

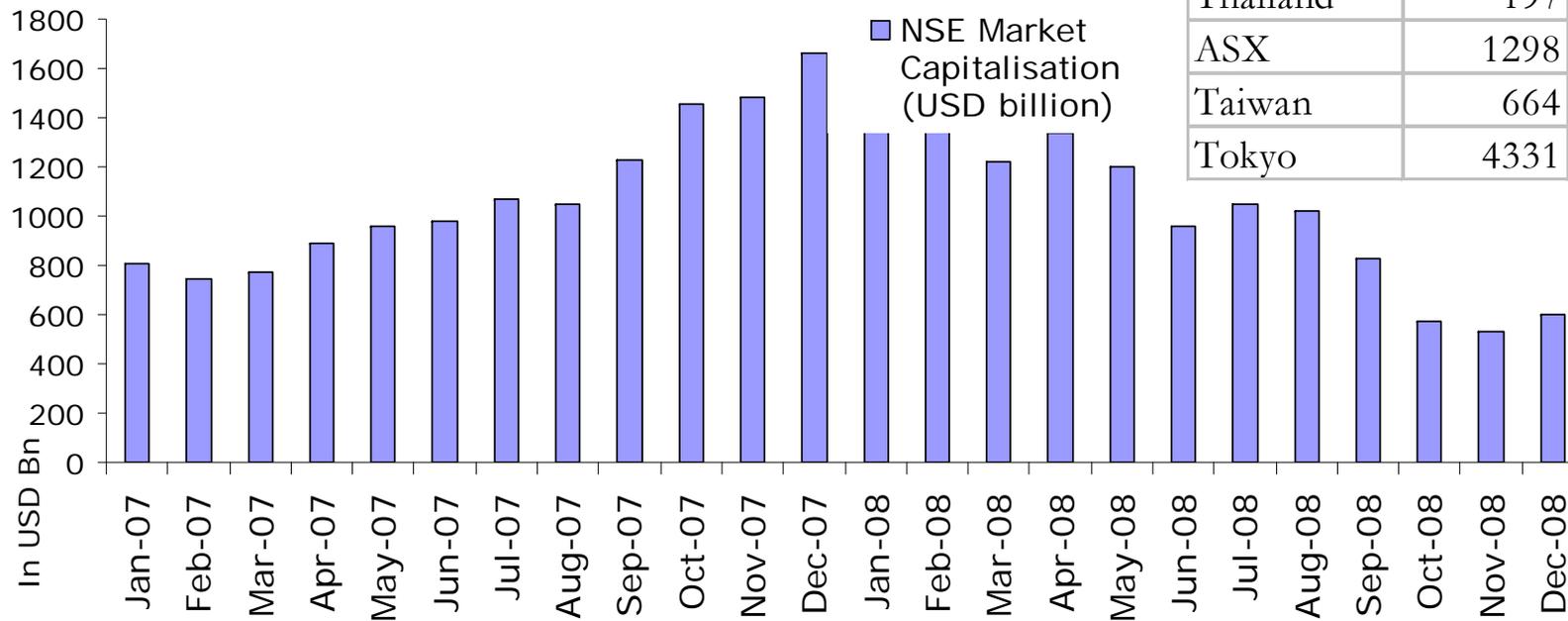
# Current Financial Market Developments and Implications for Markets



February 13, 2009



- Sharp fall in Asset prices - NSE Market cap down 64% by USD 600 Billion during 2008

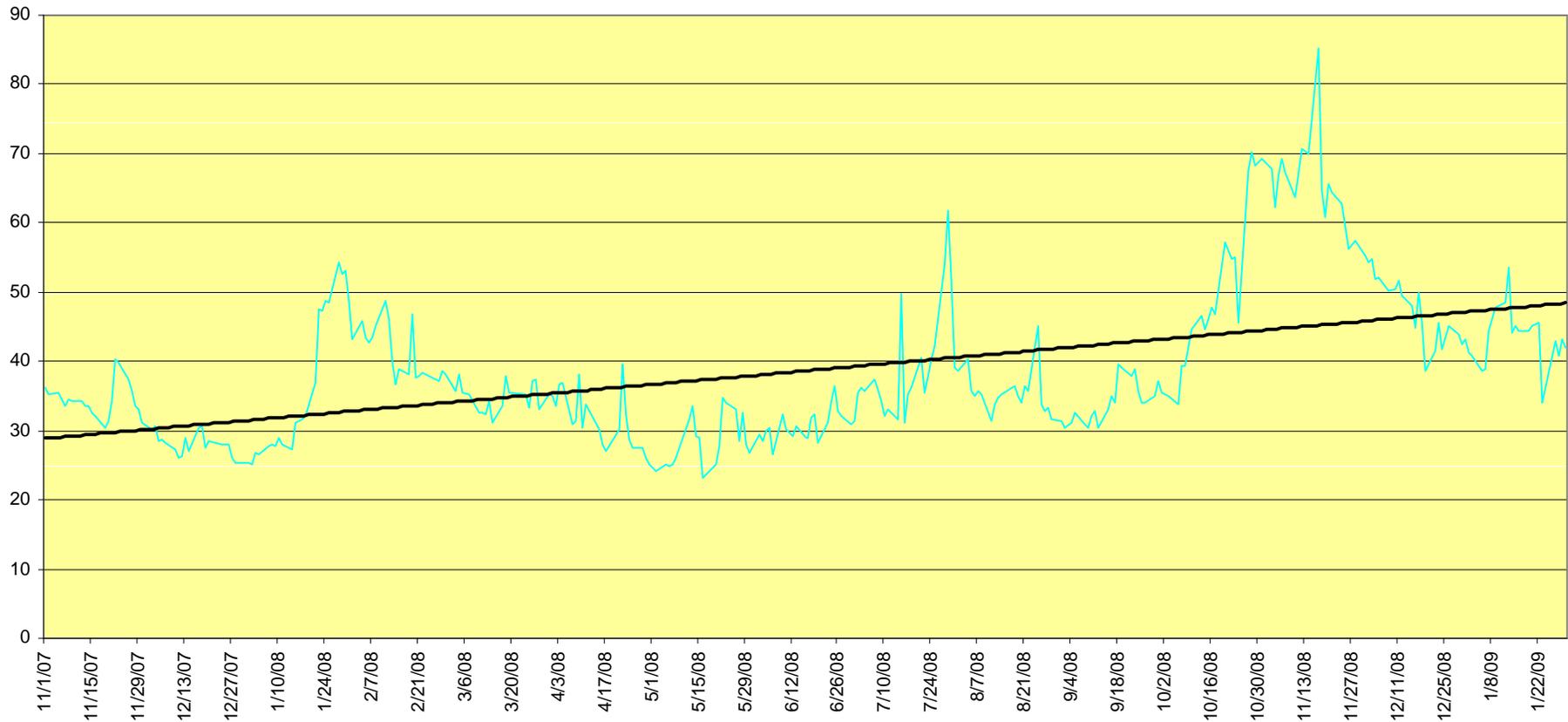


Exchange	1-Dec-07	12-Dec-08	% Change
BSE	1819	647	-64%
NSE	1660	600	-64%
Shanghai	3694	1425	-61%
KRX	1123	471	-58%
SGX	539	265	-51%
HKSE	2654	1329	-50%
Thailand	197	103	-48%
ASX	1298	693	-47%
Taiwan	664	357	-46%
Tokyo	4331	3116	-28%



## Increased volatility due to unstable market conditions

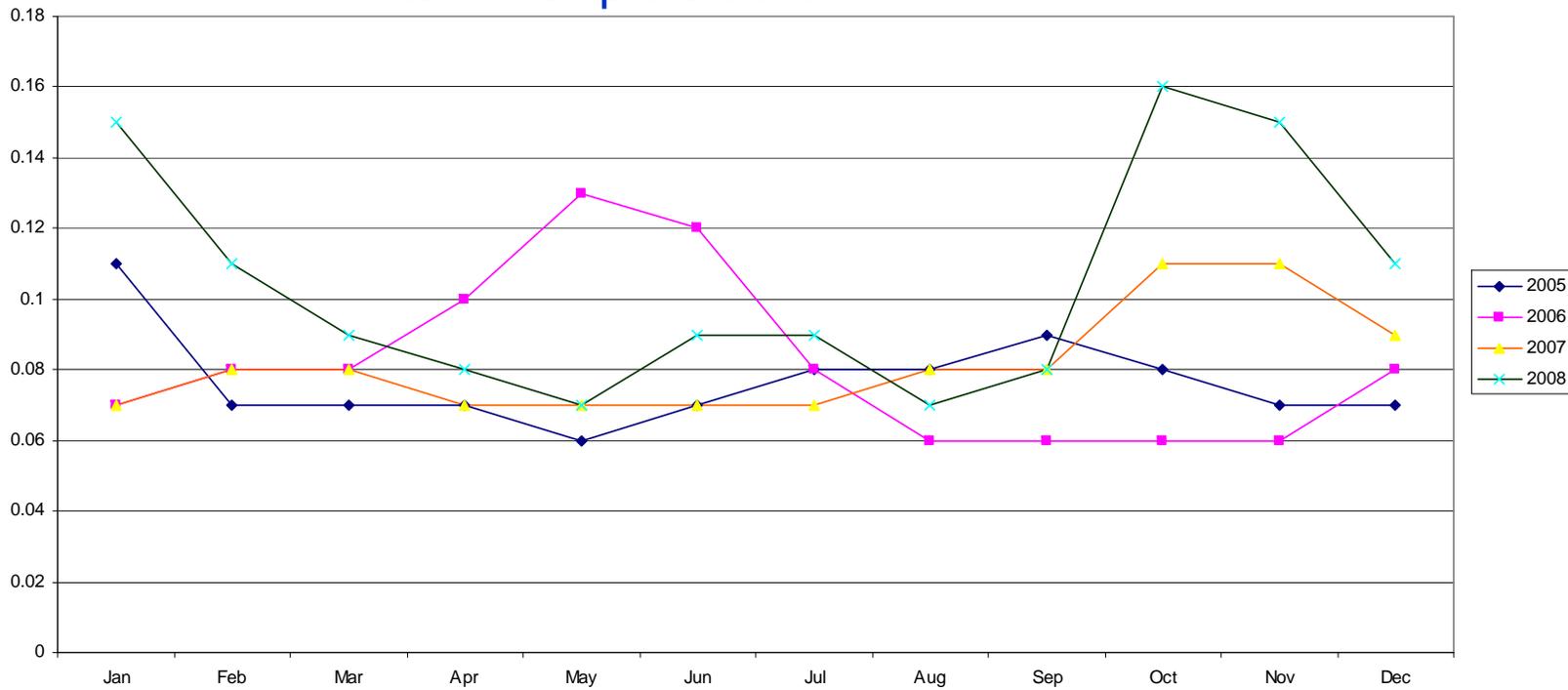
India VIX Trends Nov 07 to Jan 09





Heightened uncertainty perception results in lower liquidity

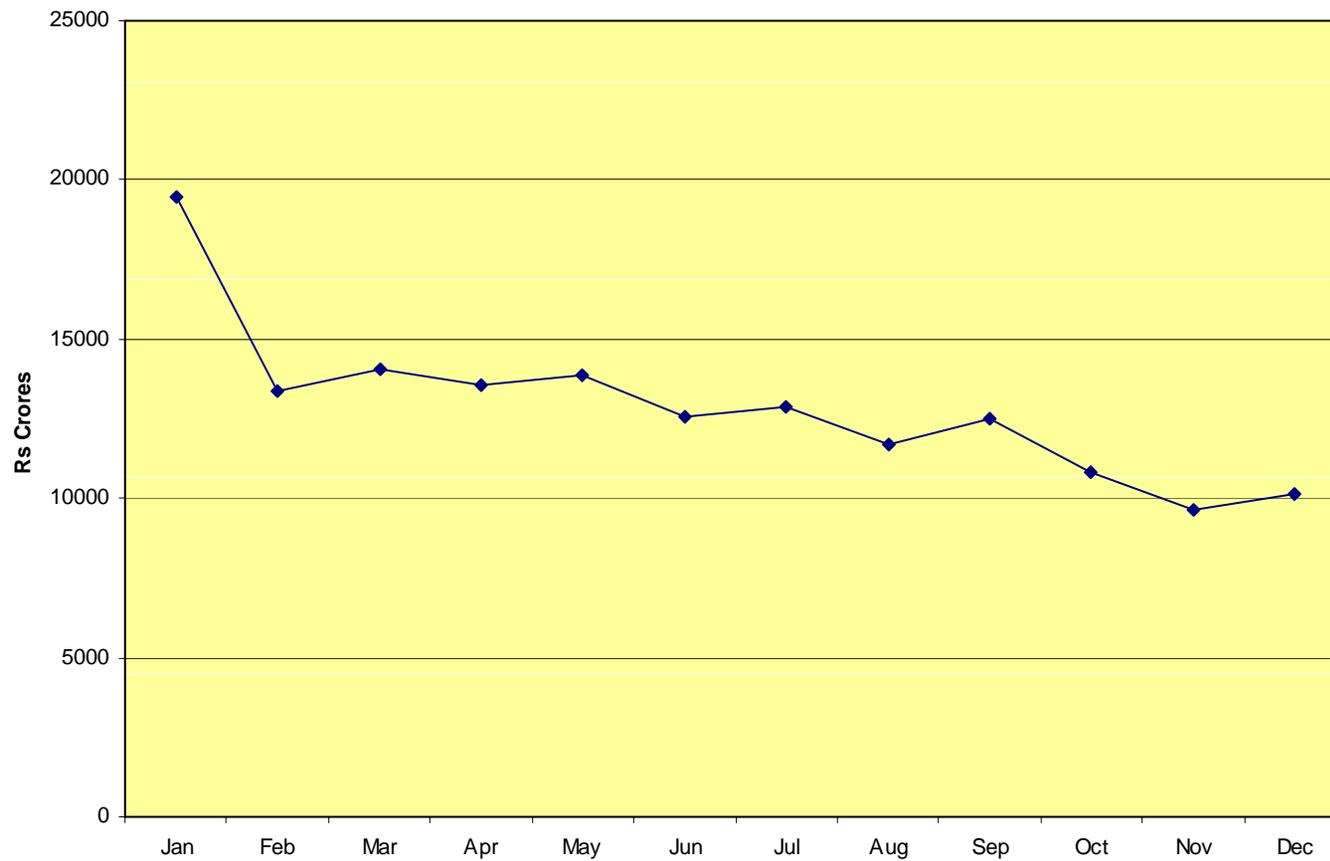
NIFTY Impact Cost





Daily turnover falls as asset prices drop

**Average Daily Turnover in Cash Equity Markets (NSE)  
2008**



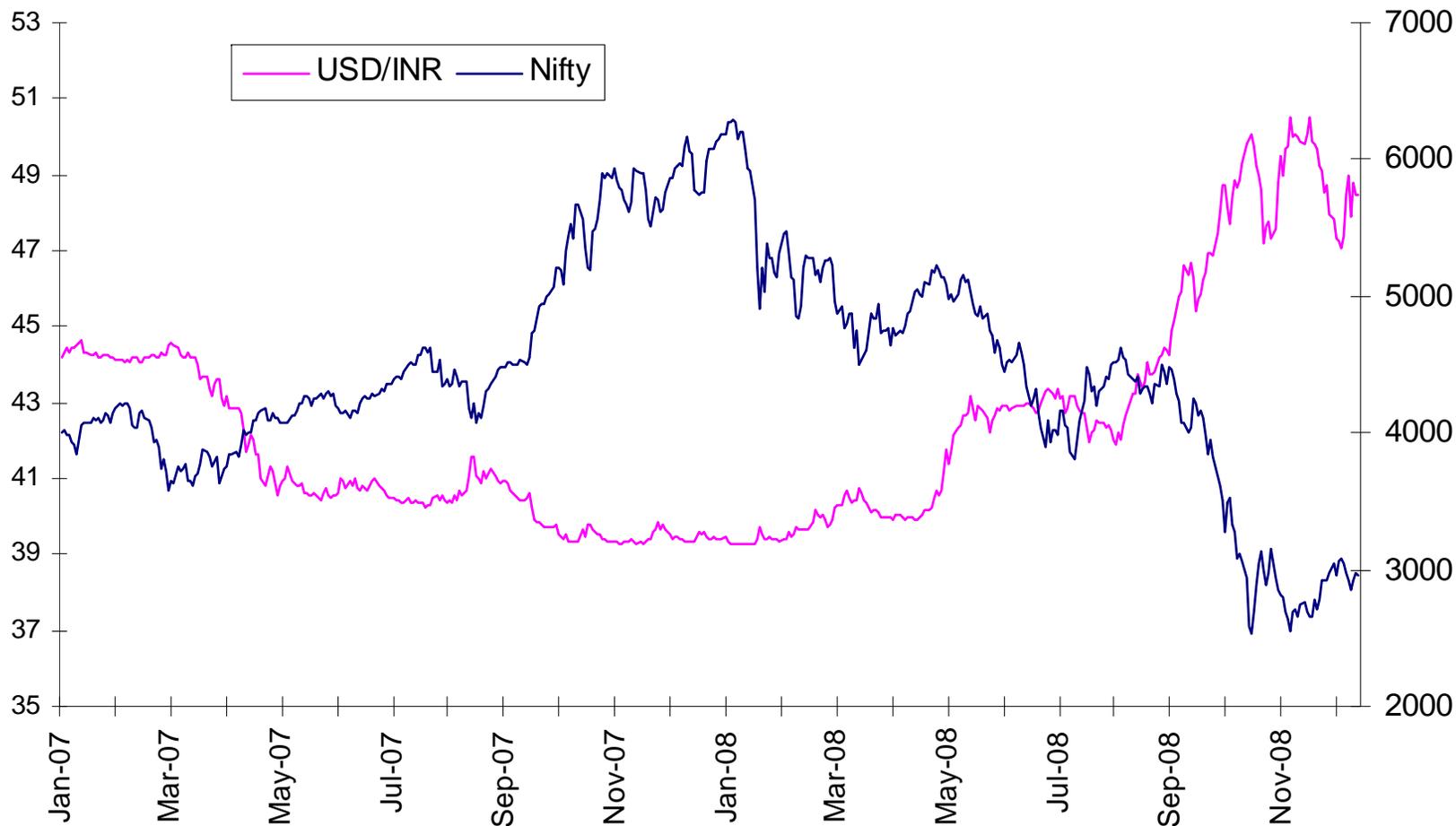


Most exchanges see fall in volumes compared to 2007

Exchange	2008	2007	% Change
NASDAQ	36446	28116	29
NYSE	33639	29210	15
LSE	6474	10324	-37
Tokyo	5586	6476	-13.7
Euronext	4454	5648	-21
Deutsche Borse	3381	4324	-10
Shanghai	2587	4070	-36
BME	2439	2971	-18
TMX	1736	1649	5.3
HKEx	1629	2139	-24
NSE	740	761	-2.7



- Economic conditions have made investing difficult
  - Drop in tax revenues result in increased fiscal stress putting pressure on long duration assets
    - Govt borrowing program increased substantially by USD 41 Billion
  - Foreign sources of corporate funding have disappeared
    - Drop in investment demand
  - Export demand has collapsed across the board
    - Resulting in multiplier effects across industries



- INR-USD at beginning of 2007 was at 44.20 and at end 2007 was at 39.41 an appreciation of Rupee by 11%.
- USD-INR remained stable in Jan 2008
- Rupee depreciated later to touch a low of 50.52 on Dec 02, 2008



- Pricing signals have become unreliable
  - Earnings have become more uncertain
  - Ratings cannot be depended upon as an indicator of performance
  - Market prices distorted due to lack of liquidity
  - Distress sales by institutions facing redemption or liquidity constraints result in further losses
  - This in turn increases the need for capital and creates a vicious cycle



- Market Liquidity affected by
  - Flight to safety
    - Fewer participants, less trading
  - Inability to take counterparty risk
    - Less deals in OTC derivatives and repos
  - Inadequate price signals
    - Higher impact costs
  - Reduction in leveraging
    - Less capital available for markets



- Solvency
  - Difficult to obtain short term liquidity from market for institutions facing redemptions
  - Significant rise in counterparty risk perception
  - OTC derivatives have become riskier
- Systemic Risk
  - Size of bailout required is not clear
  - Financial market problems quickly spread from one country to another, resulting in a synchronized global crisis
  - Diversified Financial Conglomerate model needs to be questioned



- Systemic Issues will force move away from financial conglomerates
  - High contagion risks will force regulators and industry players to spin off businesses to reduce balance sheet risks
  - Unbridled “innovation” will slow down, as customers and regulators become wary of product complexity
- Regulation will push markets towards greater transparency
  - Move from OTC to Exchanges
- Indian Situation
  - Liquidity and volatility trends similar
  - Most of the trading activity cleared through CCPs
  - Settlement Guarantee as back-bone
  - OTC markets limited
  - CDS and exotic structures not prevalent



Systemic considerations will accelerate push to ETD

	OTC Market	Exchange Traded Futures
Price transparency	Low; bilateral contracts with banks	High; online real time screen
Liquidity	Subject to counterparty credit limits	Margins equate all participants
Settlement	Negotiated	Transparent and fixed upfront
Credit Exposure	Yes and high	Clearing corporation is the CCP and guarantees all trades
Execution	Only banks	450+ trading members, including banks
Margins / MTM	Margins usually not required, no MTM	Margins and MTM are mandatory



- Portfolio impact
  - time horizons in investments
  - Investment strategies and risk return trade offs approach
- Capital Impact
  - Need for fresh capital infusion
  - Where to source from
- Product suite impact
  - Innovation to traditional structures?
  - Contraction of business impact
  - Preference for capital protected structures etc



Will we see more prescriptive regulations?

- Risk measurement systems and Early warnings
- Set risk appetite levels for key risks
- Appropriate governance review of risk systems
- Need to provide for  $X$  sigma events
- Performance evaluation on a risk metrics rather than just return metrics