



# *Liquidity Risk In Financial Markets*

*The premier  
meeting place  
for the risk  
profession.*



*Stamford, February 16, 2005*



*The premier  
meeting place  
for the risk  
profession.*

## Panelists

---

- **Kelsey Biggers,**  
Managing Director, Risk Management, K2 Advisors, LLC
- **Bill Gallagher,**  
Managing Director, Chief Credit Officer, RBS Greenwich Capital
- **Raj Gupta,**  
Research Director, Center for International Securities and Derivatives Markets
- **Henrik Neuhaus,**  
Managing Director, Chief Quantitative Officer, Parker Global Strategies, LLC
- **Andrew Weisman,**  
Director of Risk Management and Research, Strativarius Capital Management, LP
- **Gordon Yeager,**  
Managing Director, Head of Risk Management, Stanfield Capital Partners LLC

*The globally-endorsed standard for assessing the  
knowledge, competence and integrity of risk professionals.*



*The premier  
meeting place  
for the risk  
profession.*

## **1. What is liquidity in financial markets?**

- **In a liquid market participants may rapidly execute large-volume transactions with small impact on prices**
- **Three components of liquidity:**
  - **“tightness” – cost of turning around a position over a short period, usually measured by bid/offer spreads**
  - **“depth” – volume of trades needed to significantly affect prices**
  - **“resiliency” – the speed with which prices return to “equilibrium” once the impact of trades has dissipated**



*The premier  
meeting place  
for the risk  
profession.*

## **2. How should we measure and disclose liquidity risk?**

---

- **Are proxies (trade frequency and volume, price volatility) good for measuring liquidity?**
- **Is the potential impact of bid/offer spreads on NAV a good measure of liquidity risk?**
- **Is the potential impact of “liquidation cost” on NAV a good measure of liquidity risk?**
- **Does the attribution of (monthly unrealized) returns by liquidity of assets give potential “warning flags” about liquidity risk?**



*The premier  
meeting place  
for the risk  
profession.*

### **3. Does liquidity depend on a diversity of views?**

---

**Diversity of views is needed to have liquidity, otherwise the presence of sellers may attract more sellers rather than buyers (leading to liquidity “black holes”)**

- **technological advances (e.g. internet) drastically improved dissemination of information and access to information . . .**
- **does this really lead to reduced diversity of views and higher liquidity risk?**



*The premier  
meeting place  
for the risk  
profession.*

#### **4. Is the use of VAR methodology for capital requirements increasing liquidity risk?**

---

- **VAR systems highlight markets that offer low volatility (“safe” returns)**
- **this may prompt many market participants to switch to these markets, leading to “herd following” and a potential build-up of large and similar positions**

*Over 200 local meetings worldwide each year.*



*The premier  
meeting place  
for the risk  
profession.*

## **5. Do hedge funds increase or decrease liquidity?**

---

- **rapid growth of the hedge fund industry:**
  - **total number of hedge funds about 8,050**
  - **total funds under management about \$934bln**
    - **\$411bln (44%) from individuals**
    - **\$224bln (24%) from funds-of-funds**
    - **\$140bln (15%) from corporations**
- **do regulators believe that hedge funds increase or decrease liquidity?**
- **what will happen with liquidity if all hedge funds start trading aggressively against Wall Street firms?**
- **are funds-of-funds increasing liquidity risk?**



*The premier  
meeting place  
for the risk  
profession.*

## **6. What is the role of central banks in liquidity?**

---

- **central banks always worry about liquidity, but they differ in the extent to which they are willing to provide liquidity directly:**
  - **injection of liquidity during (some) financial crises**
  - **bail-out of LTCM using the doctrine “too big to fail” for the first time beyond depository institutions (Sep 1998)**
  - **enforcing regulatory capital requirements, settlement standards, etc . . .**
- **so why do we have short squeezes in U.S. Treasuries?**
  - **short squeeze for UST 9.250 02/15/2016 (spring of 1986)**
  - **short squeeze for UST 3.625 05/15/2013 (3Q and 4Q of 2003)**

## 7. How might hedge funds mitigate liquidity risk?

---

- **How to mitigate liquidity risk due to redemptions?**
  - **what is the implication of lock-ups on funds-of-funds?**
- **How to mitigate liquidity risk due to margin calls?**
  - **agreements with prime brokers that require 2-4 weeks notification before changing “hair-cuts”**
  - **credit lines with multiple prime brokers**
- **What is the “best business practice” to mitigate liquidity risk?**
  - **keeping track of “cash” positions**
  - **keeping track of the borrowing capacity**
  - **projecting funding requirements due to settlements**
  - **simulating potential need for funding**
  - **prudent trading limits**



*The premier  
meeting place  
for the risk  
profession.*



*The premier  
meeting place  
for the risk  
profession.*

## **8. How might prime brokers mitigate liquidity risk?**

---

- **Are the current “standards” for disclosure and transparency of reporting by hedge funds sufficient?**
  - **lack of proper disclosure to multiple prime brokers allowed LTCM to accumulate large leveraged positions**
- **Does the doctrine “know your customers” put too much burden on prime brokers?**
- **Are most prime brokers still struggling with cross-currency cross-product margining?**



*The premier  
meeting place  
for the risk  
profession.*

## **9. Does mitigation of liquidity risk through regulatory “circuit breakers” really work?**

---

- **Multiplicity of regulations on exchanges:**
  - **up-tick rules to prevent short selling in declining markets**
  - **cascaded “trading collars” and “circuit breakers” to halt trading for a limited time or for the rest of a trading session**
  - **restrictions on program trading**
  - **most triggers are for moves down, some are for moves up as well . . .**
- **Do we need regulatory “circuit breakers” and do they really work?**
- **Is it “fair” that trading may be halted on exchanges but not for the over-the-counter markets?**



*The premier  
meeting place  
for the risk  
profession.*

## **10. How to incorporate the liquidity risk in VAR systems and limits structure?**

---

- **How to implement the liquidity risk in Value-At-Risk systems?**
- **What limits structure deals the best with liquidity risk without micro-managing of traders?**



*The premier  
meeting place  
for the risk  
profession.*

## 11. What are the “early warnings” about potential increase of liquidity risk?

---

- **Buildup of large and highly leveraged positions in the same trade (“herd following”)**
- **Large stop-loss orders**
- **Large positions in certain barrier options near the trigger level**
- **Increased fundamental mispricing of pegged currencies**



*The premier  
meeting place  
for the risk  
profession.*

## **12. Why does liquidity appears much better for “G-7” than “emerging markets” currencies?**

---

- **Does the “unlimited” supply of currencies (in the absence of monetary restrictions) improve their liquidity?**
- **What are the common factors leading to liquidity “black holes” in FX markets?**
  - **fundamental mispricing of currency**
  - **changes of policy by governments**
  - **large speculative and highly leveraged positions**
  - **central bank interventions**



*The premier  
meeting place  
for the risk  
profession.*

## **13. What have we learned from liquidity “black holes” in FX markets?**

---

- **Departure of sterling from Exchange Rate Mechanism (Sep 17, 1992)**
- **Abandonment of peg for Thai baht (Jul 2, 1997)**
- **Unwinding of the “carry trade” in USD-JPY (Oct 7, 1998)**
- **Devaluation of Brazilian real (Jan 1999)**
- **Devaluation of Turkish lira (Dec 2000 and Feb 2001)**
- **Devaluation of Argentine peso (Dec 2001)**

## 14. What is the particular liquidity risk for bonds?

---

- **What is the liquidity risk for euro-denominated bonds?**
  - **improved liquidity for 10Y German and 5Y French bonds**
  - **worse liquidity for bonds in most other EMU countries**
- **What is the liquidity risk for high yield and distressed bonds?**
- **What is the liquidity risk for Mortgage/Asset Backed Securities?**
  - **what have we learned from the implosion of David Askin's Granite Fund (Apr 1994)**



**PRMIA**

The Professional Risk Managers'  
International Association

*The premier  
meeting place  
for the risk  
profession.*



*The premier  
meeting place  
for the risk  
profession.*

## **15. What is the liquidity risk for CDS and Synthetic CDOs?**

---

- **Why does the CDS market at times appear to have low liquidity and be subject to structural imbalances as protection buyers typically exceed protection sellers?**
- **Are CDS and Synthetic CDO markets heading towards a blowup (and liquidity “black hole”)?**
  - **trades are getting more and more complex (e.g. a CDS protection on a 10% mezzanine tranche that is senior to an 8% first loss tranche with collateral from a pool of 150 investment grade corporate names)**
  - **valuation heavily depends on complex correlations of defaults**
  - **do we really understand the risk and liquidity for these synthetic securities?**



*The premier  
meeting place  
for the risk  
profession.*

## **16. How can we handle the liquidity risk while rebalancing portfolios?**

---

- **Markets may experience positive returns in the time between selling existing positions and buying new investments**
- **How to hedge this risk and reduce the liquidity risk while rebalancing portfolios?**

## 17. How prevalent are problems with valuation of illiquid positions?

---

- **Accurate prices of illiquid instruments are still difficult to obtain**
- **Based on a portfolio replication it appears that hedge funds “smooth-out” monthly returns (understate the volatility of monthly returns)**
- **What have we learned from valuation problems at some of the hedge funds?**
  - **Granite Fund (David Askin) used his own fair value of CMOs when dealer’s prices seemed unreasonable, ultimately leading to the collapse of the fund (Apr 1994)**
  - **Lipper Convertibles marked-down its portfolio of convertibles by 12-16% leading to about 40% loss due to leverage (Feb 20, 2002)**



**PRMIA**

The Professional Risk Managers'  
International Association

*The premier  
meeting place  
for the risk  
profession.*



*The premier  
meeting place  
for the risk  
profession.*

## **18. Is liquidity risk always bad? How can we profit from low liquidity?**

---

**Possibly yes if you are a large player, but you may attract regulatory investigation into suspicion of market manipulation:**

- **exploiting liquidity differences between the futures markets and the cash markets:**
  - **reportedly \$17.5mm of profits made by Citigroup on \$15bln of trades in European government bonds (Aug 2, 2004)**
- **short “squeezes” in the repo market**
- **cornering of the silver market by Hunt Brothers:**
  - **controlled 50% of world’s silver supply**
  - **collapse of silver prices due to regulatory intervention, 50% daily price drop on Mar 27, 1980**

## 19. Liquidity risk in the making?

- **Possible revaluation of Chinese currency:**
  - **large trade imbalance (\$162bln surplus with U.S. in 2004)**
  - **the yuan (renminbi) is deliberately undervalued by as much as 40%**
  - **the peg of yuan to dollar is supported by Chinese government and tolerated by U.S. government . . .**
- **a textbook example of a blow-up waiting to happen, but when?**



*The premier  
meeting place  
for the risk  
profession.*



*The premier  
meeting place  
for the risk  
profession.*

## **20. Liquidity risk in the making?**

- **Possible liquidation of U.S. Treasury holdings by foreigners:**
  - **large U.S. trade deficit of \$618bln in 2004 (\$497bln in 2003)**
  - **foreigners owe over \$1.9 trillion of U.S. debt**
  - **foreigners may not want to hold as much in dollar-denominated assets . . .**
- **what may trigger a change of sentiment towards euro-denominated assets?**



*The premier  
meeting place  
for the risk  
profession.*

## **21. Liquidity risk in the making?**

- **Possible blowup of credit spreads in the U.S.**
  - **credit spreads are at historically tight levels**
  - **proliferation of CDS and synthetic CDOs that use low grade bonds as collateral and increase credit leverage**
  - **more investors, including hedge funds (that do not have lockup protection), use lower rated bonds in search of higher returns . . .**
- **what may trigger a blowup of credit spreads?**
- **what may happen if rating agencies are regulated?**