NYU STERN
NEW YORK UNIVERSITY · LEONARD N. STERN SCHOOL OF BUSINESS

Systemic Risk: What is it?

Are Insurance Firms Systemically Important?

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(NYU-Stern, CEPR and NBER)

What is “systemic risk”?

- Micro-prudential view: Contagion
  - Failure of an entity leads to distress or failures of others
- Too-big-to-fail institutions
  - Regulate TBTF better
- The Dodd-Frank Act is primarily the “micro-prudential view”
- Systemically Important Financial Institutions (SIFIs)
  - Regulate SIFIs better

What is "systemic risk"?

- Macro-prudential view:
  (Diamond-Dybvig + Shleifer-Vishny)
  - Common factor exposures
  - Runs

- Several entities fail together as
  - Short-term creditors demand immediacy
  - Against long-term assets
  - But the system has limited capacity (capital?) to provide immediacy

- The micro-prudential and macro-prudential views are not necessarily mutually exclusive

Two views lead to different reforms

I. Micro-prudential view:

- Design "top-down" bankruptcy procedure for failing SIFI
- Example: Dodd-Frank Act, contingent capital, bail-in

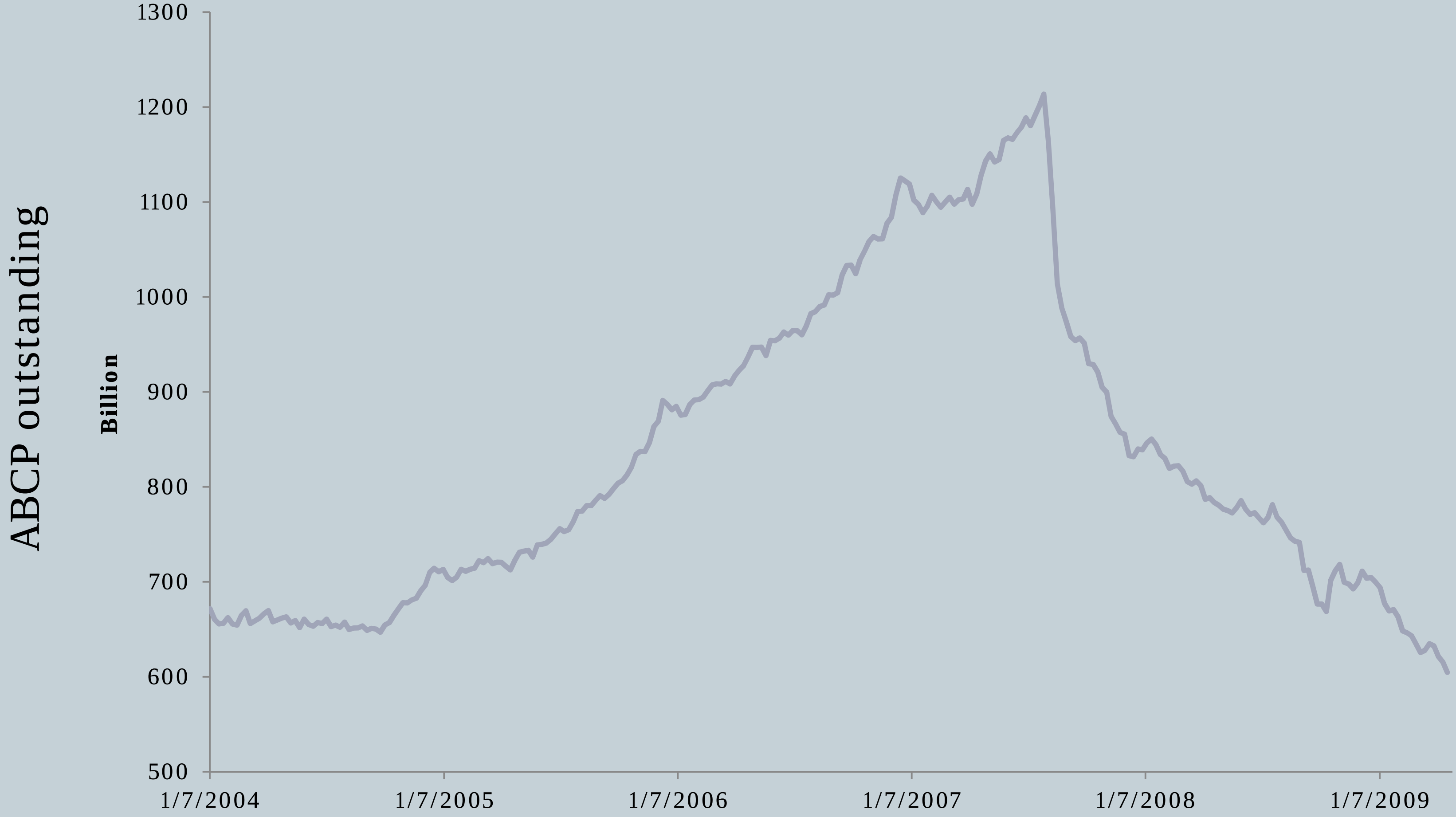
II. Macro-prudential view:

- Design "bottom-up" resolution at market-level for systemically important assets & liabilities (SIALs)
- Example: Derivatives/Repo clearinghouses, LOLR

Systemic risk need NOT be about SIFIs

- There have indeed been runs on SIFIs in the past
- But a number of runs in the 2007-09 crisis were also runs on relatively smaller shadow banks (such as hedge funds, conduits and SIVs and money-market funds)
- Failures of collection of smaller lenders has historically led to significant crises such as S&L crisis in the United States and the current Spanish woes due to *Cajas*

ABCP “run” (Acharya, Schnabl and Suarez)



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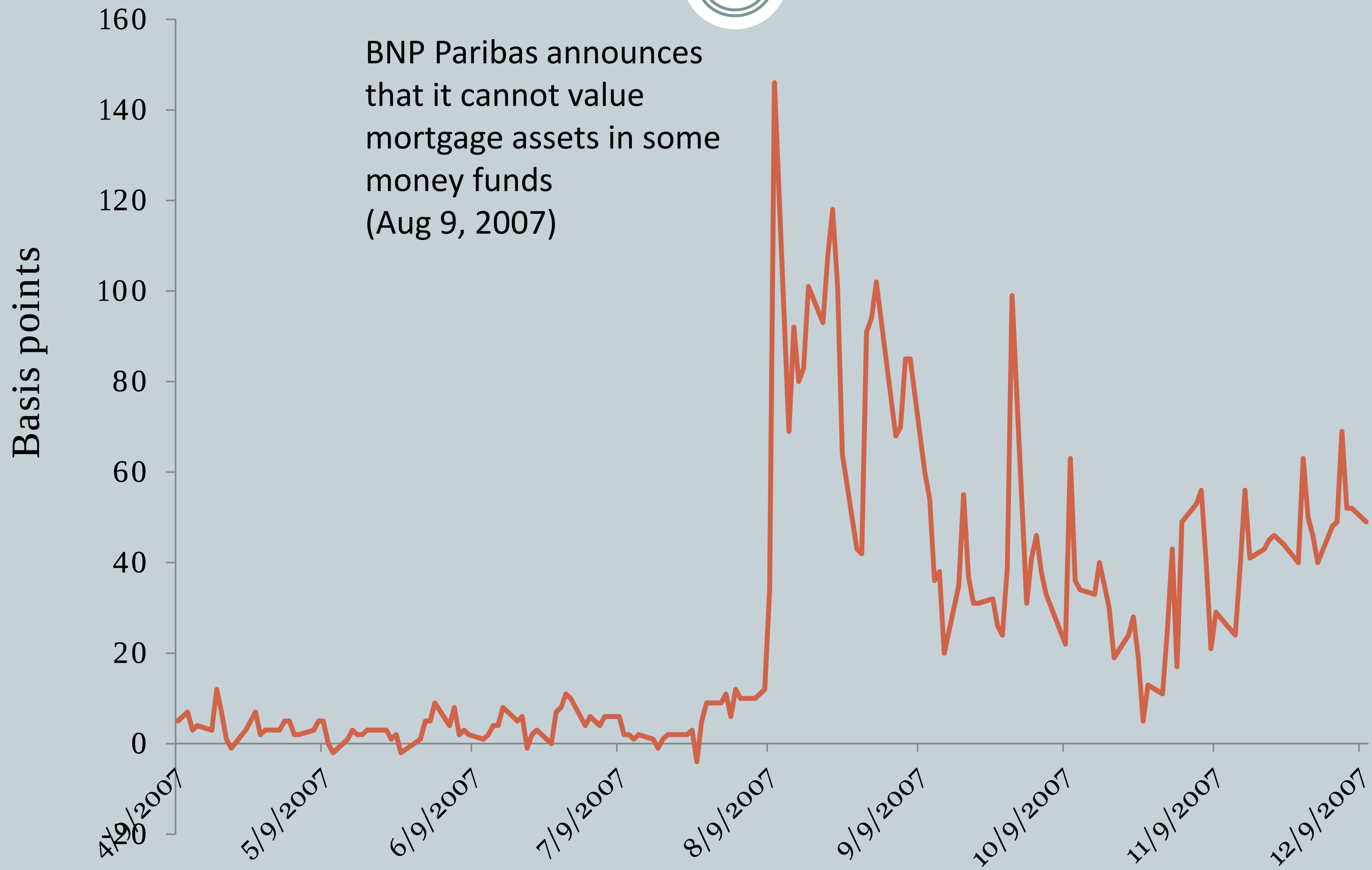

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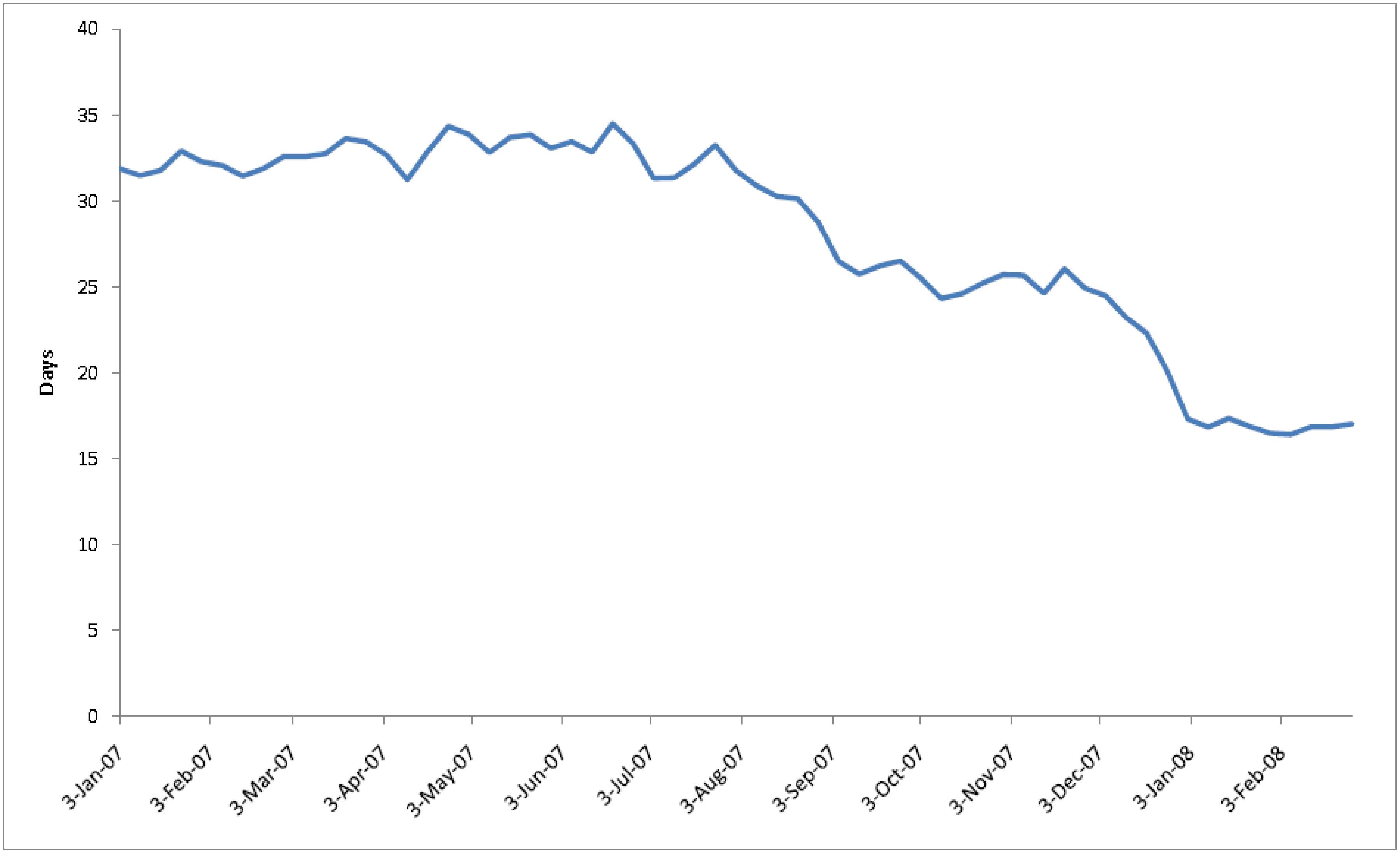


Immediacy: a source of systemic risk

- Prior to fiat money, there was often a shortage of money
  - Solution: Commercial bank clearinghouses
  - Suspend conversion of immediacy, adopt joint liability
- Problem: If there isn't adequate capital with joint liability providers, runs may not get stemmed
  - In extremis, bank runs can morph into sovereign crisis (Ireland)
- Modern-day runs: Resolution difficulties stem from inability to suspend conversion of immediacy
  - LOLR takes on significant asset risk while providing immediacy
  - Safe-harbor provisions may require systemic exception

What about contagion?

- Macro-prudential view: Contagion can amplify problems *provided* rest of the system cannot
  - Withstand the distress or failures of others, e.g., because it is under-capitalized too due to a common shock (AIG FP failure)
  - Re-intermediate the liquidated assets of distressed firms (Lehman)

- Contagion can arise *without* inter-connections
  - Information contagion
    - Learning about common assets (Great Depression "runs")
    - Learning about regulatory policy (Greece, Cyprus interventions)
  - Flow of funds or re-intermediation contagion
    - Insurance firms withdraw from bonds inducing LC runs on banks
    - Corporations draw down money-market deposits affecting banks…

Top 5 Bank and Bank Holding Companies

Ticker	Asset	SRISK	GICS Subindustry
BAC	Bank Of America	93066.6867	Other Diversified Financial Services
JPM	JP Morgan Chase	79993.74914	Other Diversified Financial Services
C	Citigroup	57388.01611	Other Diversified Financial Services
MS	Morgan Stanley	37679.0014	Investment Banking & Brokerage
GS	Goldman Sachs	33573.11695	Investment Banking & Brokerage

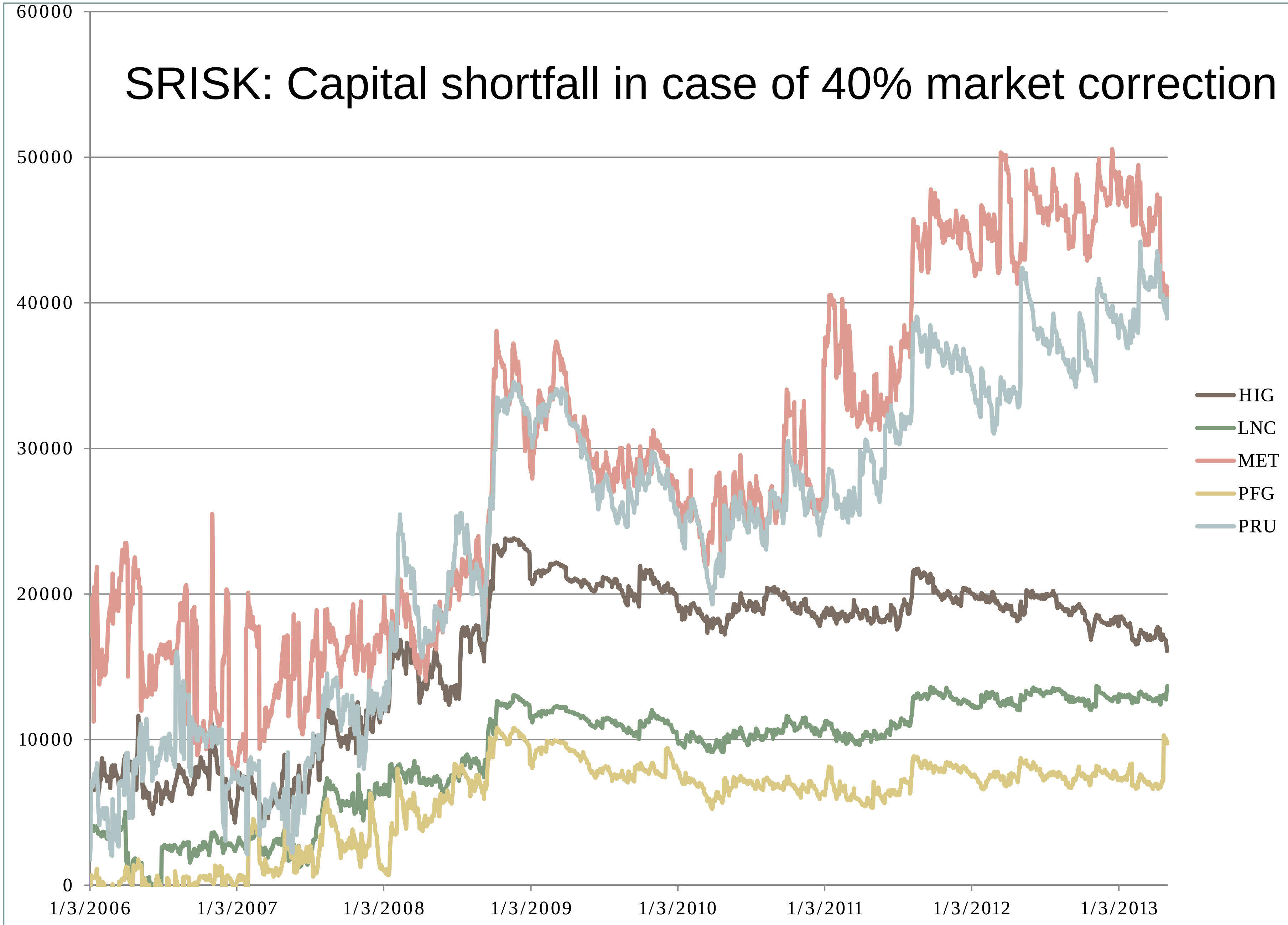
Top 5 Insurers

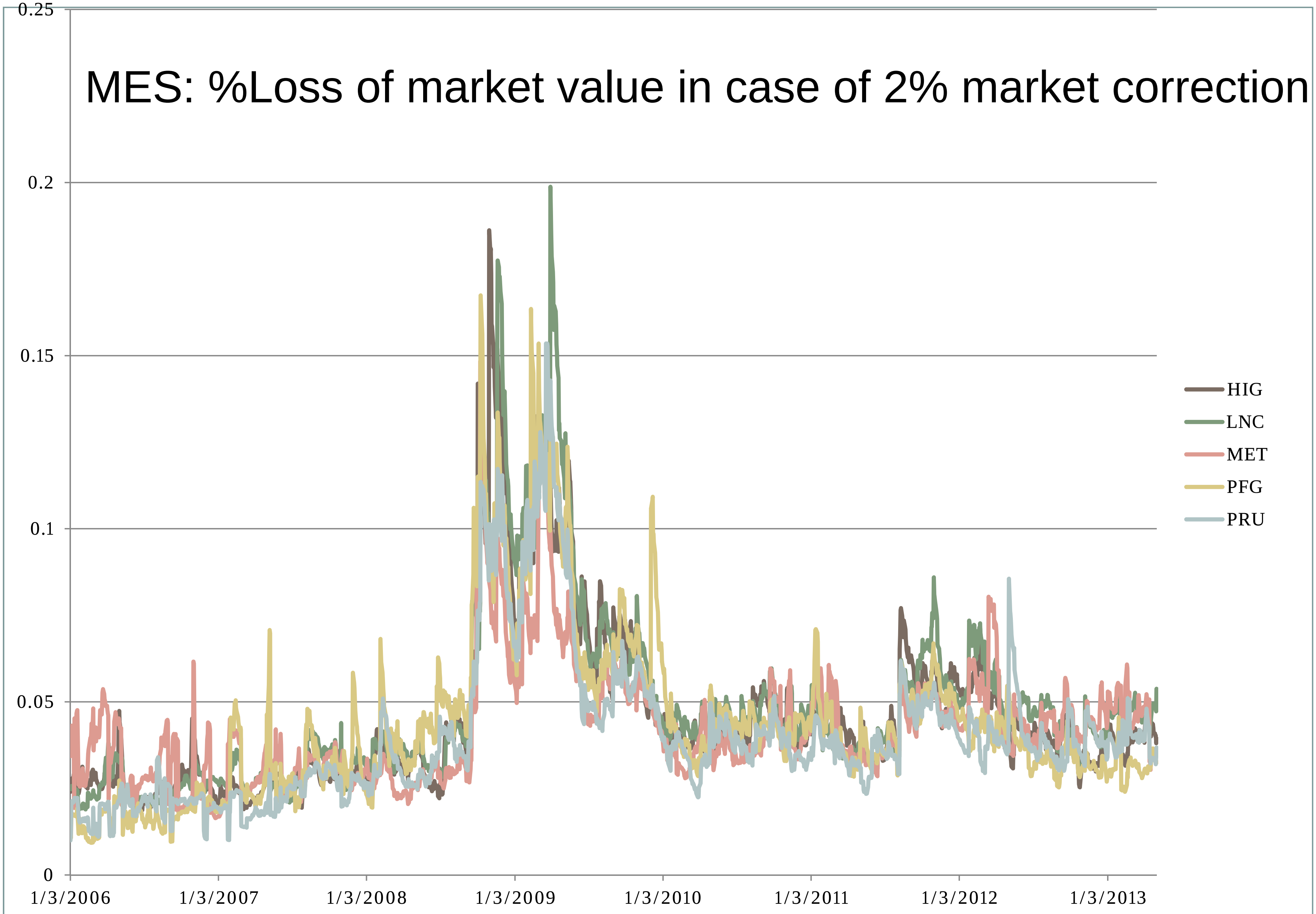
Ticker	Asset	SRISK	GICS Subindustry
MET	MetLife	40686.07964	Life & Health Insurance
PRU	Prudential Financial	40289.71961	Life & Health Insurance
HIG	Hartford Financial Services	16146.21157	Multi-line Insurance
LNC	Lincoln National Corp	13665.86848	Life & Health Insurance
PFG	Principal Financial Group	9738.121129	Life & Health Insurance

NYU Stern Systemic Risk Rankings at

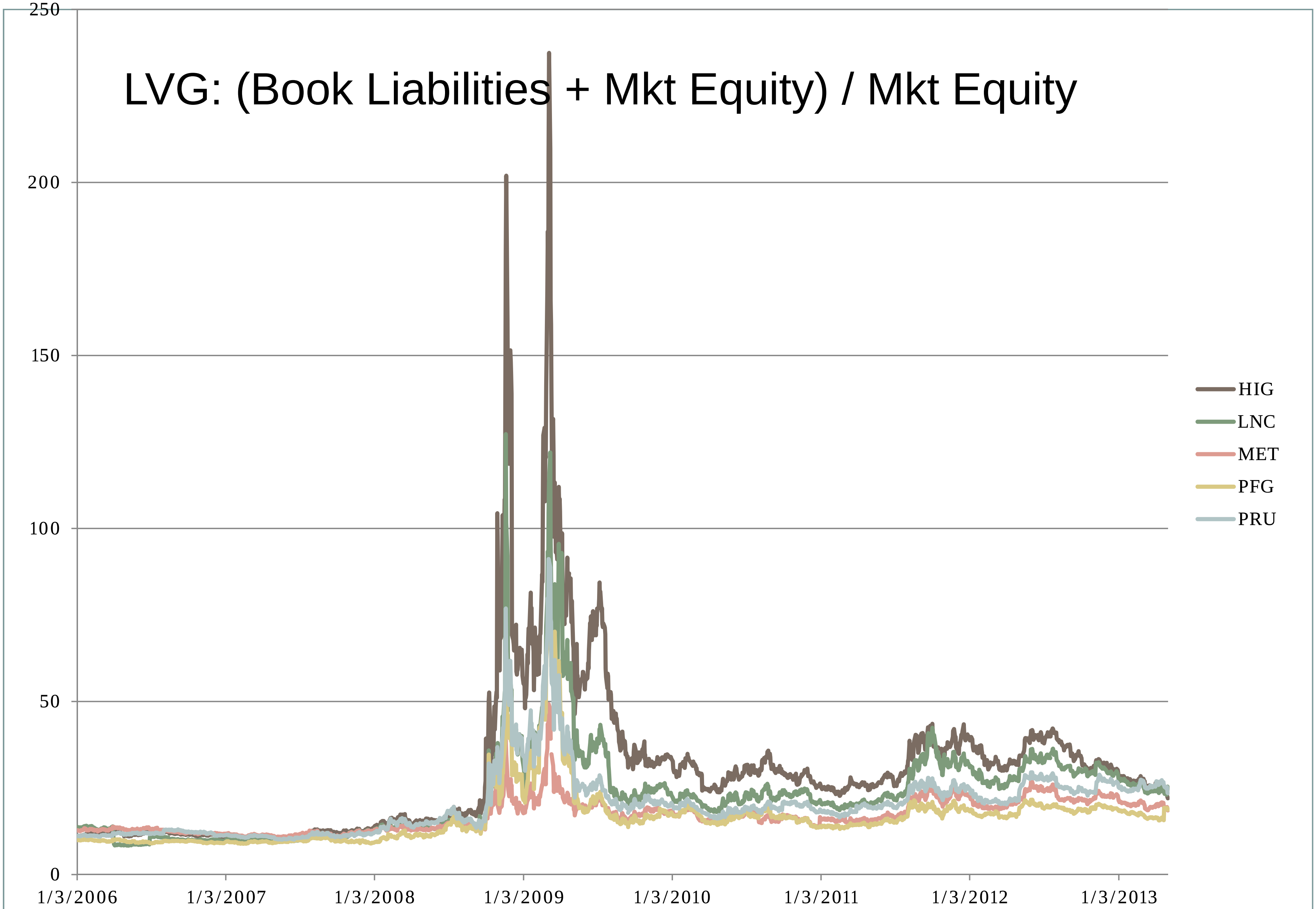
http://vlab.stern.nyu.edu/

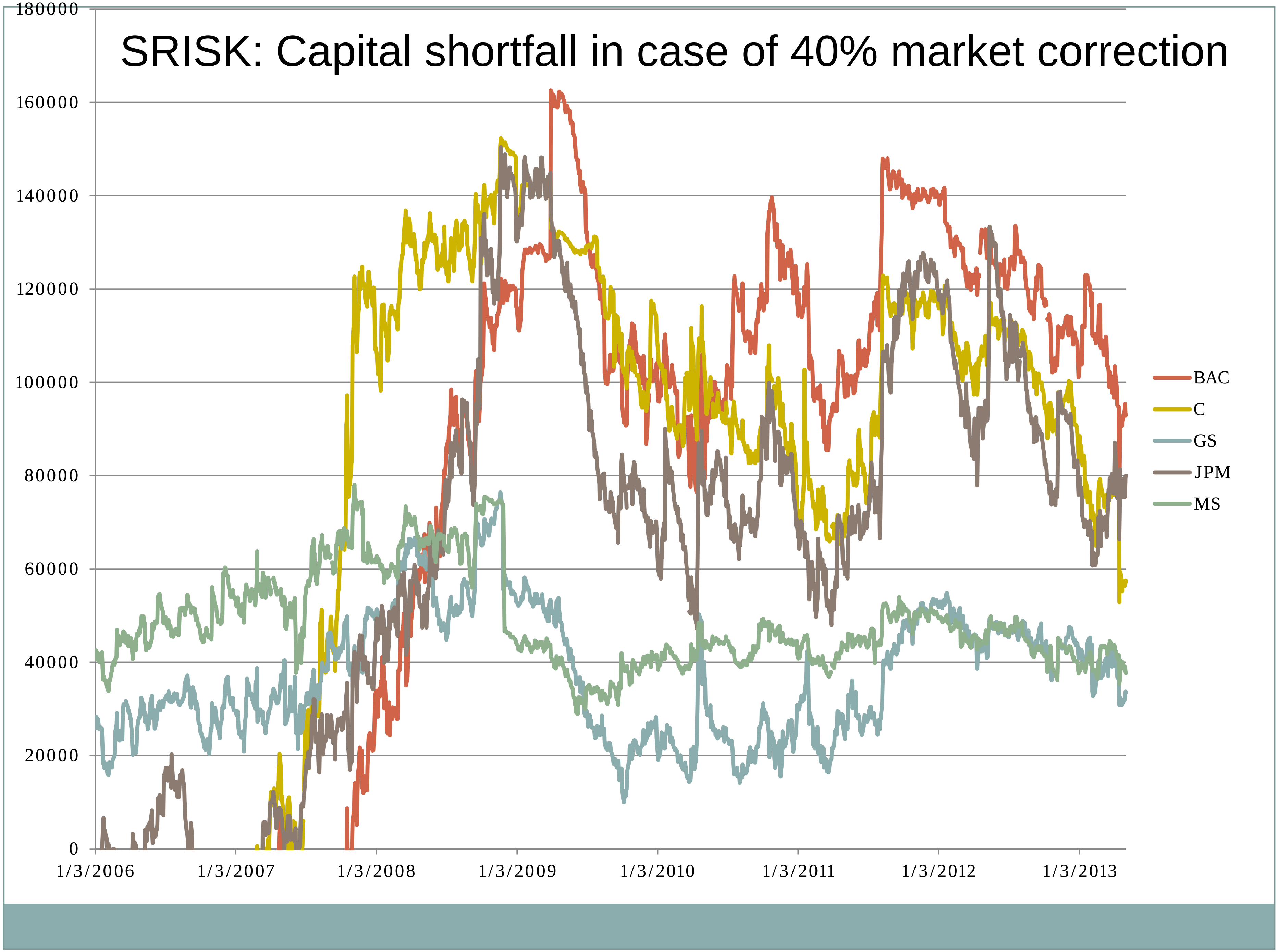
SRISK: Capital shortfall in case of 40% market correction





MES: %Loss of market value in case of 2% market correction
0.25
0.2
0.15
0.1
0.05
0
1/3/2006
1/3/2007
1/3/2008
1/3/2009
1/3/2010
1/3/2011
1/3/2012
1/3/2013
HIG
LNC
MET
PFG
PRU


LVG: (Book Liabilities + Mkt Equity) / Mkt Equity
250
200
150
100
50
0
1/3/2006
1/3/2007
1/3/2008
1/3/2009
1/3/2010
1/3/2011
1/3/2012
1/3/2013
HIG
LNC
MET
PFG
PRU


SRISK: Capital shortfall in case of 40% market correction
180000
160000
140000
120000
100000
80000
60000
40000
20000
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1/3/2006
1/3/2007
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1/3/2009
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1/3/2011
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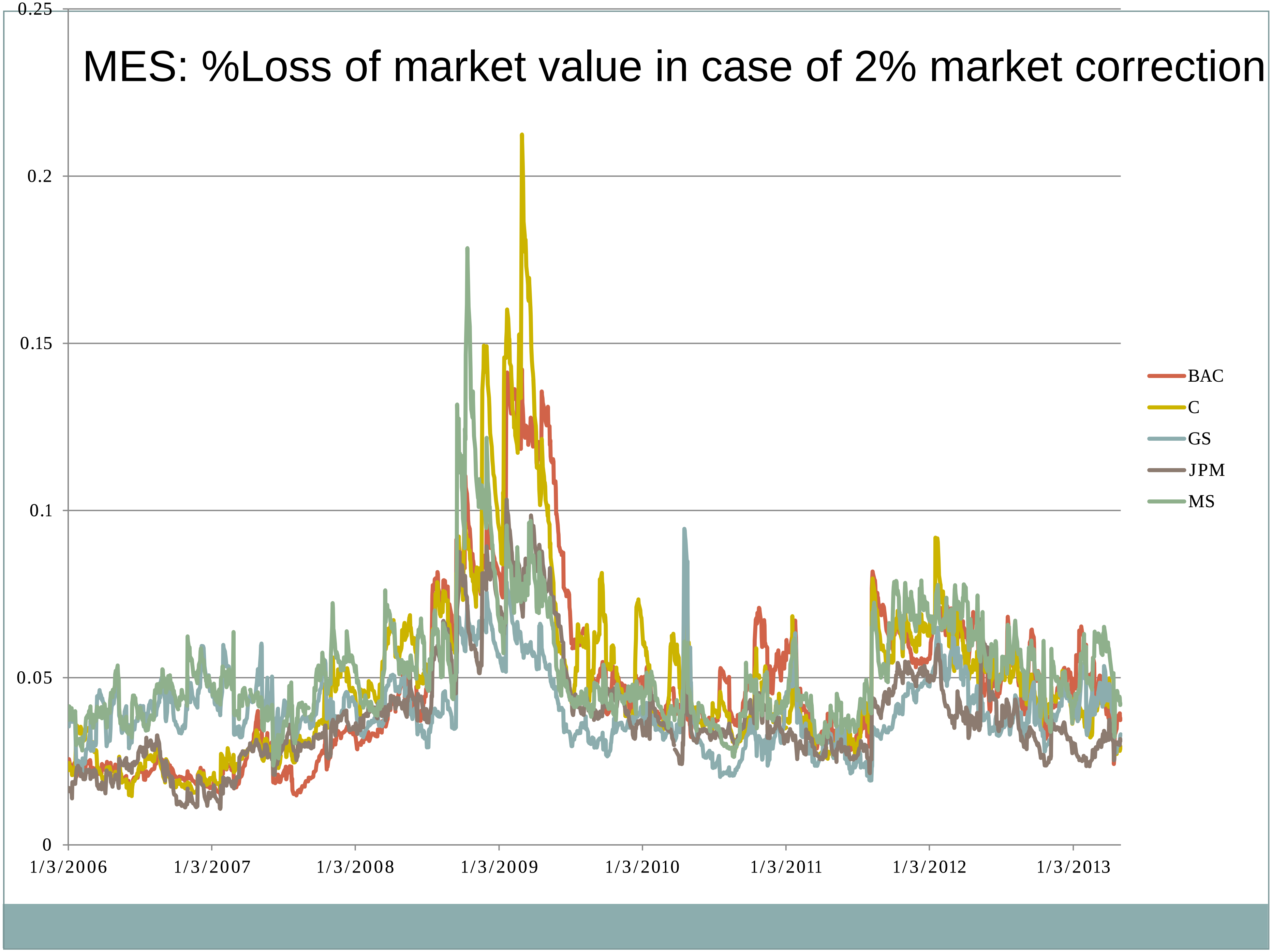
1/3/2013
BAC
C
GS
JPM
MS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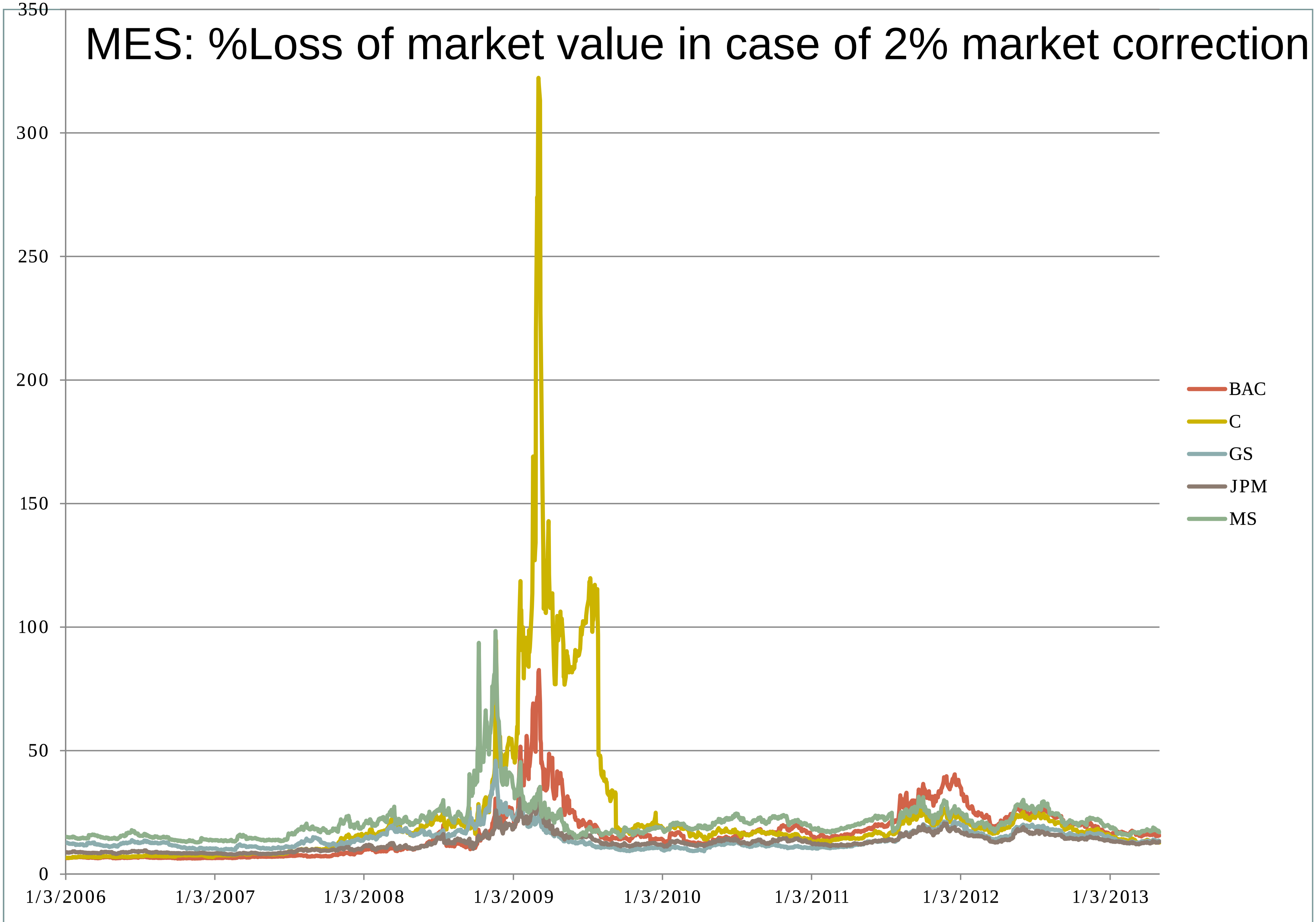
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350
300
250
200
150
100
50
0
1/3/2006
1/3/2007
1/3/2008
1/3/2009
1/3/2010
1/3/2011
1/3/2012
1/3/2013
BAC
C
GS
JPM
MS

Open questions (for Insurance Firms!)

- Why did market values of insurance firms collapse so much in Fall of 2008?
- Why are downside risk or beta estimates of insurance firms as high as those of banks and bank holding companies?
- Why were insurance firms owning banks, making guaranteed financial products, selling CDS, etc.?

Open questions (for Insurance Firms!)

- If insurance firm liabilities are more stable, won't they take advantage of that and keep less equity on balance-sheet a priori?
- When market value of insurance firms collapse, won't that affect their corporate bond market purchases and potentially also result in fire sales, policy lapses, etc.?
- Won't lack of corporate bond market access cause firms to draw down bank lines of credit causing "bank runs"?