Tenth Annual

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Secondary Market Liquidity in Domestic Debt Markets

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Secondary Market Liquidity in Domestic Debt Markets

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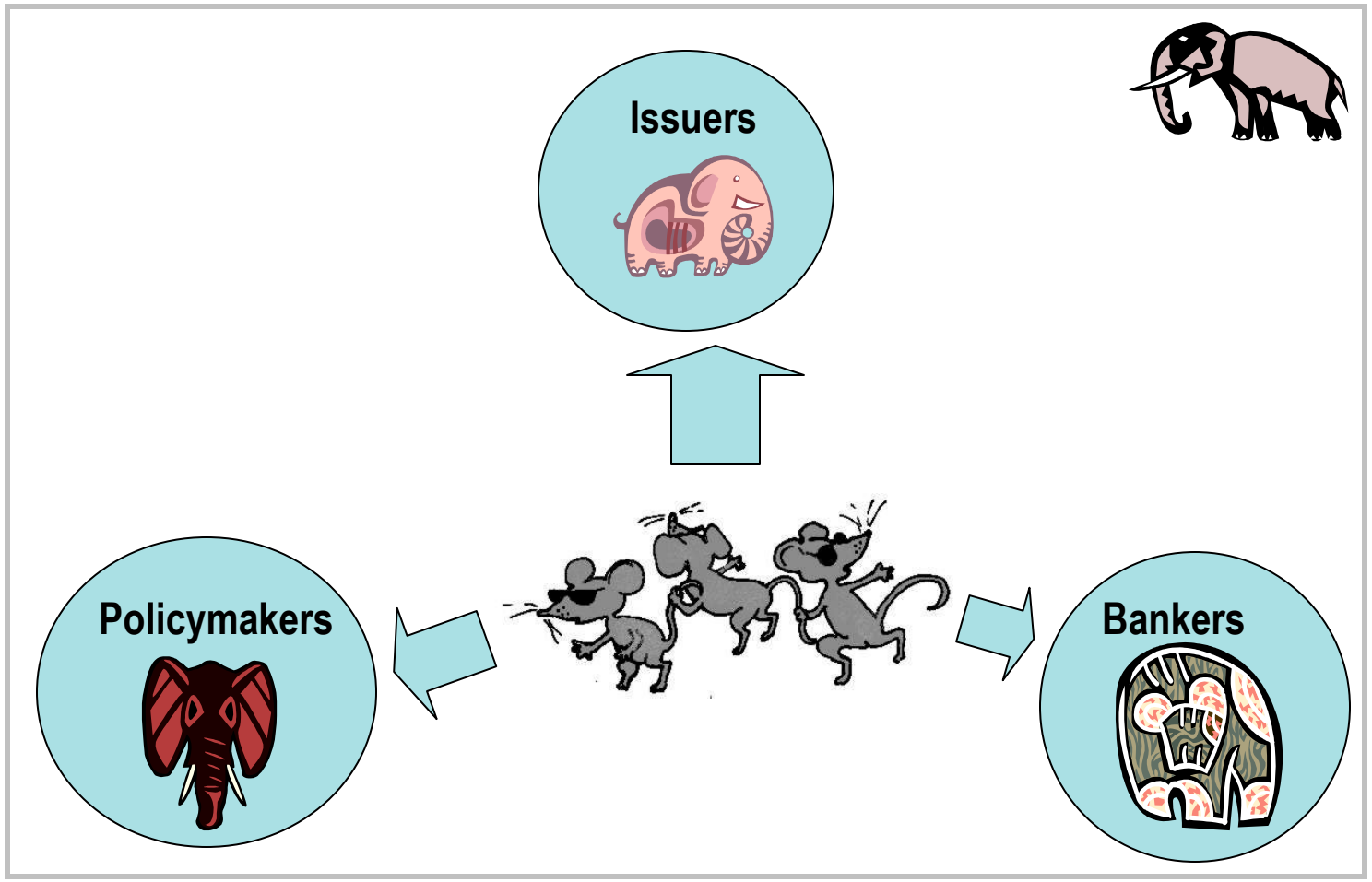
HSBC

Perspectives on liquidity

"Liquidity is the ability to trade a security with minimal impact on its price"



Overview

I

1. Trends in liquidity 
   - Session I: Trends in domestic market liquidity (29th)

II

2. Determinants of liquidity   
   - Local
     - Session II: Impact of different market structures and policies(29th)

III

   - Global
     - Session III: Impact of the investor base on liquidity (30th)

IV

3. Improving liquidity 
   - Session IV: Key challenges for strengthening liquidity and way forward (30th)

Trends in Liquidity

Session I (29th)

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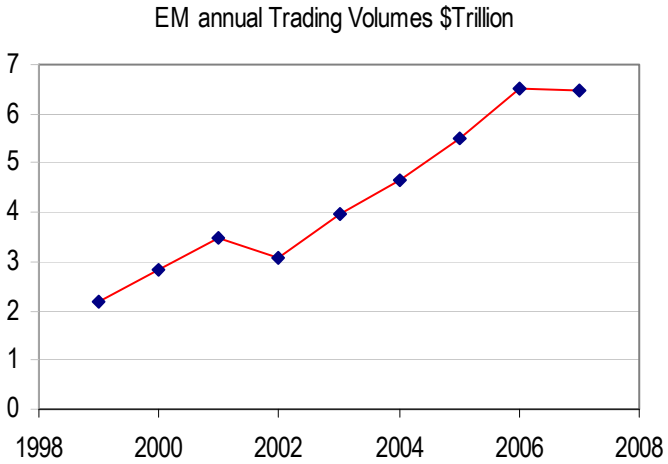
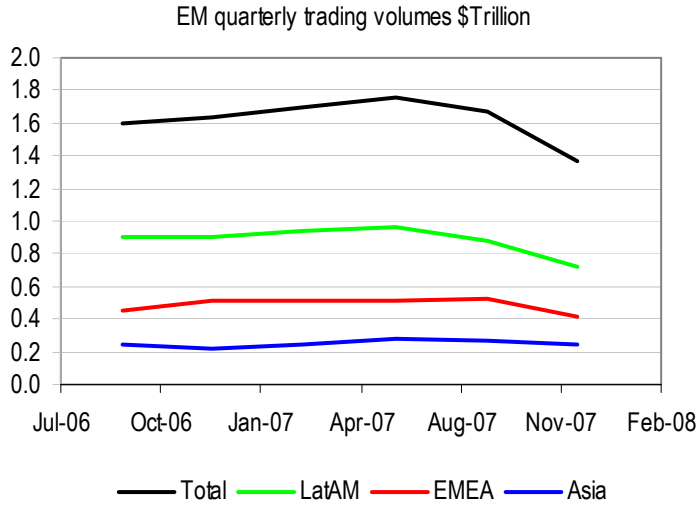
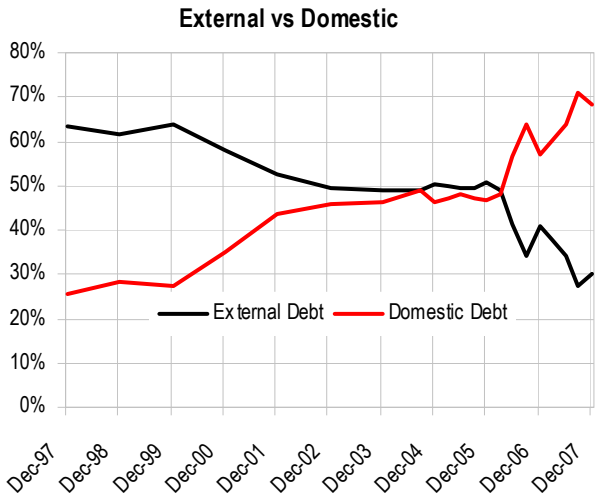
Case study EM: Overall liquidity Increasing

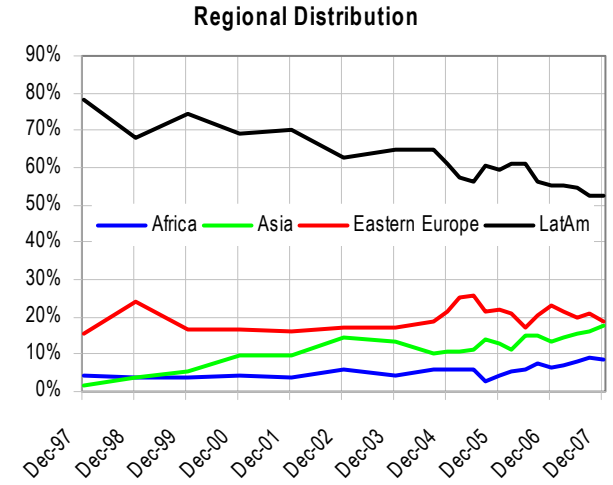




- Annual overall liquidity has been improving
- Annual data hides quarterly variation: Problem is not overall lack of liquidity, but periodic disappearance. Ex. 4q 2007
- Data is for both domestic and external debt

EM: Liquidity shift from External to Domestic debt





Source: EMTA, HSBC Calculations

2007 Relative trading volume in top 10 credits

Rank	Country	Volume ($MM)	Local Volume ($MM)	Local Fraction
1	Mexico	293,184	244,739	83%
2	Brazil	250,442	165,158	66%
3	South Africa	106,579	100,280	94%
4	Argentina	97,496	41,768	43%
5	Russia	81,367	19,961	25%
6	Turkey	74,354	56,511	76%
7	Poland	64,580	56,037	87%
8	Hong Kong	59,906	52,784	88%
9	Singapore	34,226	30,701	90%
10	India	29,440	20,324	69%
	Top-10	1,091,574	788,263	72%
	Total	1,366,263	933,545	
	Fraction	80%	84%	

- **Relative volume** of domestic debt has been growing, except for a few hiccups
  - Valuable asset/liability match
  - Old EM: Vulnerable to currency weakness
  - New EM: Vulnerable to currency strength
- **Regional distribution Improving**: LatAm fraction falling, relative to others, but still over 50%
- **Liquidity concentration**: Top 10 countries account for 80% of total volumes, 84% of domestic volumes

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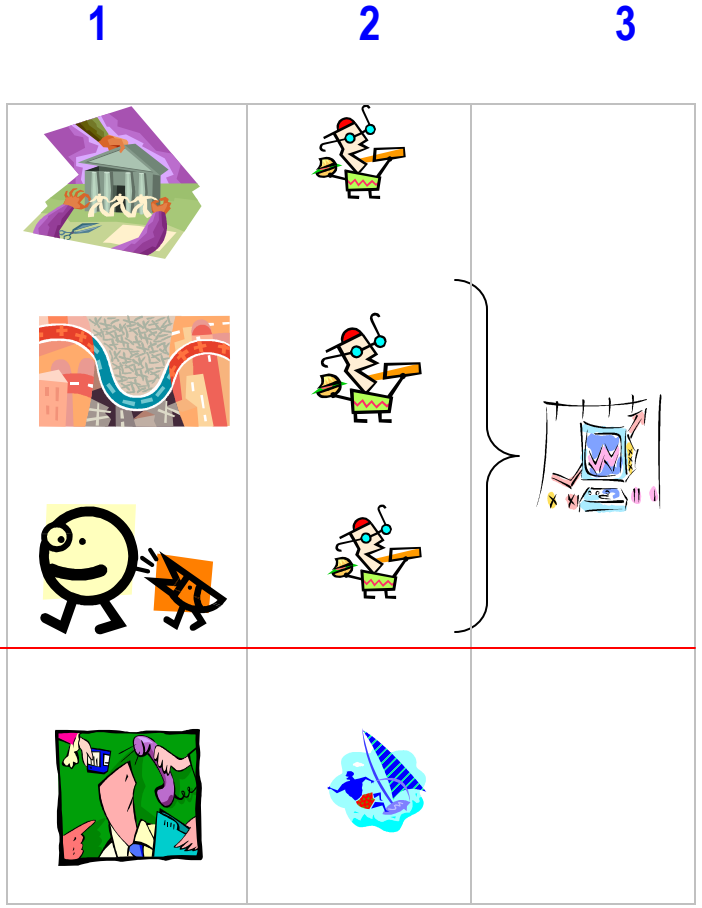
Reasons for liquidity improvements

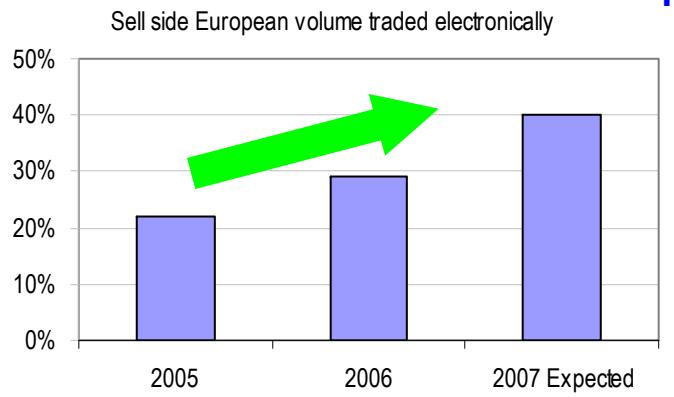
1. Changes in Institutions
   - Government Policies: More orthodox monetary, fiscal, liability management policies from issuers
   - Legal system: Clarity& enforceability of legal rights, and equal access
   - Regulatory system: Disclosure requirements, registration requirements, fewer regulatory gaps
2. Improvements to infrastructure
   - Trading
   - Clearing
   - Settling
3. Improving informational symmetry
   - Equal access to price information
   - Investor base with diversity of views, time horizon, risk preferences
   - More sophisticated participants

4. Structural demand change in Investor base
   - Global supply of liquidity due to structural demand for assets
     - Growth in Pension assets
     - Reduction in home bias
     - Shifts in demographic and growth patterns



Overall liquidity shift to E-Platforms

1



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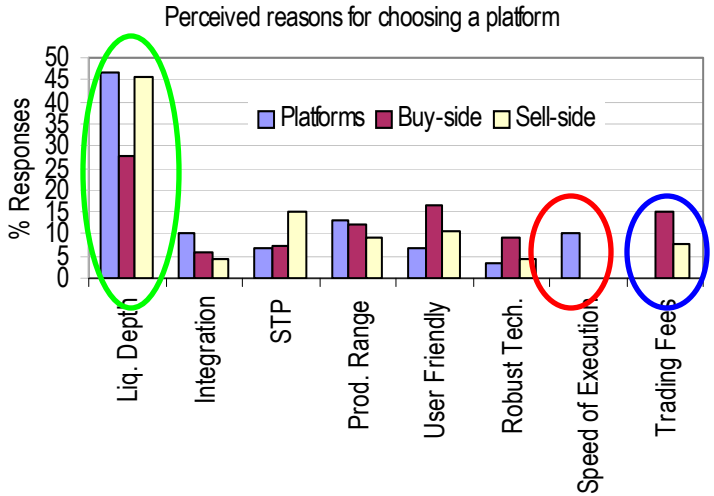

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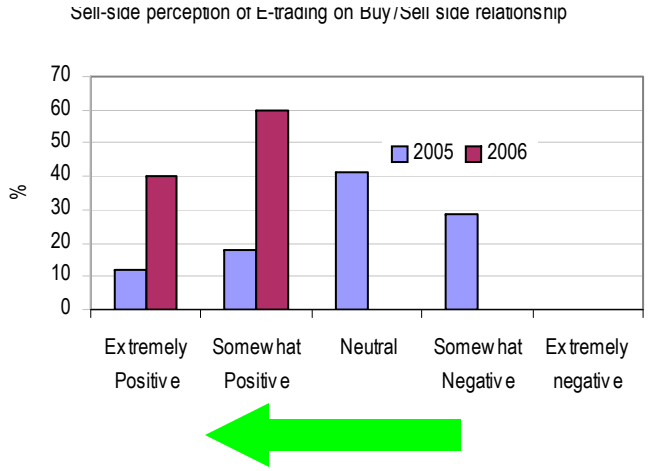

Source: SIFMA 2nd Annual European Fixed Income E-trading Survey, Feb 2007

OTC vs Electronic market

- Bigger trades usually get done in OTC market 
- Even though OTC market more opaque 
- Repeated, non-anonymous game makes relationships important 
- Likely to find a happy medium between electronic and OTC trading
  - Naturally illiquid assets (stay OTC)
  - Naturally liquid assets (shift to E-trading)
- Dangerous to take relationship out of banking 

Trends in Liquidity

- What is changing?
  - Overall liquidity is improving (All markets) 
  - Shifting from external debt to domestic debt (EM) 
    - Sound policies & practices, artificially (?) weak currencies, less home bias
  - Shifting from OTC to electronic platforms (non-EM) 
- What is not changing?
  - Can suddenly disappear 
  - Has commonality across securities 
  - Is related to volatility 
  - Subject to flight to quality 
  - co-moves with the market 

Determinants of Liquidity

Session II (29th), Session III (30th)

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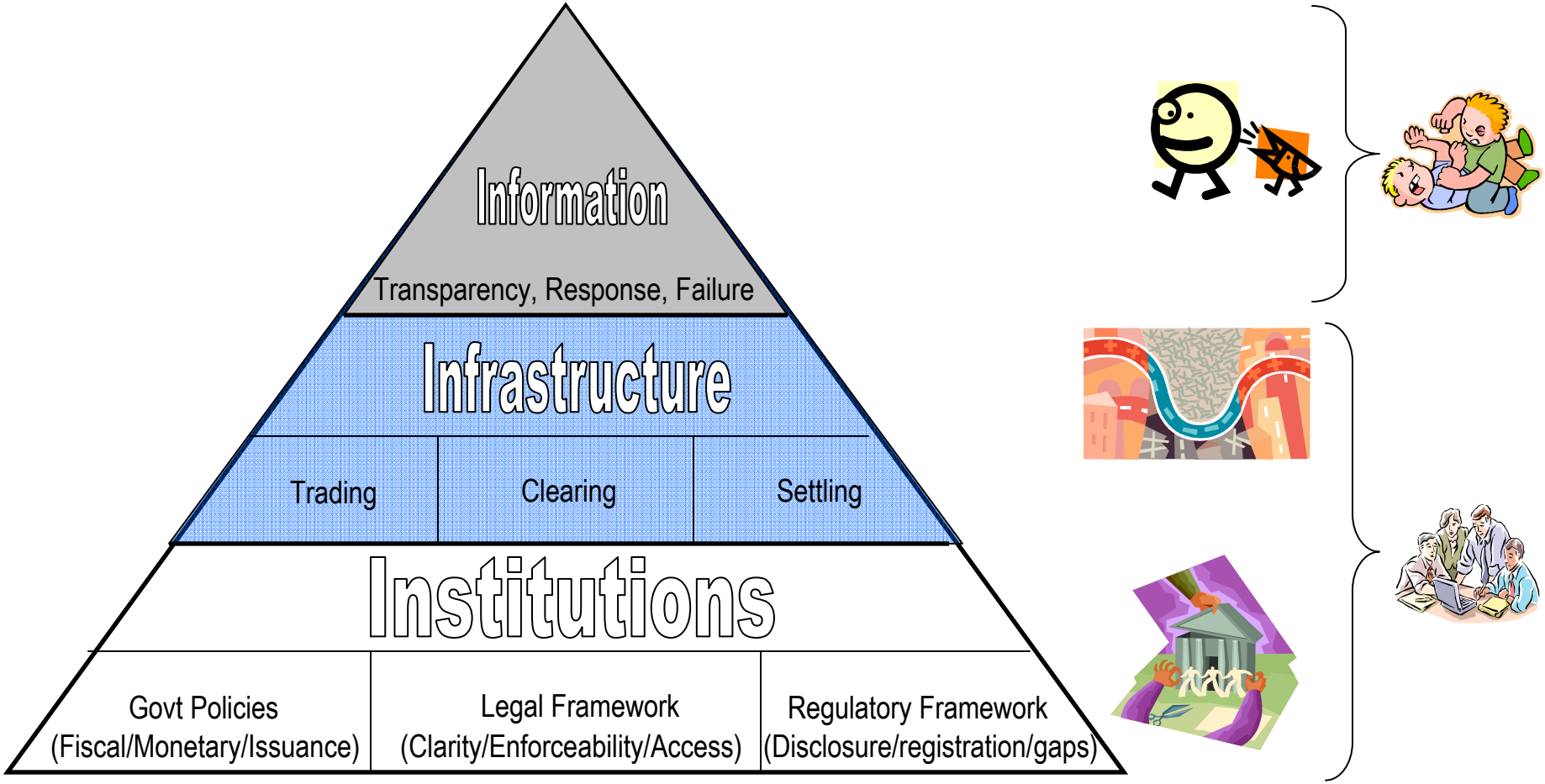
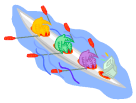
Local determinants of liquidity



Information

1. Pre-trade transparency
   - How much information is available before the trade 
   - Fairness, clarity, tax, issuance predictability 
2. Post-trade transparency
   - How much information is available after the trade 
   - How quickly is it available after the trade 
3. Mandatory liquidity provision (provide free information)
   - What kind of liquidity requirement should issuers impose on dealers 

Pre/post- trade transparency

1. Full transparency of B2B (dealer-to-dealer) limit order book

- Reduces client requests for quotes, which reduces information available to dealers 
- Less information in B2B limit order book about potential buy-side liquidity needs 
- Increases chance of herding  and reduces liquidity

2. Full transparency of B2C (dealer-to-client) market

- Harder for successful bidder to hedge risk in B2B market 
- Increases winners curse problem  , which can drive liquidity away as dealers withdraw

3. Disseminating post-trade information too quickly

- Encourages game-playing  that is unrelated to client needs
- Takes time, thought, and therefore adds cost 

Source: “European government Bond Markets: transparency, liquidity, efficiency”, Dunne, Moore, Portes, CEPR 2006

Transparency and trust

- Transparency of price/activity information, not of transparency of quality information (fairness, clarity)

- Asymmetrical information can lead to "spirals of mistrust"

  - "Market for Lemons:Quality uncertainty and the market mechanism", George Akerlof, 1970)
  - Buyers uncertain about quality will pay only average price even for good cars
  - This causes sellers to withdraw good cars from market, which lowers the average price even more
  - Market seizes up soon after
- Parallel in liquidity dry up in inter-bank lending

  - Fed support increases amount of available liquidity
  - But reduces trust among banks because weak ones are protected
  - Which leads to increased demand due to hoarding of liquidity

Views on mandated transparency





Participant \ View	Oppose more transparency	Neutral	Favor more transparency
Primary Dealers			
Large Buy Side			
Small Buy Side			
Large Issuers			
Small Issuers			

Source: “European government Bond Markets: transparency, liquidity, efficiency”, Dunne, Moore, Portes, CEPR 2006

Global determinants of liquidity(1/2)

1

You borrow $100

?

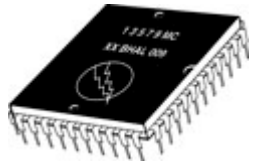
WAL★MART

Purchases iPod Nano

Wal Mart has sourced the iPod from Apple for USD60

Apple has sourced the iPod from a plant in China for USD40

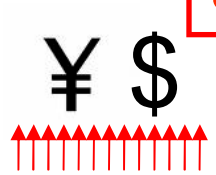
2



Chinese plant sources components from Taiwan for USD10

These flows create net export revenue of USD30 for China and USD10 for Taiwan

3



Other things being equal this creates upward pressure on the RMB and TWD

?

4

If the respective CBs resist pressure and intervene to buy the incremental dollars these dollars end up in their FX reserves

These central banks buy US treasuries with their newly acquired dollars

Funds now flow back to the US making the transaction dollar neutral. Part of the credit creation that funded a consumer purchase ends up financing the US fiscal deficit, keeping US yields low

5

Low yields cause investors to move into high yielding EM assets such as Mbonos

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Global determinants of liquidity (2/2)

- Savings phase (supply liquidity), global phenomenon, subject to demographics, growth, savings
- Consumption phase (demanding liquidity), requires others with the money and the inclination to buy your assets
- Liquidity conditions are truly tested only during a global slowdown, as demand for liquidity will increase with people trying to withdraw value from their assets
- Institution-wide Funding liquidity affects traders risk-taking capacity in specific assets, so affecting Market Liquidity
  - Market/funding liquidity mutually reinforcing, leading to liquidity spirals

Ref 1: Market Liquidity and Funding Liquidity, Brunnermeier, Pedersen, June 2007
Ref 2: Market and Funding illiquidity: When private risk becomes public, IMF Global Financial Stability Report, April 2008

Improving Liquidity

Session IV (30th)

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Efficiency/Robustness trade-off

- **Efficiency** – Make the best possible use of all available resources/information

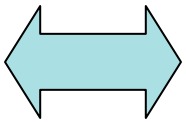
- **Robustness** – Survive even if conditions change, or information turns out to be wrong

- **Trade-off** generally exists between efficiency and robustness, for example in
  - Natural systems

  - Use of financial leverage

  - Portfolio allocation
    - **CAPM Beats Mean Variance** : Ref. 1. Evolution of portfolio rules in incomplete markets, Hens, Schenke-Hoppe, 2001
    - **Kelly criterion beats all:** Ref. 2. Globally Evolutionary stable portfolio rules, Evstigeev, Hens, Schenk-Hoppe, 2007

Competition/Robustness Trade-off

- Open competition, regulation, standardization, are seen as ways of creating efficiency 
- Some trade-off between competition and robustness in many economic systems 
- Competition is also not free   
- Does trying to save money on small trades in a normal market, do you lose liquidity on big trades in an abnormal market?   

Is there a case for reducing liquidity demand?

- **Focus usually on measures for increasing supply of liquidity**

- **Except in extreme (circuit-breaker) situations, more liquidity always considered good**

- **Liquidity problem usually caused by mismatch in liquidity between assets and liabilities**

- **Some efficiencies in reducing trade size**
  - High-performing mutual funds face diminishing returns to scale
  - Trading costs related to trade size
  - Significant diseconomies of scale as relative trade size increases

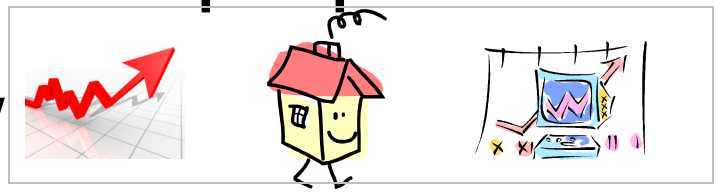
- **If there is mandatory minimum in liquidity <u>supply</u> required of dealers, is there a case to be made for mandatory limits on liquidity <u>demand</u>?**

Ref: Scale effects in Mutual fund performance: the role of trading costs; Edelen, Evans, Kadlee, 2007

Wrap up

I

1. Trends in liquidity



- Non-trends

II

2. Determinants of liquidity

– Local (Session II: "Impact of different market structures and policies")

- Institutions,  Infrastructure,  Information 

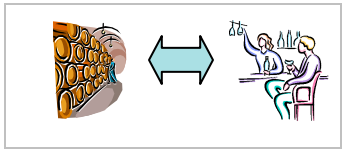
III

– Global (Session III: "Impact of the investor base on liquidity")

- Diversification of goals, horizon, risk preference 

IV

3. Improving liquidity 



- Session IV: "Key challenges for strengthening liquidity and way forward"

References

1. Developing the domestic government debt market: From diagnostics to implementation; The World Bank, 2007
2. European Government bond markets: transparency, liquidity, efficiency; Peter Dunne, Michael Moore, Richard Portes, Centre for Economic Policy Research, 2006
3. Market and funding illiquidity: when private debt becomes public; IMF Global Financial Stability Report, April 2008
4. Market liquidity and funding liquidity; Markus Brunnermeier, Lasse Heje Pederesen, June 2007
5. Bond Markets in Europe and Beyond; MTS Group, Edition IV, 2007
6. European Primary Dealers Association (EPDA) Third Party Access Discussion Paper, Securities Industry and Financial Markets Association, 2007
7. Evolution of portfolio rules in incomplete markets; Hens, Schenke-Hoppe, 2001
8. Globally evolutionary stable portfolio rules, Evstigeev, Hens, Schenk-Hoppe, 2007
9. Scale effects in mutual fund performance: the role of trading costs, Edelen, Evans, Kadlee, 2007