

O E A M E M O R A N D U M

TO: File

FROM: Office of Economic Analysis

DATE: November 26, 2008

SUBJECT: Impact of Recent SHO Rule Changes on Fails to Deliver

This memorandum examines fails to deliver before and after the elimination of the options market maker (OMM) exception in Rule 203 of Regulation SHO and the implementation of interim final temporary Rule 204T (T+3 Close-out Rule). Due to the contemporaneous implementation of these two rules, they are analyzed together.¹ Since the rule changes significantly shortened the window to close-out most fail to deliver positions and expanded the close-out provisions to all equity securities, we would expect to see a decline in average daily fails due to compliance with the new rules, all else equal. However, it is also possible that certain behavioral changes or other factors could mitigate or exacerbate any effect. For example, faster “cycling” of fails (more rapid fail-closeout-fail-closeout) could lead to full compliance with the new rules but no change in average daily fails.

In summary, the results indicate that fails to deliver decreased significantly after the elimination of the OMM exception and the implementation of the T+3 Close-out Rule. Fails declined by 37.6% across all securities and 52.8% for threshold stocks. In addition, there is some evidence that optionable stocks experienced larger declines in persistent fails positions. Specifically, fail positions aged 17 days or more declined 62.9% in optionable stocks compared to 41.4% for non-optionable stocks.

Background

The Commission approved a final rule to eliminate the options market maker exception from the close-out requirement of Rule 203(b)(3) in Regulation SHO. This rule change also becomes effective at 12:01 a.m. ET on Thursday, Sept. 18, 2008. As a result, any new fails by options market makers after the effective date are subject to the same close-out requirements as other market participants under Rule 204T. The rule change also provides for a 35-settlement day phase-in period to close-out previously established fail to deliver positions by option market makers. In other words, since the effective date of the SEC Emergency Order (Release No. 34-58572) was September 18, 2008, the phase-in

¹ We also note that Emergency Order (Release No. 34-58592) temporarily prohibited any person from effecting a short sale in the publicly traded securities of certain financial firms during the period from September 19 to October 8, 2008.

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period ends prior to the start of trading on November 7, 2008. Any change in a fail position that is closed-out via a standard settlement trade on November 7, 2008 will appear on November 13, 2008.

The Commission also adopted, on an interim final basis, a new rule requiring that short sellers and their broker-dealers deliver securities by the close of business on the settlement date (three days after the sale transaction date, or T+3) and imposing penalties for failure to do so. Rule 204T establishes that fail to deliver positions related to short sales must be closed out prior to the beginning of normal trading hours on the next settlement day following the settlement date of the newly-created fail (usually T+4). Fail to deliver positions related to bona fide market making or long sales have an 2 additional settlement days to close-out fail to deliver positions (usually T+6). Fail to deliver positions related to sales pursuant to Rule 144 have 36 settlement days to close out (usually T+39). One major distinction between Rule 204T and Rule 203 is that Rule 204T covers all equity securities whereas Rule 203 covers only threshold list securities. Since the close-out provisions of Rule 204T differ depending on the type of trade that led to the fail and the date the fail, Appendix A provides a summary table that lists important introduction dates for each category.

Since some previously-established fails in threshold list securities may have up to 14 days to close-out, a large part of the effect of the new close-out requirements may not show up in the NSCC settlement data until October 10, 2008 (17 settlement days after the day prior to the effective date). Also, since some previously-established OMM fails have up to 36 days to close-out, the full effect of the new close-out requirements in optionable securities may not show up in the NSCC settlement data until November 13, 2008 (39 settlement days after the effective date). Also, pre-existing fails in non-threshold stocks are not required to be closed-out within any time period unless the security enters the threshold list. Since we do not want our analysis confounded by the grandfather exception elimination, we use the period from January 1, 2008 to September 22, 2008 (183 days) as the pre-Rule period.² The period from September 23, 2008 to October 31, 2008 (28 days) is defined as the post-Rule period.

All Securities (Table 1):

Table 1 shows the average daily fail to deliver measures pre- and post-Rule 204T and OMM exception elimination for all securities. Overall, the evidence shows significant declines in all fails to deliver measures. For example:

- The average daily fails to deliver shares decreased by 37.6%.
- The average daily dollar value of fails to deliver decreased by 39.7%.

² We note that the pre-period includes the period of the July Emergency Order that temporarily required pre-borrowing for the securities of publicly traded securities of 19 substantial financial firms prior to short sales (Release No. 34-58166). The July Emergency Order led to a significant reduction in fails in these securities. The length of the pre-period window and the small number of securities affected by the July Emergency Order largely mitigate any confounding influence from this inclusion. Further, any bias would be in the direction of finding a smaller impact from the September 2008 rule changes.

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- The average daily number of fails to deliver positions decreased by 48.2%.

Threshold List Securities (Table 2):

Table 2 shows the summary fail to deliver measures for threshold list securities. Overall, the evidence shows significant declines in all fails to deliver measures. For example:

- The average daily number of threshold list securities decreased by 48.5%.
- The average daily fails to deliver shares in threshold securities decreased by 52.8%.
- The average daily dollar value of fails to deliver in threshold securities decreased by 58.2%.
- The average daily number of fails to deliver positions in threshold securities decreased by 59.5%.

Threshold List Securities with Listed Options (Table 3):

Table 3 shows the summary fail to deliver measures for threshold list securities with listed options. Overall, the evidence shows significant declines in all fails to deliver measures. For example:

- The average daily number of optionable threshold list securities decreased by 43.3%.
- The average daily fails to deliver shares in optionable threshold securities decreased by 50.1%.
- The average daily dollar value of fails to deliver in optionable threshold securities decreased by 60.1%.
- The average daily number of fails to deliver positions in optionable threshold securities decreased by 58.5%.

Threshold List Securities without Listed Options (Table 4):

Table 4 shows the summary fail to deliver measures for threshold list securities without listed options. Overall, the evidence shows significant declines in all fails to deliver measures. For example:

- The average daily number of non-optionable threshold list securities decreased by 53.1%.
- The average daily fails to deliver shares in non-optionable threshold securities decreased by 54.0%.
- The average daily dollar value of fails to deliver in non-optionable threshold securities decreased by 41.6%.
- The average daily number of fails to deliver positions in non-optionable threshold securities decreased by 61.3%.

Any difference in the change in fails between stocks with listed options (Table 3) and threshold stock without listed options (Table 4) may indicate the impact of the elimination of the option market making exception. The comparison yields mixed results, perhaps due to the 35-day period for closing out pre-existing option market maker

fails to deliver. The examination of fails aged 17 days or more shows that persistent fail positions in optionable stocks declined 62.9% compared to 41.4% for non-optionable stocks. Further, 3 out of 4 measures indicate that threshold stocks with listed options saw larger declines in fails than threshold stocks without listed options.

Daily Fails to Deliver in All Securities (Figure 1):

Figure 1 shows the daily aggregate fails in all securities from April 1, 2004 to October 31, 2008. There has been a decline of 78.2% from the 2008 high of 2.21 billion shares on July 16, 2008 to 0.48 billion shares on October 31, 2008. It is important to note that we do not attempt to adjust fails to deliver for increases in trading volume over time.

Assuming everything else constant, as the magnitude of trading (settlements) increases one would expect that the magnitude of fails to deliver would also increase. From April 1, 2004 to December 31, 2004 (Pre-Rule 203), the average daily fails were 810 million shares. From January 1, 2008 to October 31, 2008, the average daily fails were 1,048 million shares, an increase of about 29.4%. During the same periods, the average monthly dollar value of trading increased 209.3% from \$2.3 trillion to \$7.1 trillion.³ Therefore, fails have increased since 2004 at a much slower rate than trading volume.

Average Daily Number of Threshold List Securities (Figure 2):

Figure 2 shows the average daily number of threshold list securities for each month from January 2005 to October 2008. The average in October 2008 was 195.4 securities per day, the lowest monthly observation since threshold list began and a decline of 66.4% from its high in July 2008.

Daily Number of Threshold List Securities (Figure 3):

Figure 3 shows the daily number of threshold list securities from January 7, 2005 to October 31, 2008. There has been a decline of 89.1% from the high of 622 on July 17, 2008 to 68 on October 31, 2008.

Daily Fails to Deliver in Threshold List Securities (Figure 4):

Figure 4 shows the daily aggregate fails in threshold list securities from January 7, 2005 to October 31, 2008. There has been a decline of 86.3% from the high of 1.36 billion shares on July 16, 2008 to 0.19 billion shares on October 31, 2008.

Daily Fails to Deliver in All Securities (Figure 5):

Figure 5 shows the daily aggregate fails in all securities from June 2, 2008 to October 31, 2008. The chart denotes the settlement period where the temporary emergency order requiring pre-borrowing for short sales was in effect for 19 substantial financial firms. The chart also denotes the settlement period where the temporary emergency order banning short sales in about 800 securities was effective. Lastly, the chart denotes the first settlement date where the effect of Rule 204T would appear.

³ The numbers are based on an aggregation of monthly Form R31 reports filed by SROs and exchanges.

Daily Number of Threshold List Securities (Figure 6):

Figure 6 shows the daily number of threshold list securities from June 2, 2008 to October 31, 2008.

Daily Fails to Deliver in Threshold List Securities (Figure 7):

Figure 7 shows the daily aggregate fails in threshold list securities from June 2, 2008 to October 31, 2008.

Table 1
Summary Statistics on Fails to Deliver
All Securities
Pre- and Post-Rule

Measure	Pre	Post	Change	Percent Change
Number of Days	183	28		
Average Daily Dollar Value of Aggregate Fails (\$millions)	7,775	4,692	-3,083	-39.7%
Average Daily Aggregate Fails (millions)	1,023	669	-414	-37.6%
Average Daily Number of Securities ⁴	10,227	8,104	-2,124	-20.8%
Average Daily Number of Fail Positions ⁵	28,912	14,969	-13,943	-48.2%
New Fails:				
Average Daily Dollar Value of New Fails (\$millions)	2,953	2,138	-815	-27.6%
Average Daily New Fail Shares (millions)	286	208	-78	-27.2%
Average Daily New Fail Positions ⁶	13,275	8,154	-5,121	-38.6%

Bolded changes are significant at the 5% level using the Wilcoxon-Mann-Whitney test (nonparametric).

Source: NSCC.

⁴ Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of securities is grossed-up by a factor of 3.05 to account for the missing data.

⁵ Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of positions is grossed-up by a factor of 2.21 to account for the missing data.

⁶ Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of new positions is grossed-up by a factor of 1.81 to account for the missing data.

Table 2
Summary Statistics on Fails to Deliver
Threshold List Securities
Pre- and Post-Rule

Measure	Pre	Post	Change	Percent Change
Number of Days	183	28		
Average Daily Dollar Value of Aggregate Fails (\$millions)	4,124	1,723	-2,401	-58.2%
Average Daily Aggregate Fails (millions)	497	235	-262	-52.8%
Average Daily Number of Securities	480	247	-233	-48.5%
Average Daily Number of Fail Positions	2,361	956	-1,405	-59.5%
New Fails:				
Average Daily Dollar Value of New Fails (\$millions)	866	406	-460	-53.1%
Average Daily New Fail Shares (millions)	74	43	-31	-42.4%
Average Daily New Fail Positions	1,306	501	-805	-61.7%
Fails Aged more than 17 Days:				
- Average Daily Dollar Value of Aggregate Fails (\$millions)	1,844	723	-1,121	-60.8%
- Average Daily Aggregate Fails (millions)	147	67	-80	-54.2%
- Average Daily Number of Securities	201	116	-85	-42.3%
- Average Daily Number of Fail Positions	299	129	-170	-56.8%

Bolded changes are significant at the 5% level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Table 3
Summary Statistics on Fails to Deliver
Threshold List Securities with Listed Options
Pre- and Post-Rule Amendment

Measure	Pre	Post	Change	Percent Change
Number of Days	183	28		
Average Daily Dollar Value of Aggregate Fails (\$millions)	3,697	1,474	-2,223	-60.1%
Average Daily Aggregate Fails (millions)	154	77	-77	-50.1%
Average Daily Number of Securities	224	127	-97	-43.3%
Average Daily Number of Fail Positions	1,526	633	-893	-58.5%
New Fails:				
Average Daily Dollar Value of New Fails (\$millions)	783	348	-435	-55.6%
Average Daily New Fail Shares (millions)	27	16	-11	-39.5%
Average Daily New Fail Positions	894	351	-543	-60.8%
Fails Aged more than 17 Days:				
- Average Daily Dollar Value of Aggregate Fails (\$millions)	1,746	646	-1,100	-63.0%
- Average Daily Aggregate Fails (millions)	77	36	-41	-53.4%
- Average Daily Number of Securities	134	72	-62	-46.2%
- Average Daily Number of Fail Positions	215	80	-135	-62.9%

Bolded changes are significant at the 5% level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Table 4
Summary Statistics on Fails to Deliver
Threshold List Securities without Listed Options
Pre- and Post-Rule Amendment

Measure	Pre	Post	Change	Percent Change
Number of Days	183	28		
Average Daily Dollar Value of Aggregate Fails (\$millions)	427	249	-178	-41.6%
Average Daily Aggregate Fails (millions)	343	158	-185	-54.0%
Average Daily Number of Securities	256	120	-136	-53.1%
Average Daily Number of Fail Positions	834	323	-511	-61.3%
New Fails:				
Average Daily Dollar Value of New Fails (\$millions)	83	58	-25	-29.9%
Average Daily New Fail Shares (millions)	47	26	-21	-44.1%
Average Daily New Fail Positions	413	150	-263	-63.6%
Fails Aged more than 17 Days:				
- Average Daily Dollar Value of Aggregate Fails (\$millions)	98	77	-21	-21.8%
- Average Daily Aggregate Fails (millions)	70	31	-39	-55.0%
- Average Daily Number of Securities	68	44	-24	-34.7%
- Average Daily Number of Fail Positions	85	50	-35	-41.4%

Bolded changes are significant at the 5% level using the Wilcoxon-Mann-Whitney test (nonparametric).

Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Figure 1

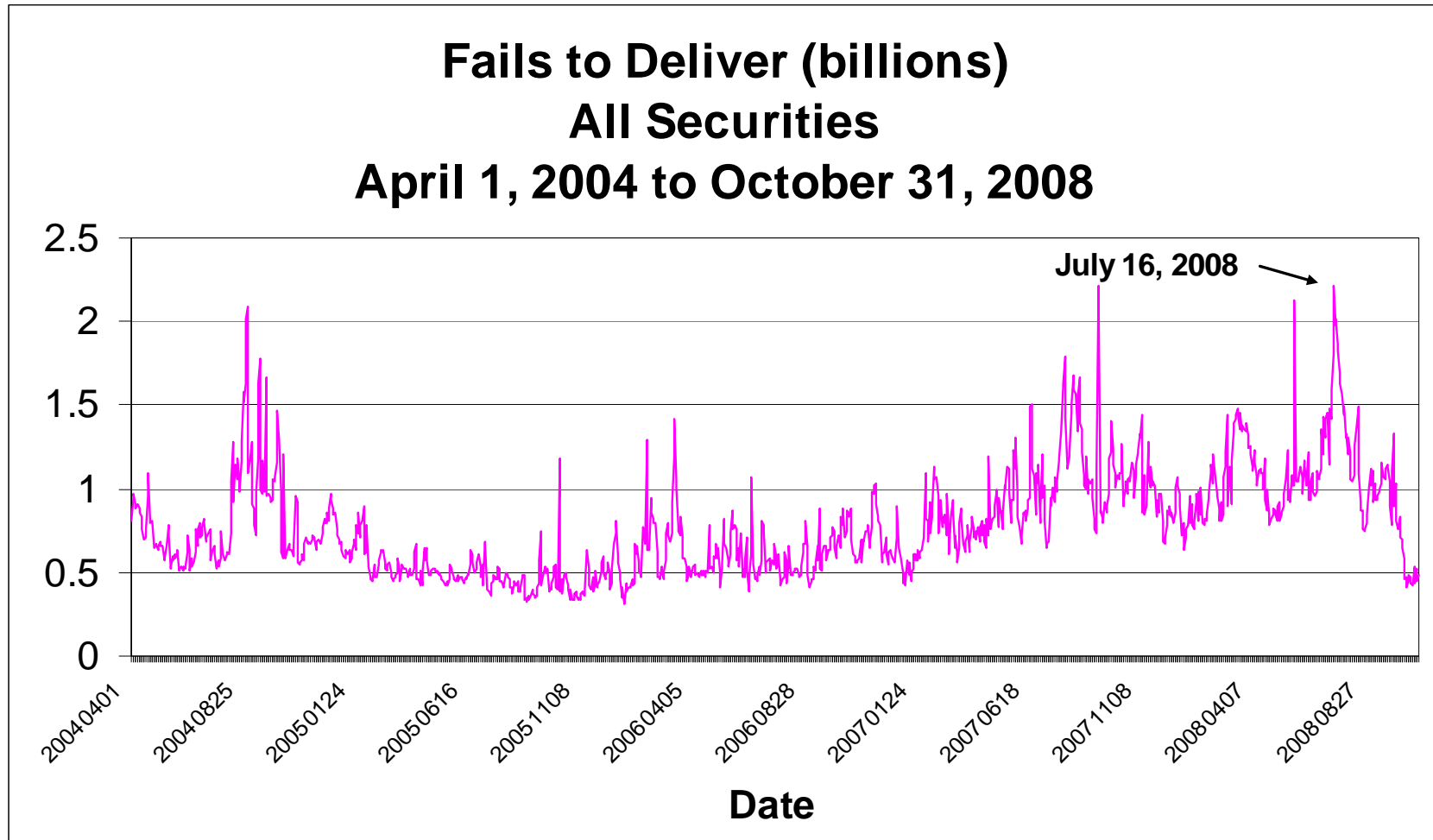


Figure 2

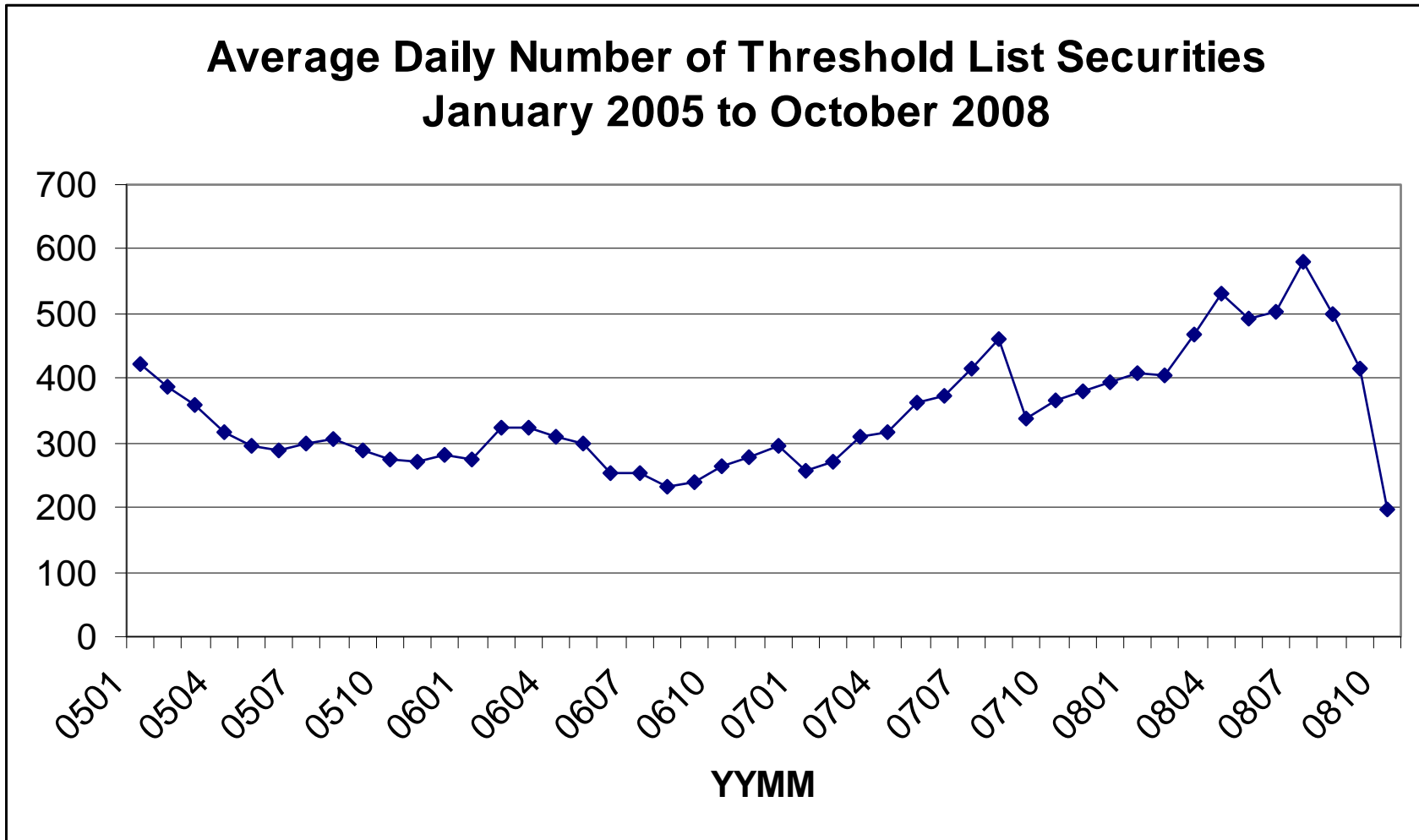


Figure 3

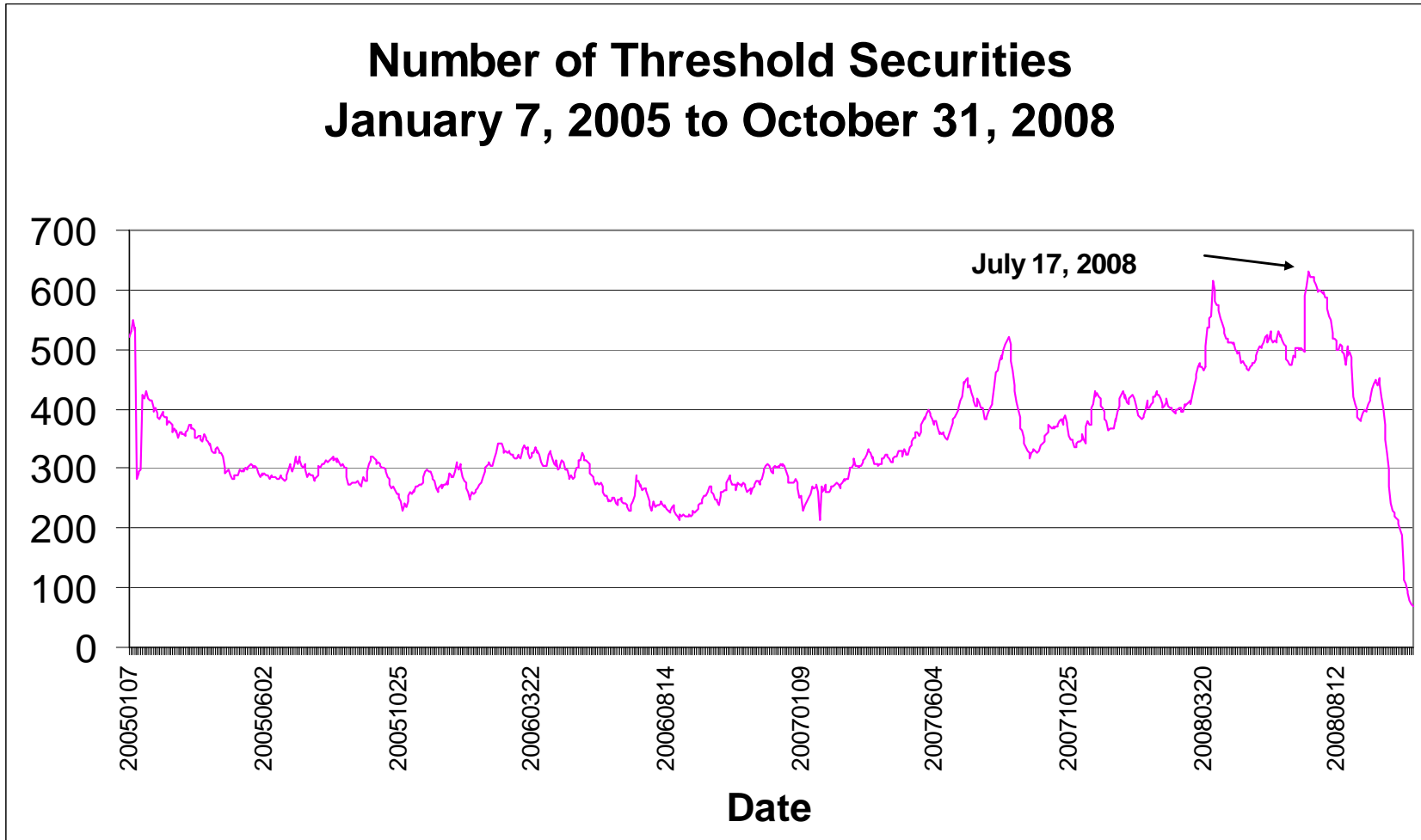


Figure 4

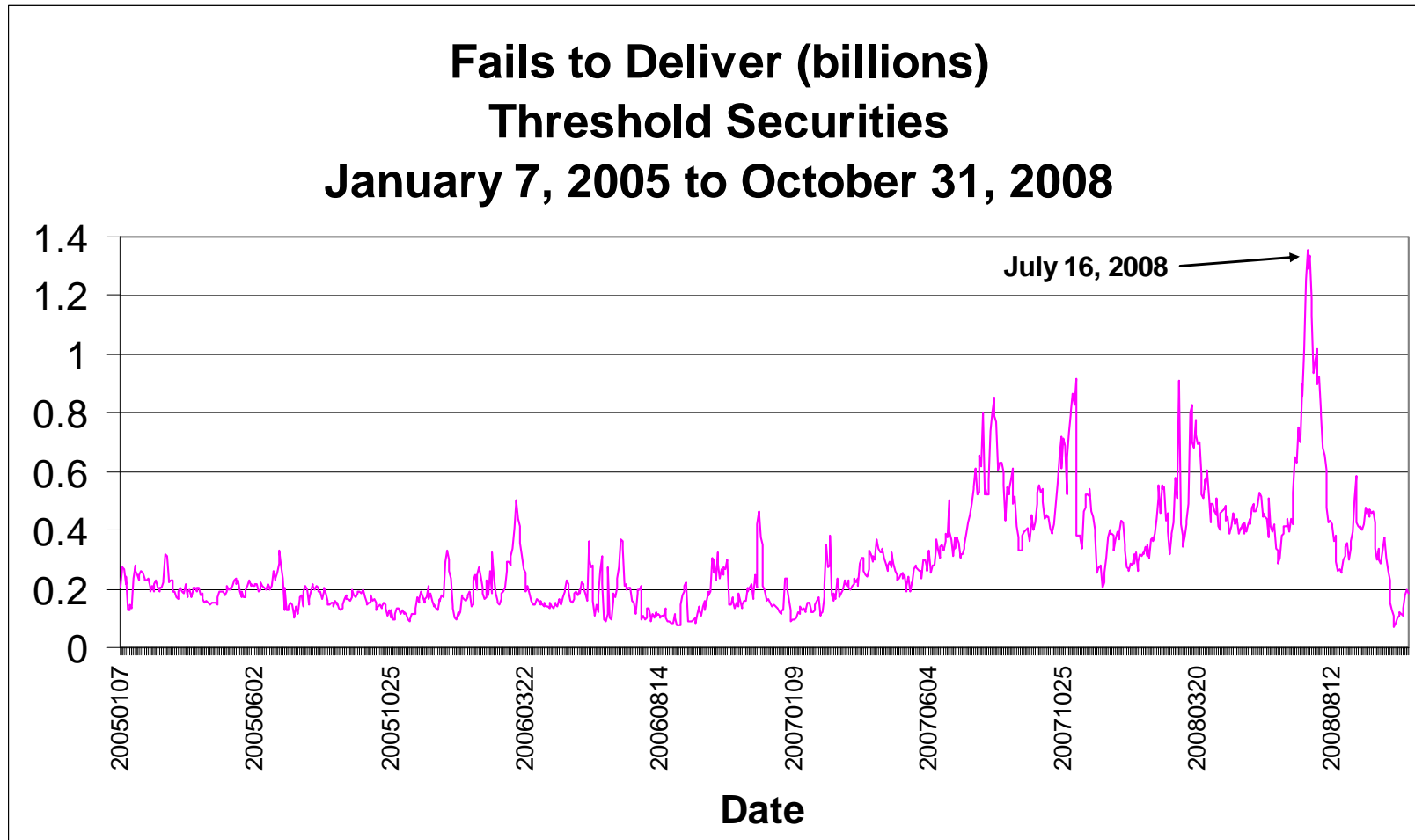


Figure 5

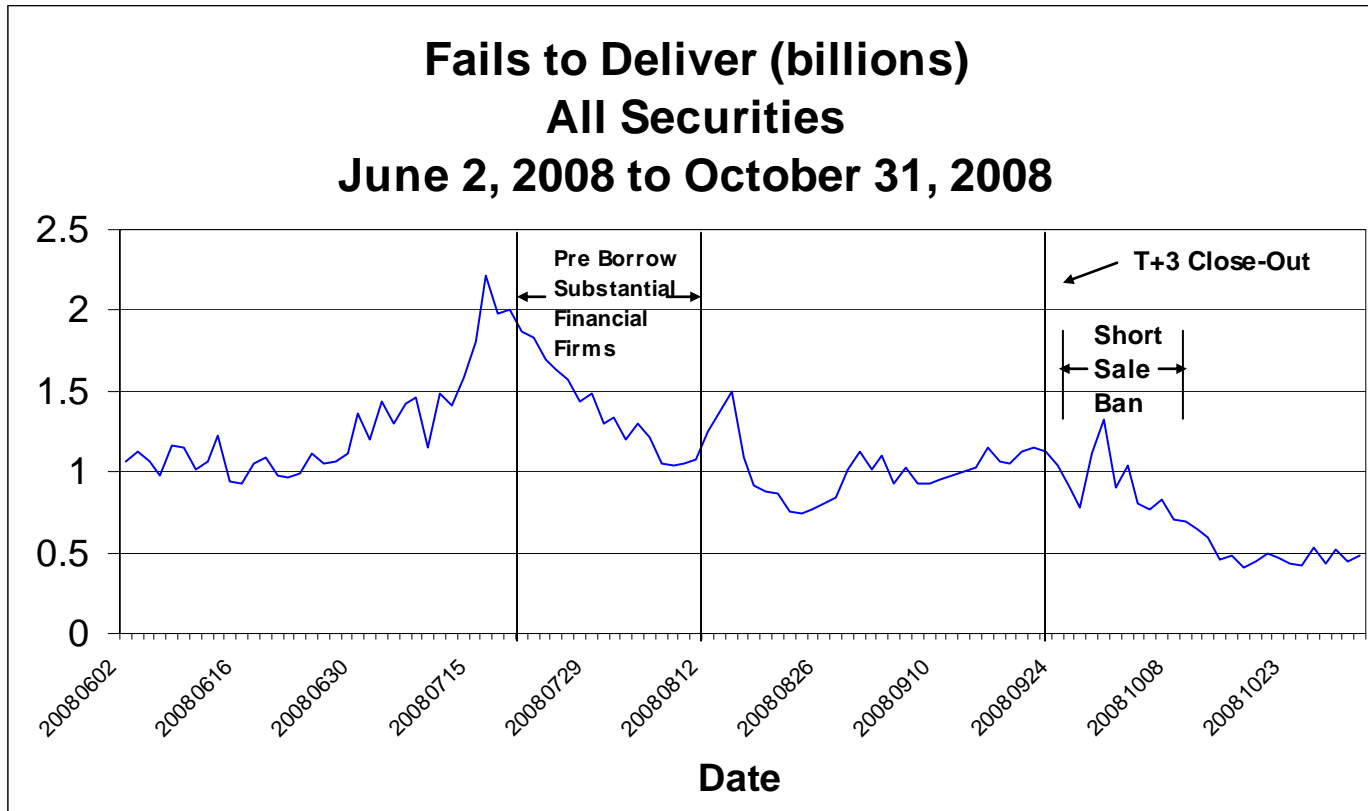


Figure 6

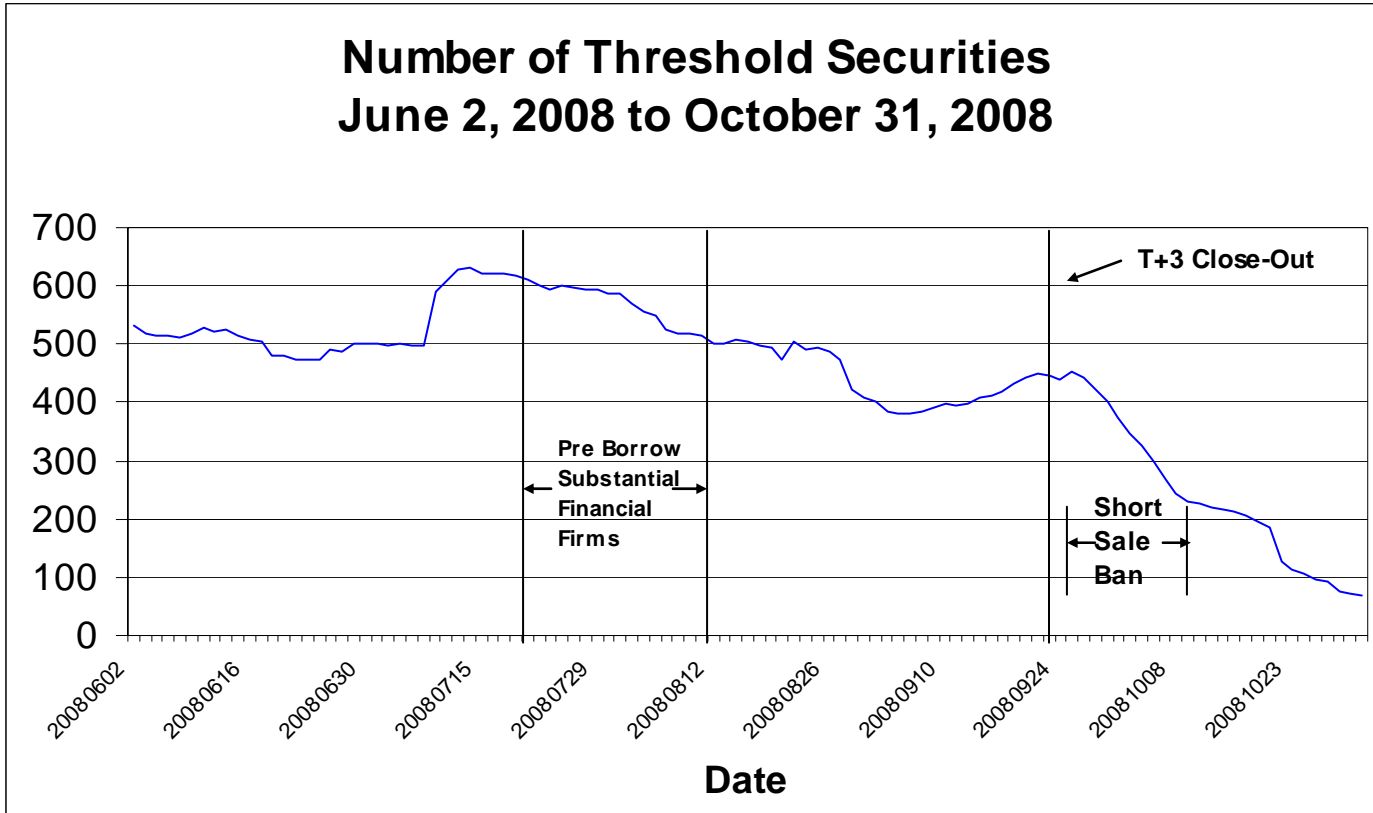
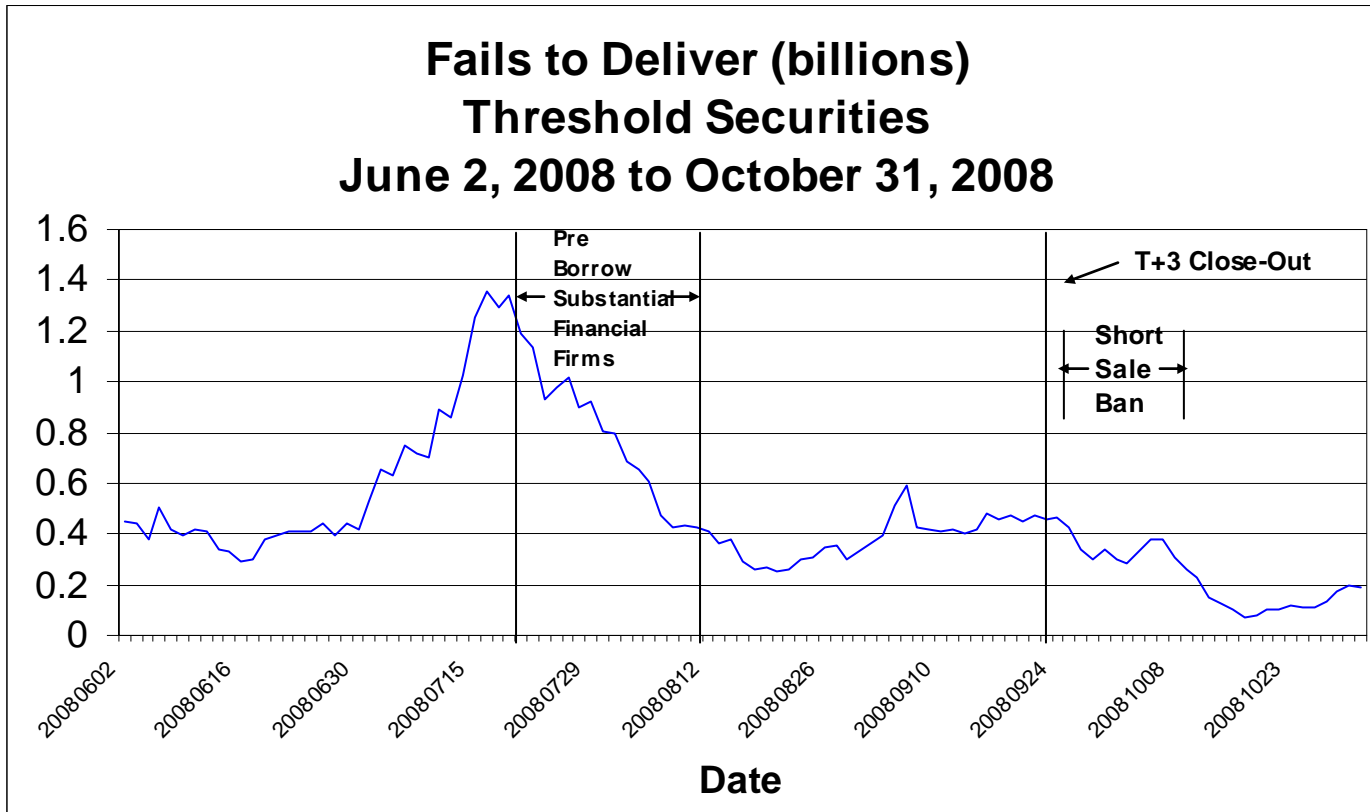


Figure 7



Appendix A
Fail to Deliver Close-out Requirements of Rule 204T
Important Dates to Measure Impact

Fail Category	Settlement Days to Close-out Fail: Threshold Stocks	Settlement Days to Close-out Fail: Other Stocks	Last Trade Date to Close-out	Settlement Date Associated with Last Close-out Date
Pre-existing on September 17, 2008				
Not Option Market Maker	14 (or less)	None	October 7, 2008	October 10, 2008
Option Market Maker (OMM)	36	None	November 7, 2008	November 13, 2008
New fails on September 18, 2008				
OMM, MM, and long sales	3	3	September 23, 2008	September 26, 2008
Short sales (generally non-MM)	1	1	September 18, 2008	September 23, 2008
Rule 144 sales*	36	36	November 10, 2008	November 14, 2008

Note that the close-out aging begins on September 17, 2008 for pre-existing fails whereas it begins on September 18, 2008 for new fails.

* The longer time window did not initially apply to certain ESOP sales and certain sales associated with shelf offerings. However, the longer time window is applicable for these sales effective October 17, 2008.