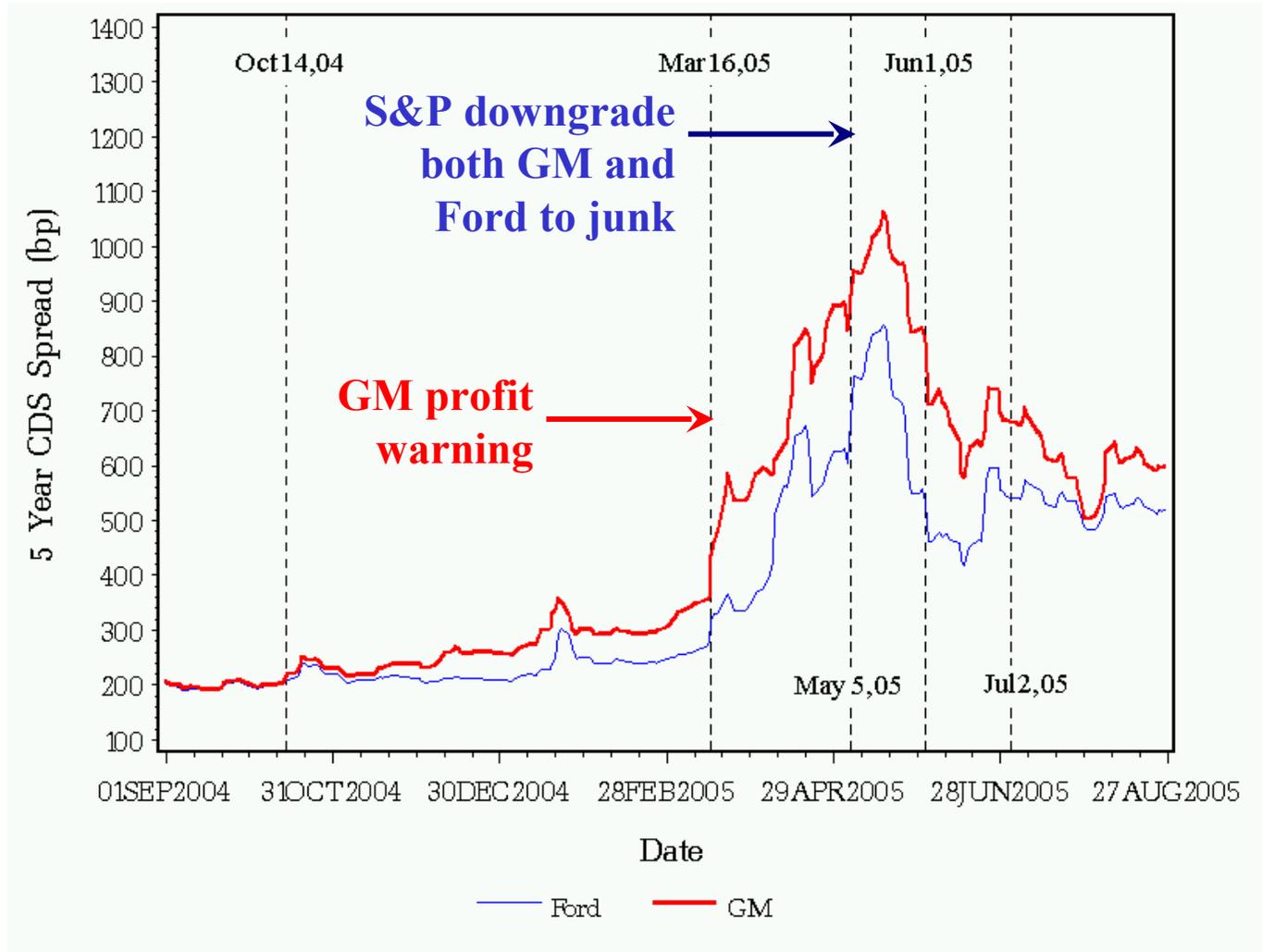
# Liquidity Risk and Correlation Risk

- Spring 2005, GM and Ford downgraded to junk status
  - Major *sell-off* of GM and Ford bonds.
  - Sharp *increase* of spreads on GM, Ford, and *other names*.
  - Appears that an idiosyncratic shock to GM and Ford resulted in an increase in their *co-movement* with other assets – *correlation risk*.
- Empirically test: *correlation risk* is linked to *liquidity risk* through constraints of financial intermediaries.

# The GM and Ford downgrade

- On May 5, 2005, S&P downgraded the debt of GM and Ford to junk status:
  - S&P lowered GM and GMAC from BBB- to BB, and Ford and FMCC from BBB- to BB+, and maintained a negative outlook for both.
- The amount of debt affected by the downgrade was enormous:
  - **GM** (including GMAC): **\$292 billion**; **Ford** (including FMCC): **\$161 billion**.
  - # 2 and # 3 in *Lehman's U.S. Credit Index* (2.02% and 1.97%).
  - When moved to *Lehman's High Yield Index*, GM represents **6%** , Ford **5.9%**.

# Daily 5-year CDS spreads for GM and Ford



## A massive sell-off of GM and Ford bonds

- Insurance companies, pension funds, endowments, and other investment funds facing *regulatory or charter restrictions* on holding junk securities.
- Investors *tracking IG* bond *indices*:
  - GM and Ford fell out of Lehman's and Merrill Lynch's IG indices.
- Market had *difficulty absorbing* the large supply of GM and Ford bonds.
- *Large banks* (intermediaries) making markets in these bonds *faced significant inventory risk*.

## A massive sell-off of GM and Ford bonds – contd.

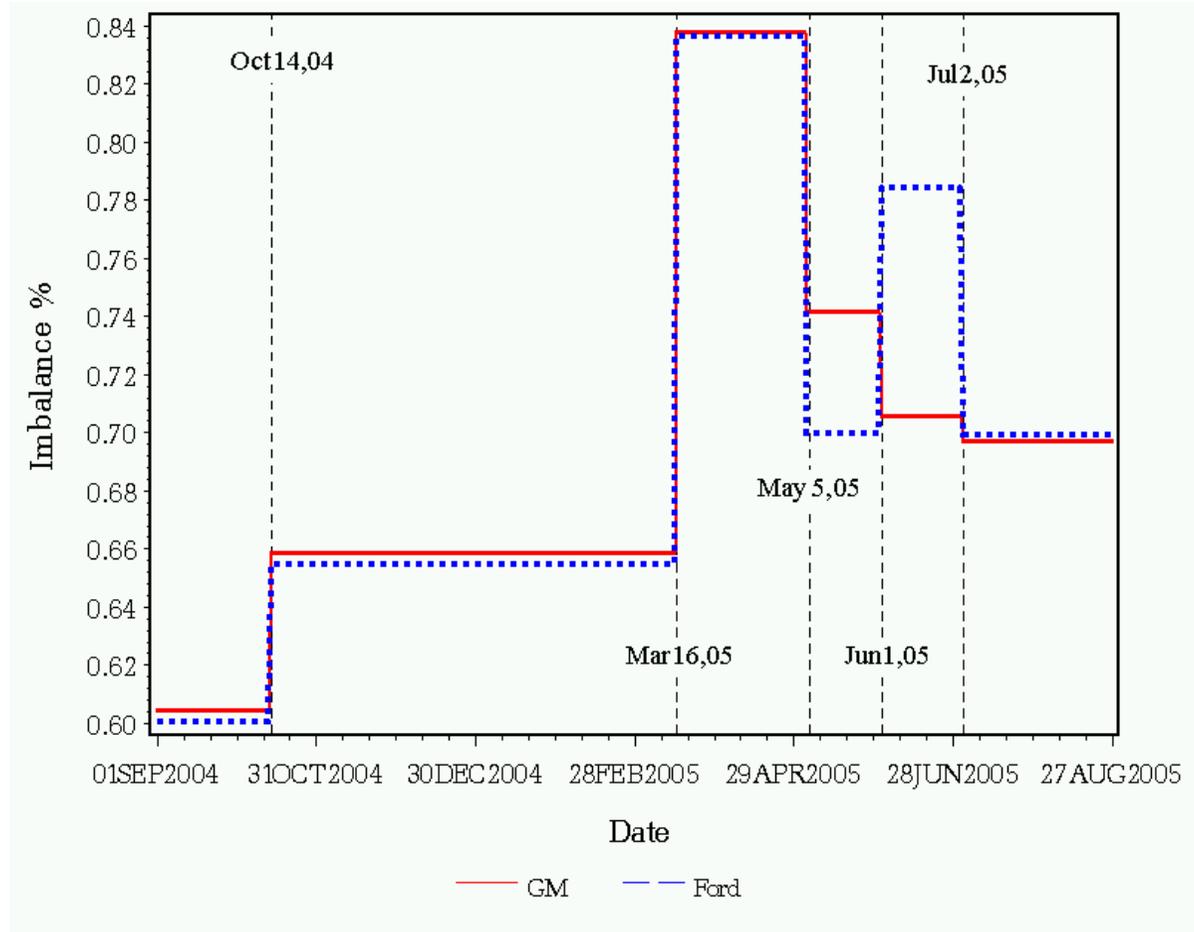
*“...we estimate the total amount of debt likely to need to clear the market in moving High Grade holders to High Yield and Distressed holders ...based on average Trace volumes in April, the market could clear that amount of debt in just under four months of trading for both GM and Ford.”*

- Bank of America, Situation Room (May 3-5, 2005)

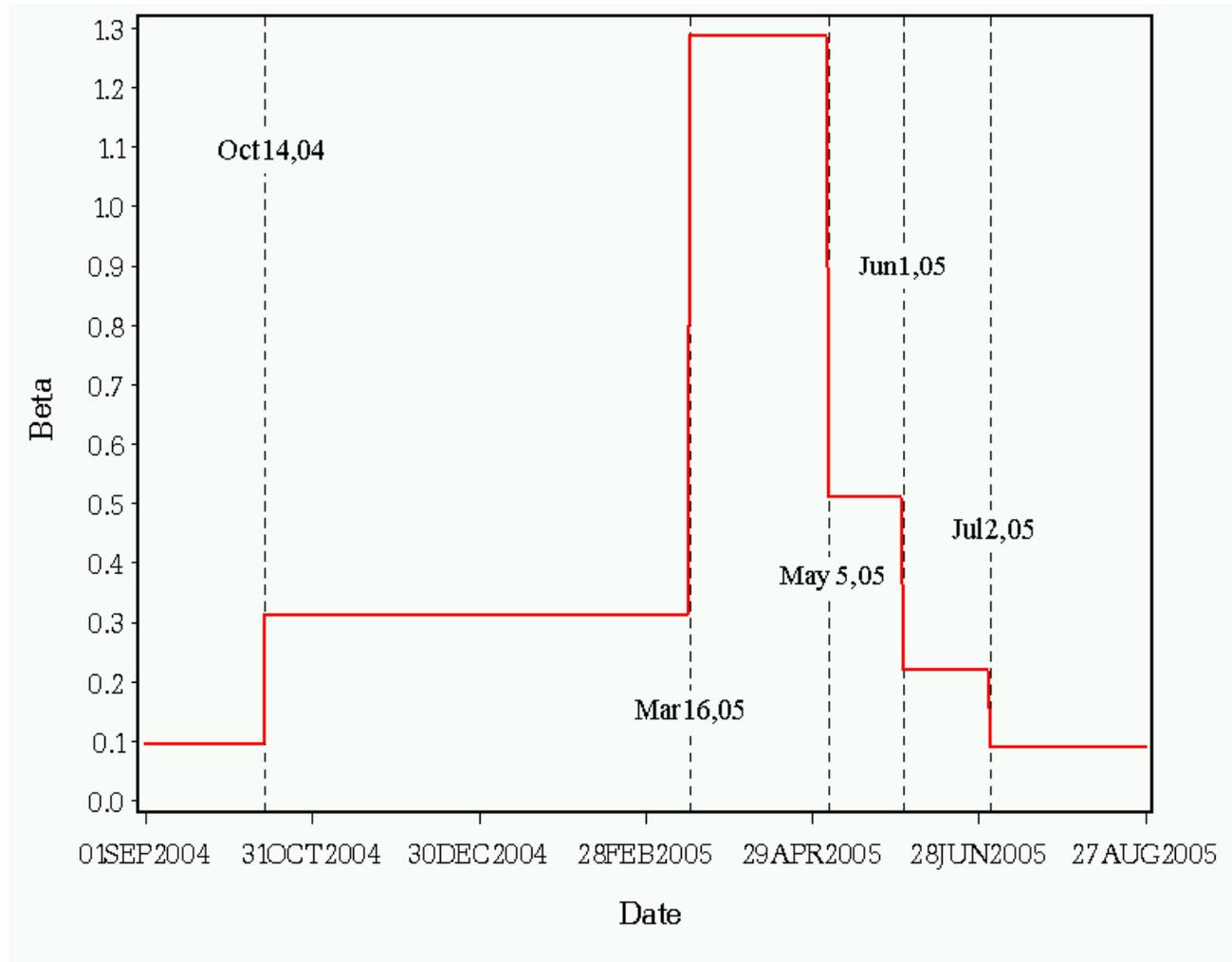
- *Next*, evidence on imbalance in GM and Ford bonds.

# Average GM and Ford *Imbalance %* in six sub-periods

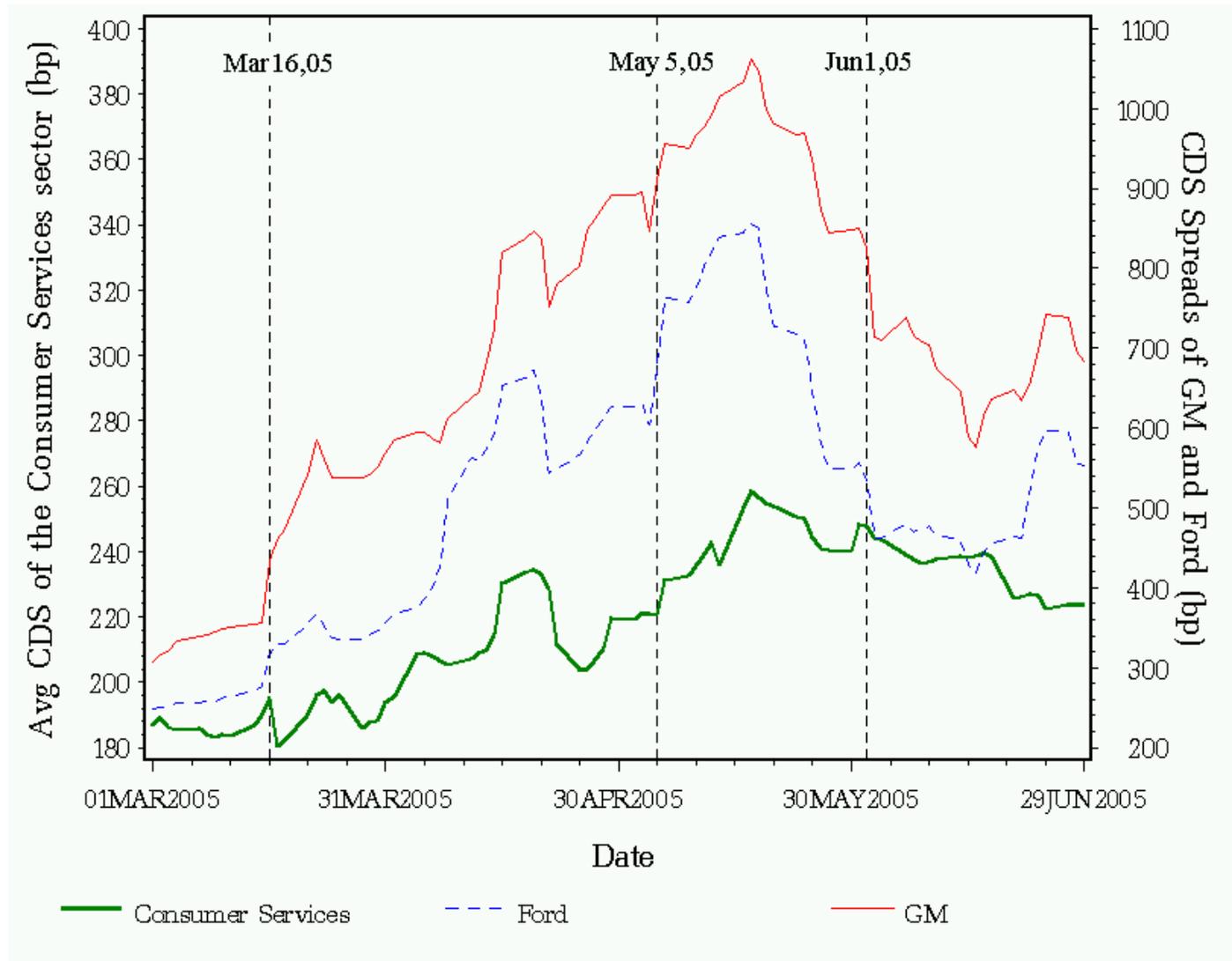
$$\text{Imb\%} = (\text{Total vol. of offers} - \text{Total vol. of bids}) / (\text{Total vol. of bids} + \text{Total vol. of offers})$$



# Sensitivity of CDS innovations for Consumer Services against GM in six sub-periods.



# CDS spreads for GM and Ford and Consumer Services



# So why am I presenting my paper in a discussion?

- Because it relates to the main point I want to make
- X affecting Y is “contagion” if X does not have any fundamental information about Y, but there is some other transmission – e.g., limited arbitrage capital to absorb fund liquidations – that connects X and Y
- Key is X and Y should NOT be fundamentally related
- GM and Ford downgrade were idiosyncratic events in good times of the economy, with no relationship of Auto to Consumer Services sector until the downgrade

## Hence, the main suggestion and questions...

- Paper relates Flows of hedge funds invested in emerging markets to Emerging Market Returns
- Paper shows convincingly that Flows and Emerging Market Returns are related
- Could Flows be informative about Emerging Market Returns? This relationship is not tested in the paper!
- Why are funds experiencing inflows not acquiring “depressed” markets due to other funds’ outflows? In other words, what are the limits to arbitrage?