Simulating the Fedwire® Securities Service

PAYMENT AND SETTLEMENT SIMULATION SEMINAR AND WORKSHOP

Bank of Finland

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Federal Reserve Bank of New York

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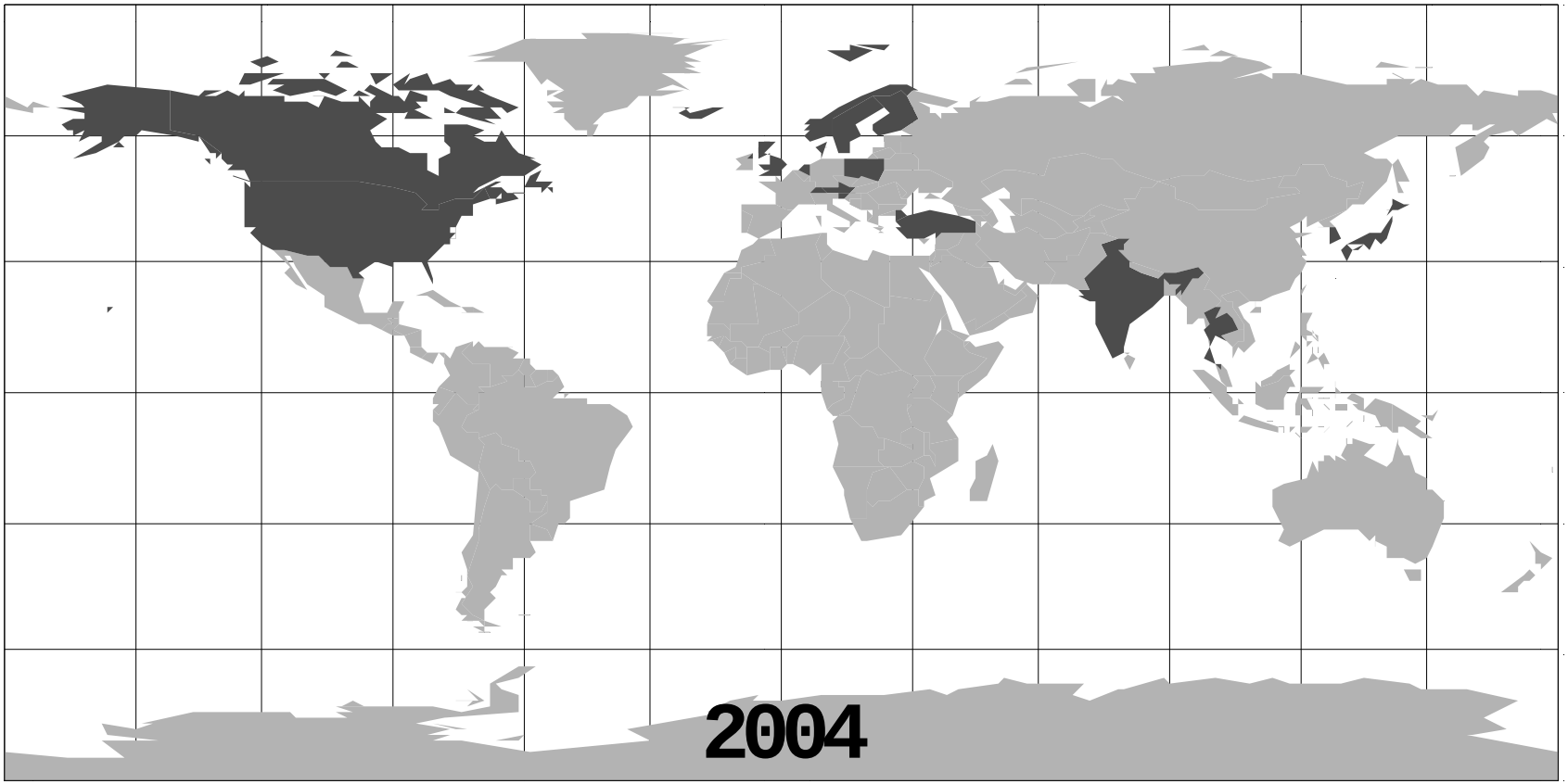
Diffusion of BoFPSS

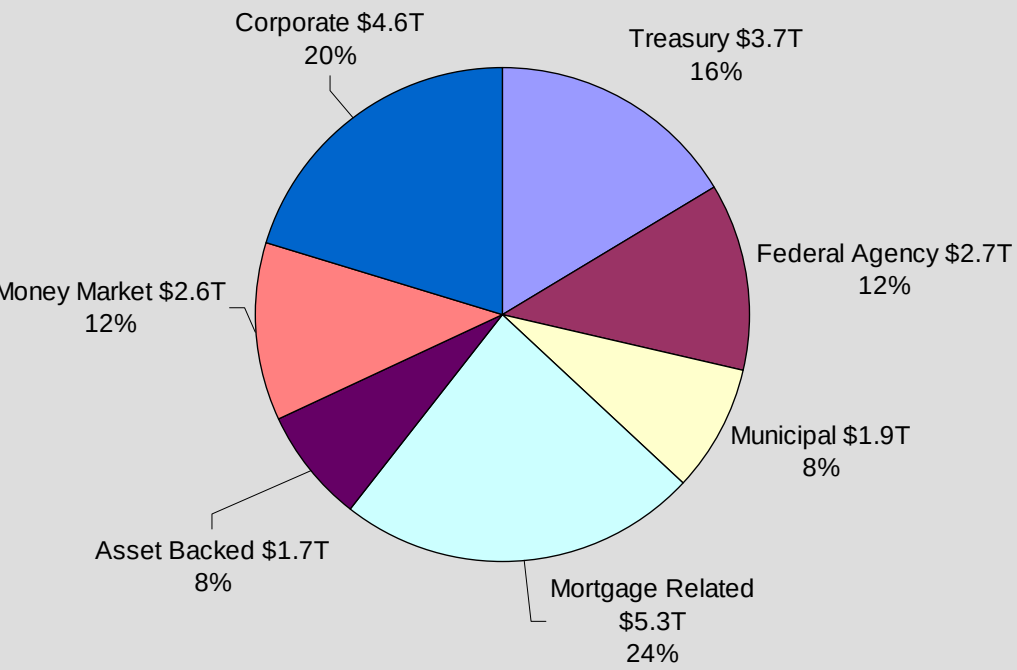


EUROPEAN CENTRAL BANK

BANK FOR INTERNATIONAL SETTLEMENTS

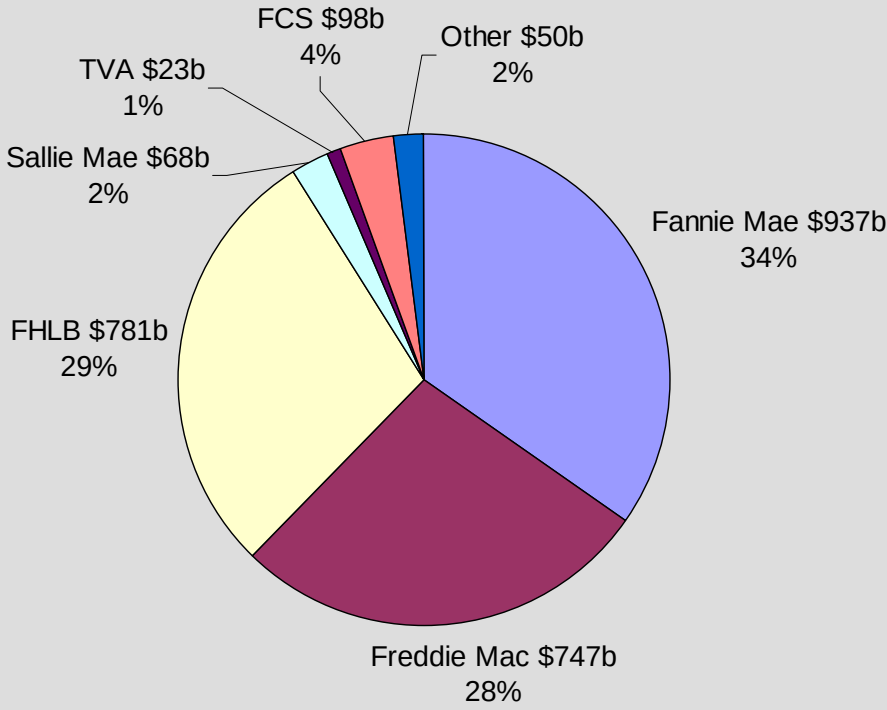
U.S. Bond Market Overview

Outstanding Bond Market Debt



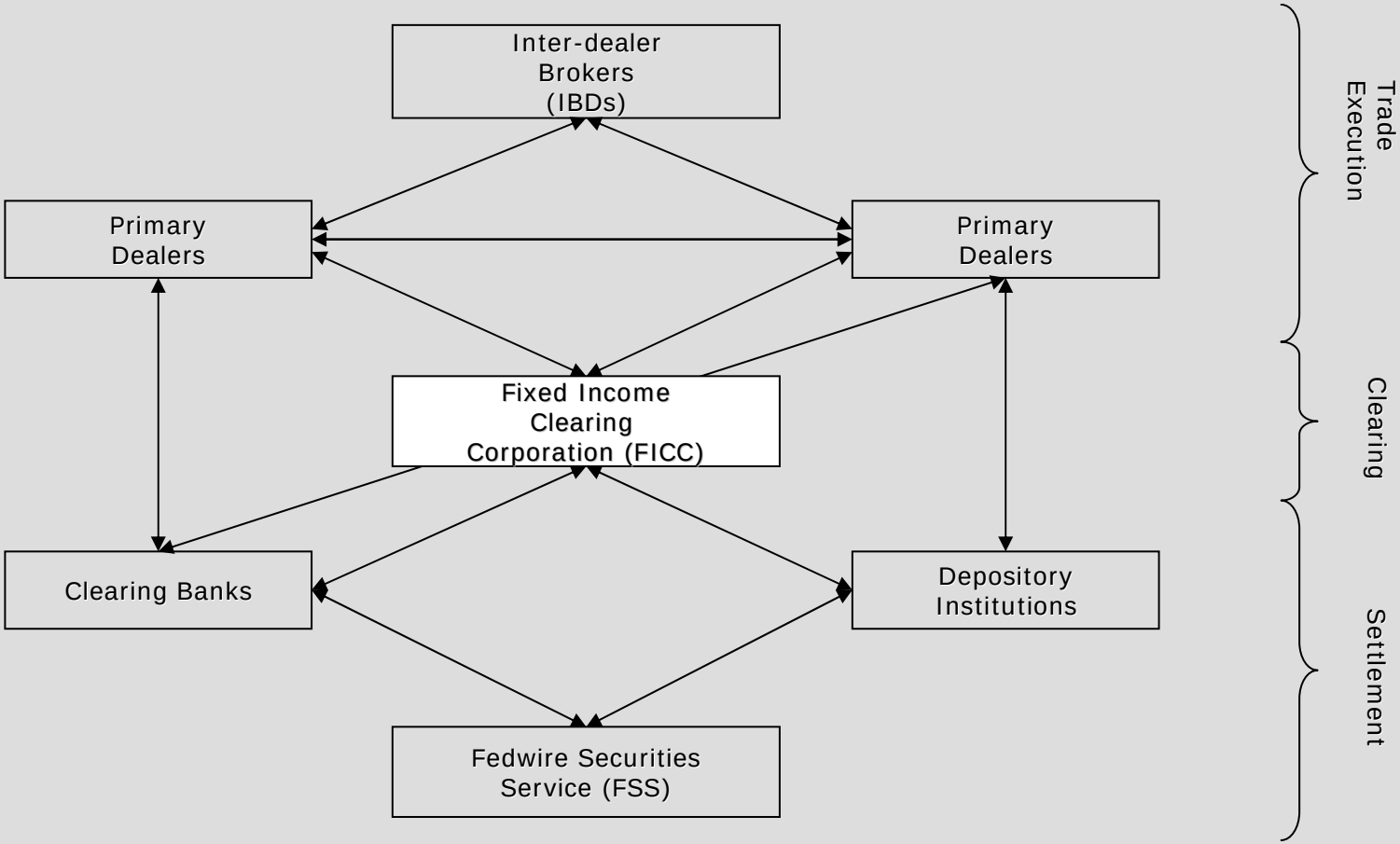
Mortgage Related includes Agency MBS, Agency CMO and Private-Label MBS
Source: Bond Market Association

Federal Agency Debt Outstanding



FCS = Farm Credit System
FHLB = Federal Home Loan Bank System
TVA = Tennessee Valley Authority
Source: Bond Market Association

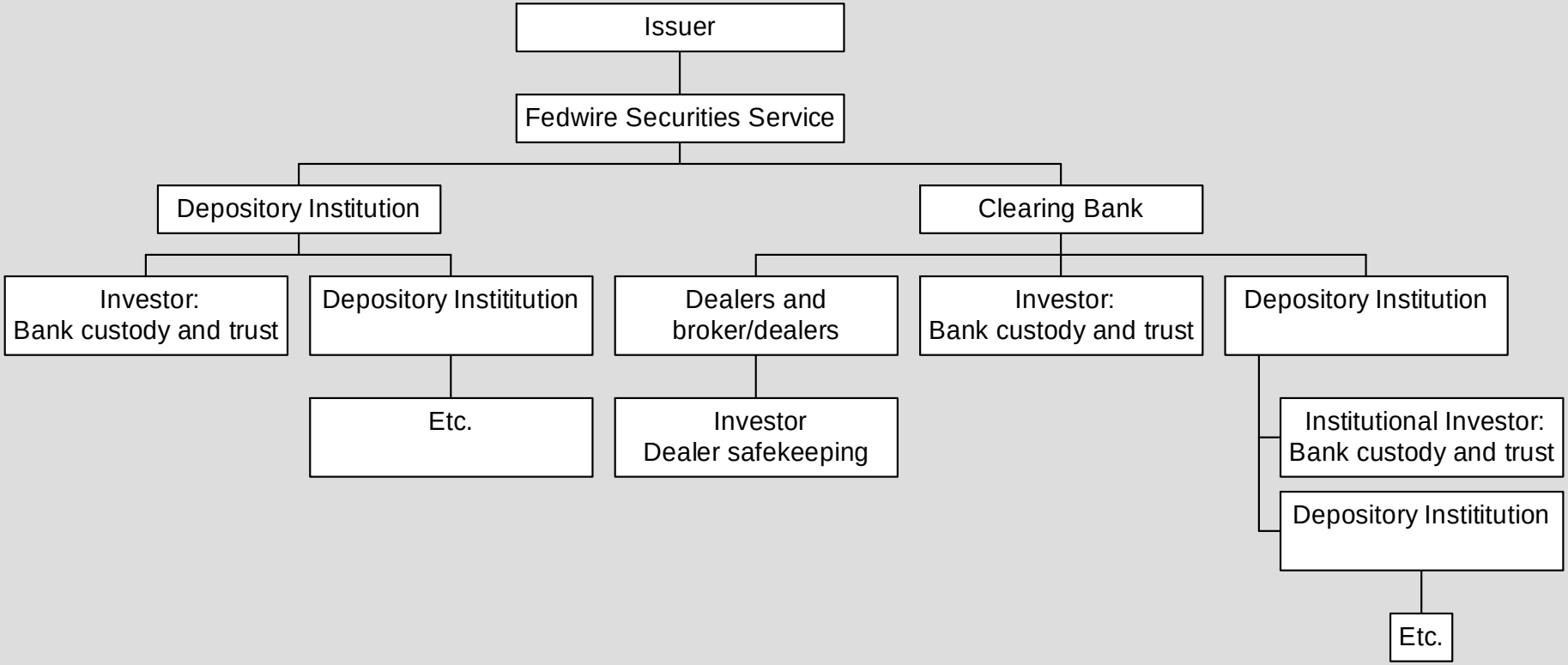
Clearing and Settlement of U.S. Government and Agency Securities



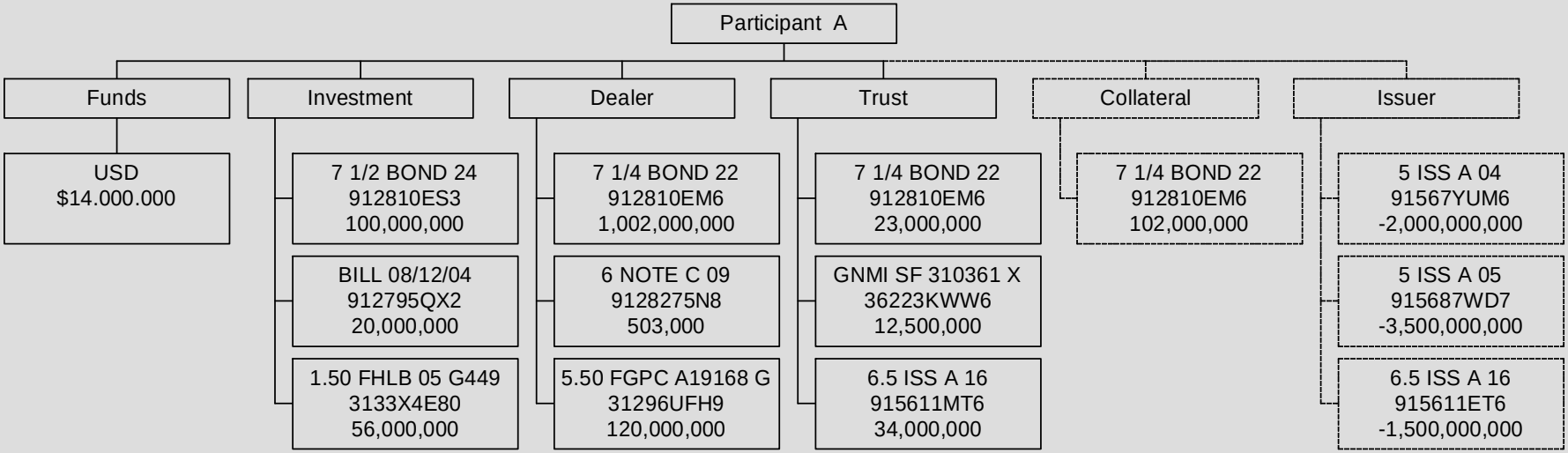
Fedwire Securities Service

- Safekeeping
  - Electronic (book-entry) storage
- Transfer Facility
  - DVP
  - Free of payment
- Fiscal Agent Services
  - Issuing, servicing and redemption

Ownership Interest Structure



Account Structure



Transfer Facility

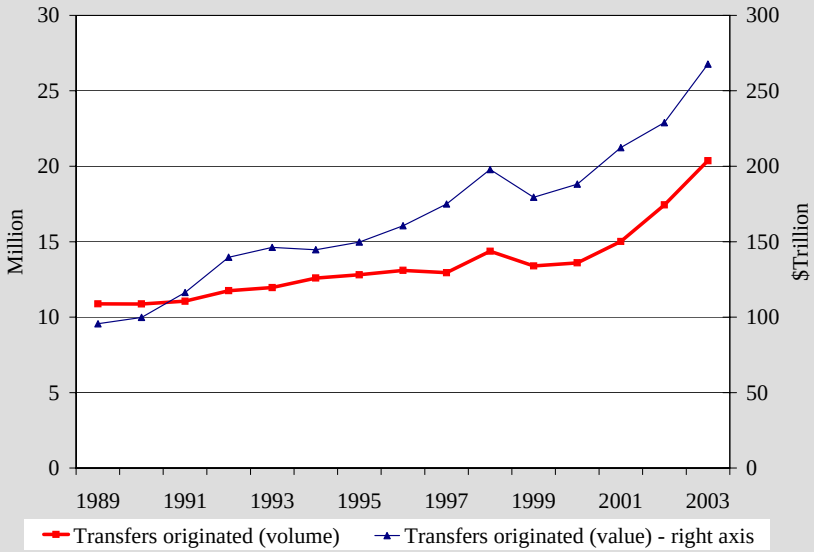


Figure 1: Transfers Originated

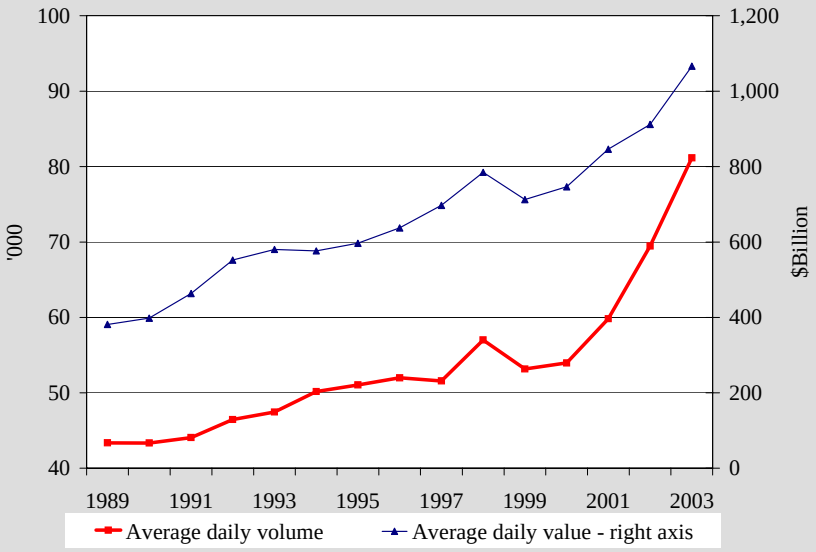


Figure 2: Average Daily Volume and Value

Simulation execution

Bank of Finland Payment and Settlement Simulator

Simulation execution

Project : FS1

Modify old simulation batch ID FS11A

Create new simulation batch ID

Copy from old simulation batch ID

Select a simulation ... can be deleted fro... button.

Simulation ID 005M

Execute cross-check | Skip cross-check

Simulation id	Sim...	...king ...nt ...t. ...ST	Unsettl. transact. stat. UNST	Submitt. transact. stat. SUST	Queued transact. stat. QUST	Comment transact. stat. CTST	Comment intraday credit stat. CCST
005M	005...						

Save batch | Start | Stop | View error report

Help | Back to main menu | Exit program

Windows Task Manager

File Options View Shut Down Help

Applications | Processes | Performance | Networking | Users

CPU Usage: 50 %

CPU Usage History

PF Usage: 2.31 GB

Page File Usage History

Totals	
Handles	11880
Threads	335
Processes	29

Physical Memory (K)	
Total	3668992
Available	1897496
System Cache	2090300

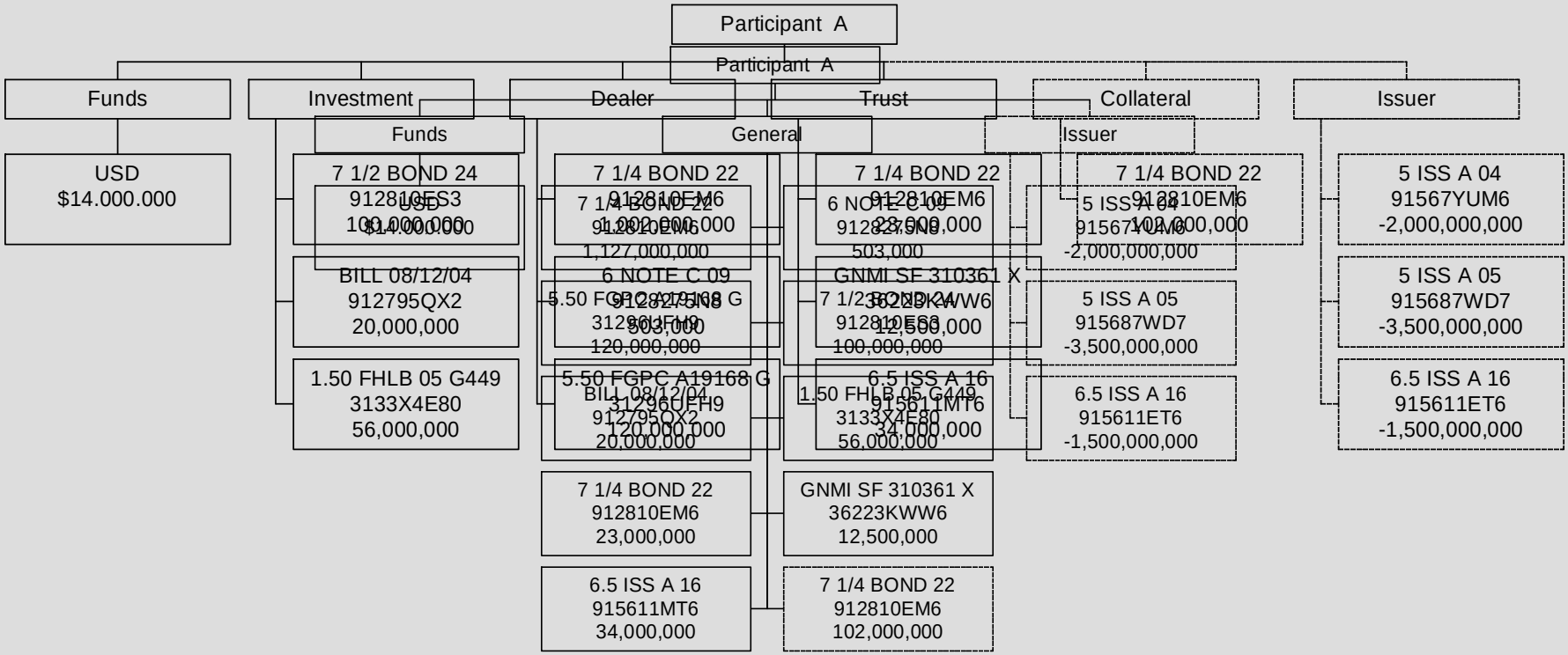
Commit Charge (K)	
Total	2428448
Limit	5602092
Peak	3022092

Kernel Memory (K)	
Total	34236
Paged	20996
Nonpaged	13240

Processes: 29 | CPU Usage: 50% | Commit Charge: 2371M / 5470M

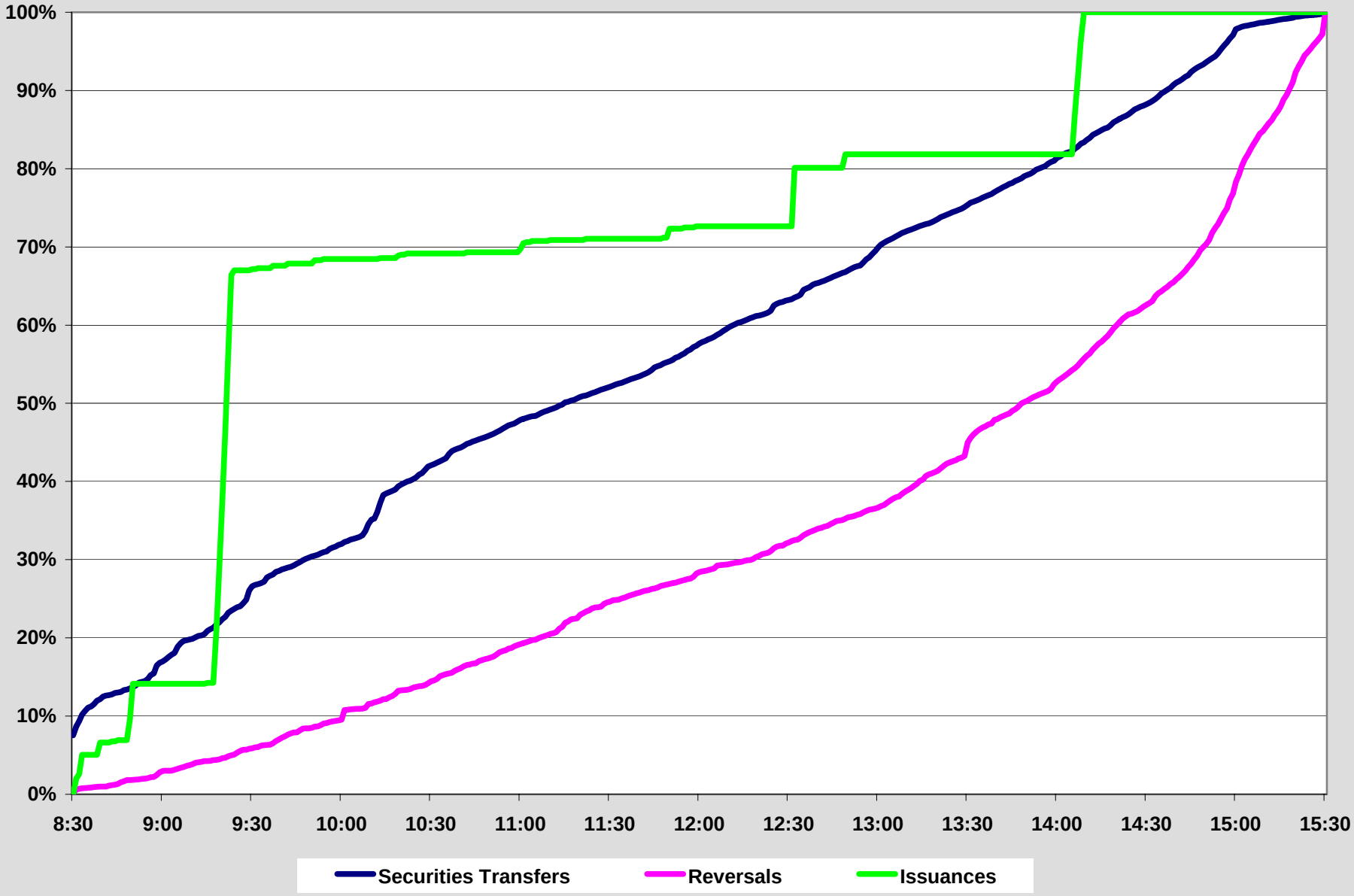
Start | Microsoft Access | Start-up | MySQL | Simulation execution | Windows Task Man... | 9:53 AM

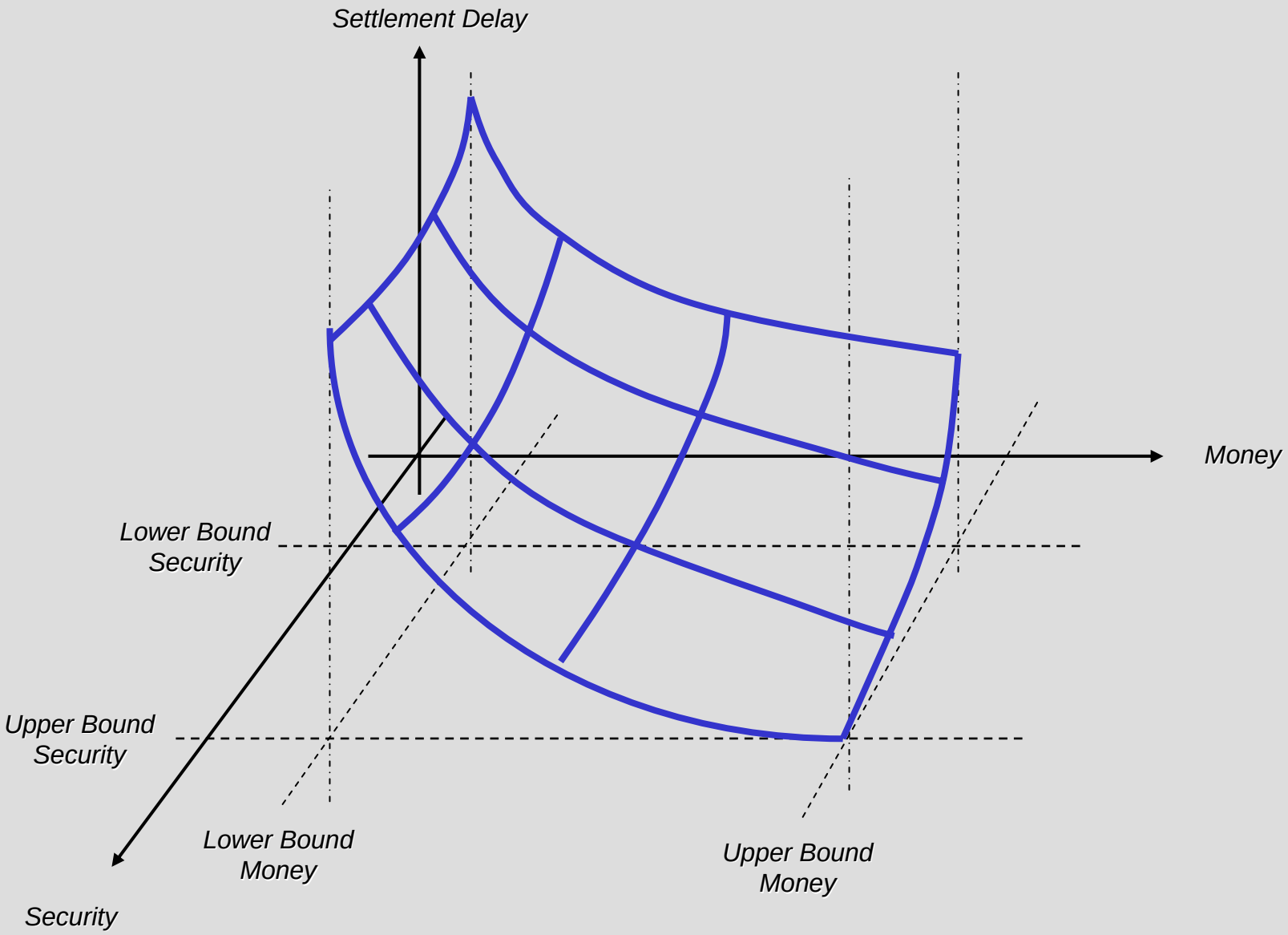
Account Structure in Simulation



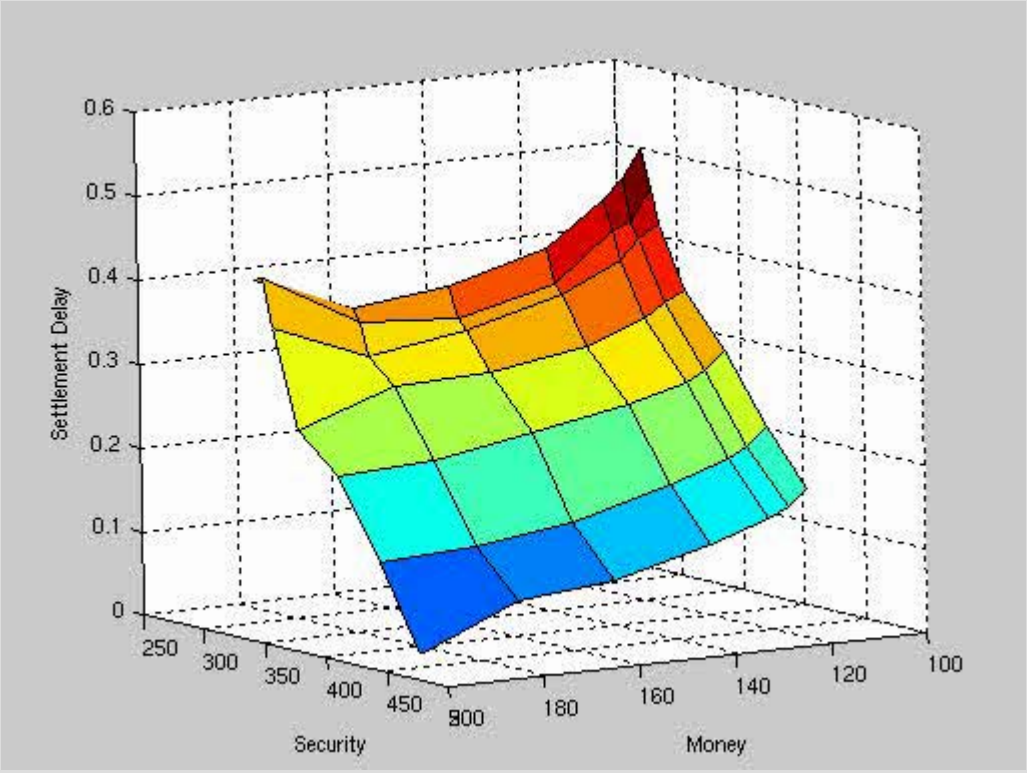
Data

- May 17, 2004
- 88,604 Transfers
  - 6.901 Reversals
  - 694 New Issues
- $1.43T in par value
  - $69b Reversals
  - $104b New Issues
- 5,867 CUSIPs
  - 9 of Top 10 = US T-notes
- 298 Active particip.
  - 154 Senders, 274 Receivers & 9 issuers
  - Top 5 initiated 55%
- 20,561accounts
  - 20,120 security
  - 298 funds
  - 143 issuer

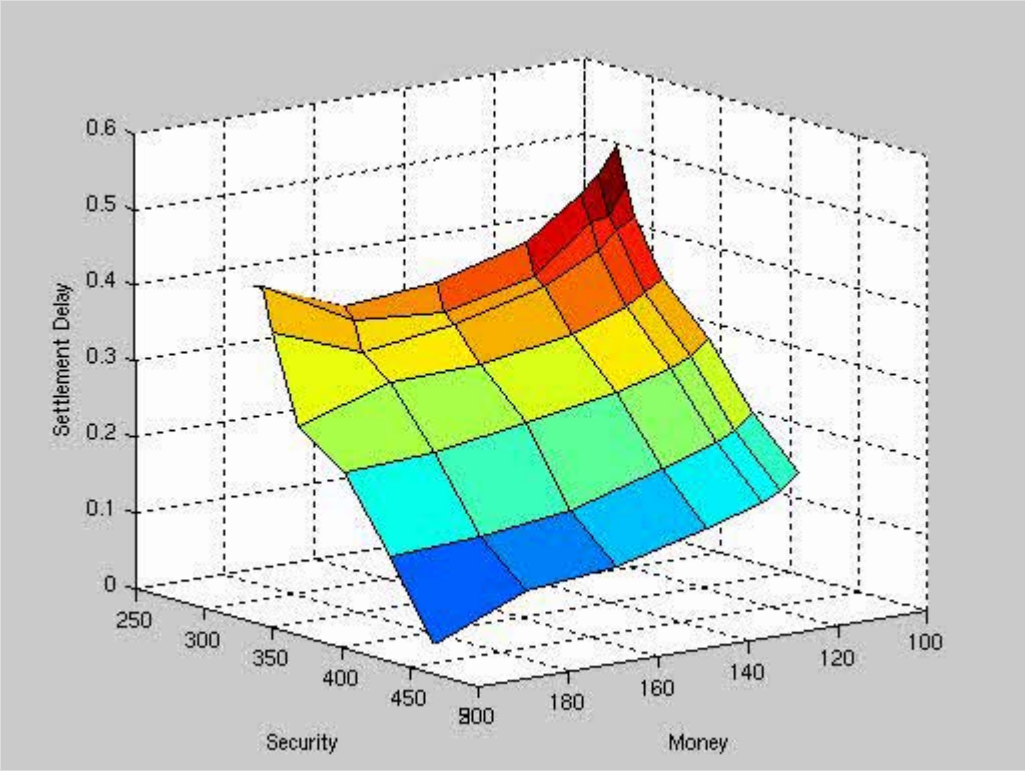

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
15:30
Securities Transfers
Reversals
Issuances

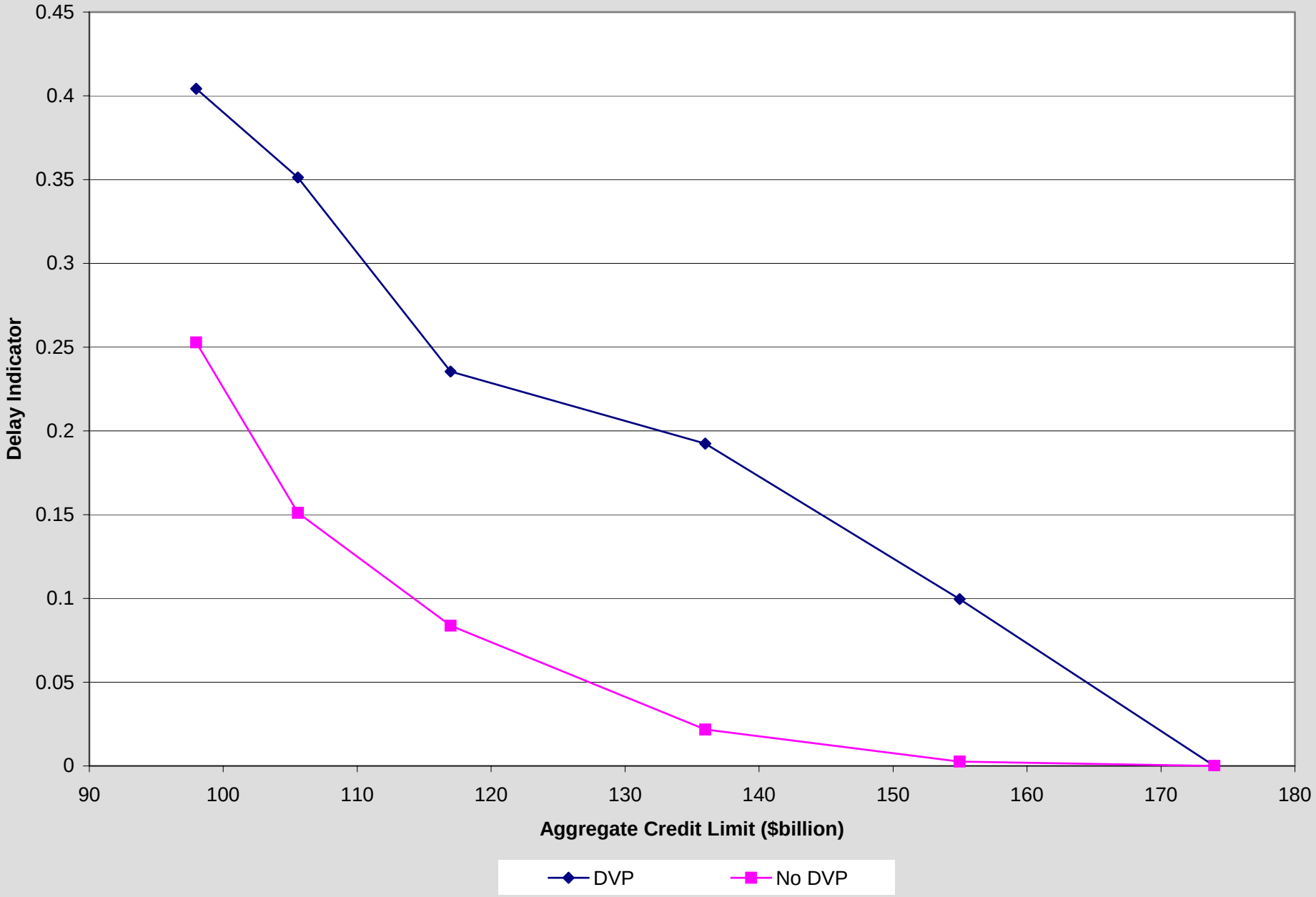

Settlement Delay
Money
Lower Bound
Security
Upper Bound
Security
Lower Bound
Money
Upper Bound
Money
Security

Settlement Delay and Liquidity Surface



Forward Flip




0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Delay Indicator
90
100
110
120
130
140
150
160
170
180
Aggregate Credit Limit ($billion)
DVP
No DVP