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SECURITIES AND EXCHANGE COMMISSION
ROUNDTABLE ON THE REGULATION SHO PILOT
(Amended 9-29-06)
Friday, September 15, 2006
9:45 a.m.

U. S. Securities & Exchange Commission
100 F Street, N.W.
Auditorium L-002
Washington, D.C.

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S E S S I O N O N E

CHAIRMAN COX: Good morning. Thank you all for being here. Welcome to our roundtable on Regulation SHO. That, as you know, is short for shorting. In fact, around here we shorten it further and simply call it Reg SHO. Even if that's not plain English, it has the benefit of keeping it short and simple.

But one thing that we will never keep short, ever shortchange is economic analysis, and that's the reason we're having this discussion today.

We're here to hear the considered opinion of the members of our two distinguished panels on what the empirical evidence says about price tests for short sales.

Short selling, in general, is a topic that inspires many different viewpoints, but while some criticize the practice, arguing that it artificially depresses the price of securities, the Commission has never taken the view that all short selling is illegitimate.

Rather, we've always recognized that short selling within proper bounds can have legitimate benefits, including facilitating liquidity, managing risk and promoting price efficiency.

We've also historically recognized that abusive short selling can be a form of unlawful market manipulation and that abusive short selling can have a destabilizing

1 affect on markets.

2 One way that the Commission and the Self-Regulatory
3 Organizations have sought to balance these potential positive
4 and negative effects is by permitting short selling and
5 advancing markets while also preventing short selling at
6 successively lower prices.

7 When the Commission adopted Reg SHO in June 2004,
8 we authorized the commencement of a pilot program to test the
9 very premises of short sale price restrictions. The Reg SHO
10 pilot suspends for a selected group of equities the
11 provisions of Rule 10a-1(a) of the Securities Exchange Act of
12 1934 and former NASD Rule 3350 that restrict the exercise price
13 of short sales.

14 On April 20, 2006, we extended the pilot to August
15 6th of next year in order to maintain the status quo for
16 price tests of pilot securities while the staff completes its
17 analysis of the pilot results and the Commission conducts any
18 necessary rule-making.

19 Regulation is a tricky business and especially so
20 in the securities area. We could take the simple approach
21 and say that the foolproof way of protecting investors would
22 be to make sure that they're never put at any risk, but that,
23 of course, wouldn't really make for investor protection.
24 That would, rather, make for investor extinction.

25 The lifeblood of investing is risk, and from that

1 comes reward. The two go together and have a direct
2 relationship, rising and falling in tandem.

3 So no, we don't think we'll be able to invest
4 riskless investing. In fact, whenever we hear that concept
5 pedaled we ring up the Division of Enforcement because we
6 know it's a scam.

7 As with all regulation, we seek to guide ourselves
8 by the central principle of the Hippocratic oath; first, do
9 no harm. That's where this pilot comes in.

10 Through it we seek to understand the effect of this
11 particular regulation on our markets in light of market
12 development since it was first adopted. The pilot
13 demonstrates our commitment to base our regulatory decisions
14 on sound empirical evidence.

15 The evidence we've gathered from the pilot should
16 help us decide whether price tests for short sales should be
17 kept and perhaps even be strengthened or expanded, or, on the
18 other hand, whether they should be limited or abandoned.

19 And rather than just hear the sound of our own
20 voices we've assembled here an illustrious team of scholars
21 this morning. I want to thank each of you for your extensive
22 time and energy that you've devoted to this topic and the
23 time that you've taken to be here with us. It's very much
24 appreciated.

25 To start things off, we have Professor Charles

1 Jones of Columbia University who has investigated the effects
2 that the Commission's price test restrictions on short sales
3 have had on securities markets.

4 Throughout his career Professor Jones has paid
5 special attention to transaction costs and market frictions.
6 Nor has he limited himself to the recent past. He has
7 studied the history of transaction costs going back a
8 century. He'll be presenting a historical paper showing how
9 Rule 10a-1 affected market quality when the Commission first
10 adopted this provision in the 1930s.

11 Critically discussing this paper will be Dr. Frank
12 Hatheway, who is chief economist at the Nasdaq stock market.
13 Dr. Hatheway is a well-known researcher in market
14 microstructure, and he has led several initiatives to improve
15 the Nasdaq's market structure. He's a veteran of this place,
16 having served as an economic fellow and senior research
17 scholar at the Securities & Exchange Commission.

18 This historical perspective will help frame our
19 expectations for two subsequent papers which evaluate the
20 price test restrictions using empirical data collected from
21 the pilot program.

22 The first of these two papers examining the pilot
23 will be presented by Professor Ingrid Werner. Professor
24 Werner is the Martin and Andrew Murrer Professor of Finance
25 at Ohio State's Fisher College of Business. She has long

1 experience with securities markets, having been a visiting
2 research economist at the New York Stock Exchange in 1996 and
3 1997 and then a visiting academic fellow at Nasdaq in 2001
4 and 2002.

5 Professor Werner's paper will examine how the
6 pilot; in other words, suspending price test restrictions on
7 a limited number of equities, has affected short selling and
8 the market quality of NYSE and Nasdaq stocks.

9 These findings will then be critiqued by Professor
10 Paul Irvine, Assistant Professor of Bank and Finance at the
11 Terry College of Business, the University of Georgia.
12 Professor Irvine's areas of interest including the behavior
13 of capital markets, investment banking and market
14 microstructure.

15 Less than a year ago Professor Irvine authored a
16 paper on short selling titled, "Liquidity and Asset Prices,
17 the Case of the Short Squeeze and the Returns to the Short
18 Position."

19 Our last paper will also shed light on the pilot
20 and what impact it may have had. This one will be presented
21 by Professor Gordon Alexander, the John Spooner professor of
22 Investment Management at the Carlson School of Management at
23 the University of Minnesota.

24 Professor Alexander formerly served the Commission
25 as a visiting academic scholar. He's the author of several

1 books on investing and portfolio management. His paper on
2 our pilot will be critically discussed by Professor Adam
3 Reed, Assistant Professor of Finance at the Keenan-Flagler
4 Business School at the University of North Carolina.

5 Professor Reed's work is devoted to our business at
6 hand today, since his experience comprises short selling,
7 equity lending and capital markets.

8 While we learn about the pilot evidence this
9 morning we have another distinguished group to opine on the
10 evidence this afternoon. This group consists of two former
11 Commission chief economists, Dr. Richard Lindsey, who spent
12 some time as director of the Commission's Division of Market
13 Regulation as well before heading to Bear Stearns, and
14 Professor Larry Harris, who is now comfortably back at the
15 University of Southern California.

16 One other panelist has experience as chief
17 economist of the New York Stock Exchange, Dr. George
18 Sofianos, who is now at Goldman Sachs.

19 The last three panelists, Professors Pete Kyle,
20 Owen Lamont and Bruce Lehmann, have built strong reputations
21 as influential economic thinkers, especially in the areas
22 short selling and market microstructure.

23 Well, clearly there's a lot to talk about, and I
24 think we put together just the group to do it. I want again
25 to thank each of our participants for sharing with us your

1 expertise and for so generously donating your time to be with
2 us here today.

3 Our nation of investors owes you a great debt of
4 gratitude for your contribution to protecting investors and
5 for helping us make markets more efficient.

6 Our two moderators to whom I will now turn over the
7 program will be James Brigagliano, our Acting Associate
8 Director of the Division of Market Regulation, and Dr. Amy
9 Edwards, a financial economist for the SEC's Office of
10 Economic Analysis.

11 So let the show begin, pun intended.

12 MR. BRIGAGLIANO: Thank you, Mr. Chairman. Just a
13 quick reminder on the parameters of the pilot. The pilot
14 suspended all short sale price tests from a representative
15 sample of 1,000 of the Russell 3000 stocks during regular
16 trading hours.

17 The Commission's test for exchange-registered
18 securities allows short sales on plus ticks or zero plus
19 ticks based on the last sale. The bid test applicable to
20 Nasdaq securities prohibit sales below the bid if the last
21 bid was a down bid.

22 The objective of the pilot is to allow the
23 Commission's economists as well as other academics and
24 members of the public to study and compare the trading of
25 similar securities with and without a price test.

1 The Commission seeks evidence of the impact of
2 short sale price tests on factors such as liquidity, market
3 volatility, price efficiency and manipulation. Now let's
4 turn it over to the economists who did the studies.

5 MS. EDWARDS: Okay. As Chairman Cox mentioned, our
6 first speaker will be Charles Jones. And I'd just like to
7 announce to our listeners on the web cast that you can
8 download the slides of the presentations today. I'm not sure
9 if they're available at this moment, but they should be
10 available sometime today.

11 PRESENTATION BY CHARLES JONES

12 MR. JONES: Thank you very much, Amy. I want to
13 start out by opening the discussion by helping us understand
14 the historical context by which we came to the current
15 regulatory environment.

16 So in particular we want to look at three discrete
17 events from the 1930s, the initial prohibition of short
18 sales on downticks, which happened in 1931; a 1932
19 requirement that brokers get written permission to lend a
20 investor's shares so that they can be shorted; and, finally,
21 the 1938 strict uptick rule that was introduced by the SEC.

22 So we want to look at various characteristics of
23 the markets before and after these regulations changed in an
24 effort to determine the effect of the regulations. I'll be
25 looking at returns, volatility and also liquidity.

1 To give you a little context we need to go back and
2 think about what shorting was like prior to the Great
3 Depression. Shorting in the 1920s was largely unencumbered.
4 It was very popular among professional traders in the U.S.

5 The various markets, the lending market was very
6 highly developed with very little regulatory oversight or
7 restrictions. For instance, there was no uptick rule in the
8 1920s. There was no formal requirement to locate shares to
9 deliver before short selling.

10 There were no minimum margins set by any sort of
11 central government authority. There were margins set by the
12 exchange or by the broker, but they were done by the
13 Self-Regulatory Organization, by the exchange, by the NYSE or
14 by the broker who was responsible for the account.

15 For instance, near the close each day NYSE members
16 would gather around what was known as the loan crowd or the
17 loan post in order to borrow and lend shares for delivery
18 into short sale positions, and this centralized market was
19 probably a great thing. It probably reduced search costs for
20 those people who were looking for shares to borrow in order
21 to short sell.

22 Well, of course, after the crash of 1929, things
23 changed dramatically and quite quickly. We saw dramatic
24 reductions in stock prices beginning in 1929 and extending
25 all the way through 1932.

1 So there was huge pressure to ban short selling
2 entirely. There were laws introduced in Congress. Short
3 sellers were blamed very much as portfolio insurers were
4 blamed for the 1987 crash. Short sellers were the scapegoat
5 in 1929 and 1930.

6 So for instance, in 1930, there was political
7 pressure to rein in or ban shorting. Holders were urged not
8 to lend their shares out to short sellers.

9 In September of 1931, there was a two-day ban on
10 short sales on the New York Stock Exchange when England went
11 off the gold standard. And then, in October of 1931, all
12 short sales were prohibited if they were below the last sale
13 price. So that was our very first tick rule.

14 Then there were some additional prohibitions after
15 that. In 1932, the U.S. Senate released a hall of shame
16 listing all of the largest short sellers in an effort to,
17 sort of, shame them into not taking those short positions.

18 And then finally, after 1938, after the market had
19 come back for a while but after another small decline, the
20 SEC imposed an uptick rule that was actually much more severe
21 than the rule that's in existence now.

22 Let me say a couple of words about the event in
23 1932 where the NYSE changed its rules to require that
24 investors give written permission to hypothecate their shares
25 or to lend their shares out to a short seller.

1 Previously, any share in street name could be lent
2 out, and, basically, the New York Stock Exchange tried to put
3 some sand in the gears of short sellers and make it a little
4 tougher for short sellers to short.

5 And so, essentially, they put this rule in hoping,
6 essentially, to decrease the lendable supply of shares, and,
7 in fact, it did that, at least initially. One day prior to
8 starting, the New York Times reported that 25 to 40 percent
9 of the floating supply of stock, shares held by brokers, have
10 not yet given their consent to have their shares lent.

11 So what we saw there was a very short-lived
12 tightening of the lendable supply market. And so what you
13 see in the data is that rebate rates, the fees charged for
14 borrowing shares, declined dramatically right about the
15 imposition of the event, because it was very short-lived.

16 If you can see this graph, this is a one-day chart.
17 Essentially, these rates went very high for a little while,
18 but, eventually, these high prices brought out more shares,
19 and the market came back to normal and, essentially, not much
20 happened there.

21 Now, what that did do was this was a, sort of,
22 shock to the lendable supply of shares. And what that led to
23 was a decline in the short interest. So if you look right
24 around the middle of the chart here, you can see that the
25 blue line shows a dramatic decline in the amount of short

1 interest as soon as this rule was put into effect.

2 Now, what would happen if we make the supply of
3 lendable shares smaller? So if we're putting on these
4 shorting restrictions, what would we expect to see?

5 Well, it's not clear what we would expect to see,
6 but what we did see was very little in the way of returns in
7 the market. So neither the announcement day return, the
8 announcement that this policy was going to be held, or the
9 return on the Dow Jones around the imposition of this event,
10 neither of these was statistically different from zero.

11 And essentially, if you look at liquidity, there
12 are also no effects of this event. So, essentially, this was
13 a short-lived shock to the market that the market dealt with
14 reasonably well, and there's really no evidence here against
15 the rational model that says it really doesn't matter whether
16 we have short sellers or not in the market. Even if we
17 restrict those short sellers prices will not, in general, be
18 affected, and liquidity would not be, in general, affected.

19 So there is nothing from that particular event.
20 Now, I think what will be of more interest to this audience
21 is the events related to the ticks, the imposition of the
22 tick test.

23 So on October 1931, October 6th, in fact, the NYSE,
24 basically, stated that all short sales on downticks were
25 going to be presumptively demoralizing, and any demoralizing

1 trade had always been prohibited by the NYSE.

2 Now, it's not clear what a demoralizing trade is,
3 but it was -- short sales were considered -- short sales on
4 downticks were to be considered demoralizing.

5 So what we got on October 6, 1931, was a marking
6 requirement. So short sales had to be identified as such for
7 enforcement purposes. Basically, this rule was announced and
8 effective the same day, and, basically, this was a very
9 severe shock to the ability to take a short position.

10 Because you could only sell -- you could not sell
11 on a downtick at all, and, essentially, what happened here is
12 that short interest fell by 16 percent, about one-sixth in
13 one day.

14 At this point, they were measuring short interest
15 every day, so we can see exactly what happened after one day
16 of this particular policy. You can see that. You can see
17 those numbers there. Again, it's right in the middle of the
18 chart.

19 You can see the decline in short interest, but what
20 also you see there is a huge rise associated with the event.
21 In fact, in response to this event, stocks rose by the
22 biggest one day return ever.

23 Stocks rose by about 15 percent on the day that
24 this policy was introduced. Now, it's not clear that
25 that's -- it's not clear what the cause of that stock price

1 rise was.

2 It could be that because we were restricting shorts
3 what this meant that, basically, we now had optimists who
4 were more likely to hold stocks, or it could be that
5 everybody simply that that this was changing the psychology
6 of the market, and people were going to be much more
7 optimistic than before.

8 What we can look at here is whether there was any
9 effect on spreads or liquidity around the event, and, in
10 fact, apriori it's not necessarily clear what we might expect
11 to see.

12 MS. EDWARDS: You can just keep going. We'll
13 figure this out.

14 MR. JONES: Okay. No problem. So in terms of
15 spreads and liquidity, it's not clear what we might expect.
16 Essentially, what we've done is we've made it more difficult
17 with this rule for short sellers to demand liquidity. We,
18 sort of, force them to supply it because they can't go out
19 and do a short sale at the bid if the bid is below the last
20 sale price.

21 So we're, basically, changing the way that these
22 traders have to execute their trades. Now, of course, that
23 effect we have to balance out with the income effect of what
24 happens to these short sellers. Do they stay in the market?
25 Do they leave? Does that worsen or improve market quality in

1 general?

2 And what we see, actually, is that when this rule
3 was put into effect we see a decline in average spreads. So
4 average spreads go from about 73 basis points down to about
5 59 basis points.

6 Now, part of that is due to the fact that the stock
7 market increased dramatically when that rule was put into
8 effect. So part of it is that liquidity and market levels
9 are positively correlated. So when markets are high, markets
10 tend to be liquid. So part of this effect may be the result
11 of that dramatic price increase.

12 When we look cross-sectionally, we see a slightly
13 bigger effect in small stocks. Their liquidity improves a
14 little bit more than liquidity does in large stocks.

15 So to summarize the liquidity evidence based on the
16 prohibition on downtick short sales, some of our other
17 measures are not changing very much. There are not big
18 changes in volatility or volume or our measure of price
19 impact, but we do see an effect in bid/ask spreads and a
20 dramatic narrowing in those bid/ask spreads, and they narrow
21 most for small stocks.

22 This is broadly consistent with the hypothesis that
23 shorts are now supplying rather than demanding liquidity, and
24 it's that artificial change in what short sellers are allowed
25 to do that has this byproduct effect of, perhaps, improving

1 market liquidity.

2 So we move from 1931 to 1938. And in 1938,
3 February 8th, the SEC imposes a very strict uptick rule, and
4 this is in response to a 35 percent market decline in 1937
5 and an SEC investigation into that decline and the
6 possibility of the existence of Bear raids.

7 The result of that was the SEC adopted Rule 10a-1
8 which required short sales in listed stocks to take place on
9 strict upticks. So the short sale could only happen at a
10 price that was strictly higher, at least one-eighth higher
11 than the last sale price.

12 And, in fact, this rule was then -- it was soon
13 discovered that this was very impractical for short sellers,
14 because as soon as there was another trade at this higher
15 price, then the short sellers couldn't trade at that price
16 but had to wait for the price to go up yet another tick and
17 be the first trade at that new plus tick in order to take
18 their position.

19 So the strict uptick rule was actually relaxed to
20 the current zero plus tick rule in March of 1939. What ended
21 up happening, at least in 1938, when the strict uptick rule
22 was put into place, the short interest fell by about 9
23 percent, so it did seem to have an impact on the number of
24 shares shorted.

25 And there is some evidence that people were trying

1 to hurry to beat the new rule. There are whole lot of stocks
2 that were expensive to borrow just prior to the imposition of
3 the new rule.

4 Now, what do we see here? This is a chart that
5 shows you what happened to stock prices and what happened to
6 short interest around this time. And, basically, the effect
7 here is about just over halfway through the chart in February
8 of 1938, and you can see there is some decline in short
9 interest, although there are huge variations in amount of
10 short interest here.

11 So in fact, it's hard to draw too strong a
12 conclusion that, in fact, this was a causal event in reducing
13 the amount of short interest in February of 1938.

14 Now, the market for lending shares was, in fact,
15 tight around this time, and what you see in the bars that are
16 up high you're seeing the number of stocks on which short
17 sellers actually had to pay to borrow the shares.

18 The market was anticipating a certain amount
19 of -- the market was, basically, trying to beat the rule, and
20 there was a certain amount of demand to establish short sales
21 in front of the rules.

22 Now, what ended up happening here with this -- with
23 the rule, basically, there's not very much in the
24 announcement day returns. The stock market viewed that as,
25 essentially, non-event. The market did go up on the day that

1 the rule went into effect.

2 The Dow Jones, for instance, went up by 3.4 percent
3 that day, which was a fairly unusual rise but not
4 unprecedented. So it would have a P value of 3 percent. So
5 there would be about 3 percent of days that would have bigger
6 positive returns in the immediate vicinity than this
7 particular day.

8 Now, there is some support in that to say that,
9 essentially, again, if we make it difficult for short sellers
10 to short, then prices may go up and, in fact, may go up too
11 high, because perhaps now we're not allowing the pessimists
12 to record their views as easily as we are the optimists.

13 But again, one of the main things we should be
14 looking at here is what are the effects on liquidity. Again,
15 apriori effects on liquidity may not be obvious, and so let
16 me show you a little bit about what happened around the
17 imposition of the uptick rule.

18 Well, what happened around the imposition of the
19 uptick rule is, again, a modest decline in spreads. So
20 spreads went, essentially, from 70 basis points down to about
21 63 basis points, and not too many of the other measures here
22 show much of a change.

23 There was a decline in volume, although we all know
24 that looking at volume as a measure of the liquidity of the
25 market is kind of a problematic measure to use for measuring

1 liquidity.

2 And if we look at which stocks were affected the
3 most, essentially, you find nothing. So what I would draw
4 your attention to here on this particular chart is that there
5 are no asterisks here anywhere.

6 Asterisks would denote significant changes that
7 would be associated with the imposition of the uptick rule,
8 and you see that none of the characteristics on stocks seem
9 to affect what happened to liquidity.

10 So the best conclusion from the data is,
11 essentially, that there was a decline in proportional
12 spreads, a decline in -- an increase in liquidity, but it
13 doesn't look like particular stocks were affected more than
14 other stocks, and the overall effect is quite modest overall.

15 So the summary here is, basically, that this
16 matches the earlier evidence from 1931. Essentially,
17 liquidity improves with the imposition of the uptick rule,
18 and perhaps the liquidity is improving because we are forcing
19 shorts to supply liquidity rather than demand it.

20 So it's sort of an artificial change in the level
21 of market liquidity because we are forcing shorts to,
22 basically, stay on one side of the market and not demand
23 liquidity.

24 Now, in terms of combining these two, one can, sort
25 of, think about a meta analysis of these three events. And,

1 basically, the meta analysis concludes that, essentially,
2 there are positive returns associated with restricting short
3 sales and definite effects on liquidity from the tick
4 restrictions.

5 I would caution, essentially, that it's very
6 difficult to extrapolate from these earlier events to what's
7 happening today. First of all, the market were very
8 different. We were in the middle of the Great Depression.

9 There were not a lot of alternatives for short
10 selling. Essentially, now the uptick rule can, basically, be
11 avoided by doing things offshore, by buying puts, but
12 arranging a total return swap, but doing some other
13 derivative transaction.

14 Also, the minimum tick during this period was
15 one-eighth, and so the uptick rule was very onerous in 1931
16 and 1938. We could expect to see very substantial effects
17 from it under the regime then. We'd expect much smaller
18 effects today with a minimum tick of 1 cent, because that 1
19 cent uptick requirement is far less onerous than 12 and a
20 half cents was in the 1930s.

21 So while the evidence seems to point towards some
22 benefits from a -- from restrictions on short sellers, I
23 would caution that those may be limited to the time period in
24 which we look at.

25 And again, you would caution that these are

1 conclusions drawn from single-day events in a broad market a
2 long time ago. So with that, I think I will stop there.

3 MS. EDWARDS: All right. Thank you, Charles. Now,
4 Charles finished by telling us some of the caveats in his
5 study, and it's Frank's job now to tell us about more of
6 them.

7 MR. HATHEWAY: Thank you very much, Amy. Before I
8 really get started on the critiques I have to offer on
9 Charles' paper, I think it's relevant for this audience to
10 understand a little bit about my history professionally and
11 personally so you know what perspectives I bring to this
12 presentation.

13 I am the chief economist for Nasdaq. Nasdaq
14 operates under a short sale bid test, NASD Rule 3350. We
15 also have a rule filing before the Commission to,
16 effectively, extend the breadth of the pilot by waiving the
17 bid test in approximately 75 very liquid Nasdaq stocks.

18 On a personal level, I was a persistent and
19 habitual short seller from 1984 to 1989, when I was a
20 derivatives trader. I'm also an economist, and, presumably,
21 that means I have subliminal attitudes about interfering in
22 free markets.

23 It's always a delight to discuss Charles' work.
24 This is not the first time I've done it. He always done a
25 clear and very thorough job with his presentation, so I'm

1 just going to go over some high points of his paper and then
2 get right into my comments.

3 We're looking at specific constraints from the
4 1930s. We're going to look at the effect of these
5 constraints on prices, liquidity, the stock loan market.
6 What the study does not address is more normative
7 questions -- could short selling be harmful in a macro
8 economic sense? Could short selling be beneficial?

9 Based on the answer to those two questions, should
10 there be constraints on short selling? It does not consider
11 what other types of short selling constraints might matter.

12 In the introduction to the paper -- I encourage you
13 to read the full paper, if you're interested -- these topics
14 are addressed because they are left for other researchers
15 some of whom are to my left.

16 The question I want the audience to consider as we
17 go through this paper and what's to follow, to what extent
18 does market context affect how we think about short selling?
19 Charles ended with those thoughts.

20 1930s was short selling harmful on a macro level?
21 1990s and prices, basically, also went one way but up might
22 short selling constraints have been beneficial? Looking at
23 data from today, the most recent decade has been one of the
24 lowest volatility periods for the stock market in the last 30
25 years. How might that bias what we're looking at when we

1 evaluate the pilot itself?

2 The methodology for the study. It's an event
3 study, what economists refer to as an event study. We look
4 at three events -- the authorization of hypothecation in
5 April of '32, limited strength of the supply of shares that
6 were available to loan to short sellers.

7 Downtick rule implemented by the NYSE in October
8 '31 limits the ability to sell short. The SEC's uptick rule
9 in February '38 also put a limitation on the ability to sell
10 short.

11 There are, effectively, seven variables of interest
12 in the paper itself. What happened to stock prices? What
13 happens to the overall level of short interest? What happens
14 to the interest rate on stock loans for short sales? What's
15 happened to four liquidity measures -- price impact of a
16 trade, volatility, volume, spreads?

17 We're going to look at whether there were
18 significant changes in these variables around these three
19 events. To do absolutely no justice to Charles' paper at all
20 and to summarize, what, six months of work and 40 pages of
21 writing onto a single chart, we have a summary of that part
22 of Charles' life.

23 Across the top, summarize what happened to prices.
24 For the authorization hypothecation, prices went up when it
25 was announced, down when it took effect. The NYC's downtick

1 rule there was a sharp price increase. The SEC's uptick rule
2 no price reaction on the news, a small price increase when it
3 took effect.

4 Short interest in the stock loan market, which
5 Charles didn't really talk about in too much detail, which
6 is, sort of, regrettable, because it's really neat work that
7 he did in getting that data.

8 Short interest, basically, falls and falls sharply
9 on the first two events. I think he brought it up for one of
10 them. The stock loan market, when the supply got cut, you
11 saw the chart of what happened to the price, if you will, of
12 borrowing shares to sell short spiked for a short period of
13 time.

14 For the two events that reduced the demand for
15 borrowed shares and the NYSE downtick rule it became cheaper
16 to borrow shares. Demand fell. The SEC's uptick rule it
17 became more expensive between announcement and
18 implementation. Kind of makes sense. You know something's
19 coming it's going to cut demand, you move your demand forward
20 in time.

21 For the four liquidity measures -- spread, volume,
22 volatility, price impact -- the evidence is a little mixed.
23 Charles concludes that the effect on liquidity worsened when
24 hypothecation needed written authorizations and improved
25 around the two downtick rules.

1 I put little asterisks by that, because I want to
2 come back to that and talk a little bit about what we may
3 mean by liquidity.

4 Okay. To get to my caveats, the starting point is
5 statistical power. How can we really tell that what we see
6 in the data was unusual? Market conditions at this time was
7 very, very volatile. It weakens the statistical power of the
8 test.

9 Charles showed you the chart with the biggest all
10 time increase in the Dow Jones Industrial Average, 14
11 percent, October 6, 1931. The day before was the fourth big
12 biggest decline in the history of the Dow, the first 10
13 percent decline since the events of October of 1929.

14 It was a then record low for the Dow Jones Railroad
15 Index, which became transports, and close to a record low for
16 the Dow itself.

17 Economists have a way to deal with these types of
18 clustered periods of high volatility. We call it auto
19 regressive conditional heteroskedasticity, and we're not
20 going to say any more about it today. Suffice it to say it
21 makes it hard to tell whether the events are abnormal or not.

22 The second caveat is whether these effects persist.
23 A benchmark for this might be decimalization. We went to
24 penny trading five years ago. Spreads are still pretty close
25 to a penny in most liquid stocks.

1 The paper talks about multiple effects to constrain
2 short selling, and Charles gave a summary of those at the
3 beginning. Because the data is hand-collected -- and he
4 should be commended for doing that. It's a tremendous amount
5 of effort -- time period, particularly for the liquidity
6 measures is, by necessity, very short.

7 So one of the questions to ask is, well, what
8 happens in the longer term. Now, more or less the
9 constraints on short selling stopped in 1938. Does that mean
10 that 1938 was the right answer? Here's a chart for the Dow
11 from 1931 to 1938, and I've put on there the three events
12 that Charles looks at, October '31, April '32 and February
13 '38.

14 They each, particularly the first two, are,
15 effectively, a pause in what is a falling market. The
16 February '38 event is closer to what would be the bottom that
17 year.

18 But again the question would be to what event -- to
19 what extent do these events persist? Ideally, we'd look at
20 the liquidity measures, and some of the other statistics
21 Charles brought out; it's very difficult to do. If we look
22 at prices, we don't see anything other than a temporary
23 event.

24 Another issue here is identifying when the event
25 took place. And when you're doing an event study, it's very,

1 very important to capture the surprise, what the market did
2 not expect to happen.

3 When we look at -- just to give you an example of
4 how that can be important, let's look at what happened when
5 the written hypothecation authorization begin.

6 So the October 6th data point on Charles'
7 plot -- he showed you this one for the events of April '32,
8 when the NYSE tick test came in, but I'm going way over to
9 the left-hand side of this chart for when the written
10 authorization requirement came in.

11 See the decline on the blue line? That's the
12 amount of short interest in the market. It fell 400,000
13 shares that day, but it had fallen over a million shares
14 before that day.

15 Think a little bit about how markets work. Start
16 for a second -- we're in Washington. If we get -- and I live
17 in Washington. If we get juicy news around here, what we do
18 with it is we call the media and make sure as many people as
19 possible know about it.

20 In financial markets, however, you keep that
21 information to yourself, and you act on it slowly for your
22 own profit. I've been a member in an exchange. Exchanges
23 are kind of clubby. I'd be surprised if the market didn't
24 really know that something was coming, perhaps not the
25 specifics.

1 Finally, the interpretation of liquidity changing
2 is a bit of a challenge. Liquidity depends on perspective.
3 Charles talks about substituting limit orders to market
4 orders to sell short. Liquidity depends on a perspective.

5 Are you a buyer or a seller? Are you aggressive or
6 passive? Are you long or short? Charles' liquidity measures
7 don't allow us to answer that. I'm sure he would be
8 delighted to do so if he could, but, again, there are data
9 limitations that are just the reality for doing work from 70
10 years ago.

11 Applicability of the results. Markets change.
12 Have they? Have they not? Have investors and traders
13 changed since the '30s? Markets have changed in many
14 technical ways. I think the two that are removed in the
15 second question about traders and investors, they're more
16 transparent.

17 They focus more on -- there's also more focus in
18 the financial community on systematic risk and on controlling
19 that. I don't think traders and investors are all that
20 different. I was on a trading floor in October of '87. So I
21 think in some sense the world has changed. In other senses
22 it has not.

23 Just to get to the conclusion we look at the price
24 trends during the '30s we have all these additional
25 restrictions on short selling as well as the ones Charles

1 addressed. Reasonable to conclude short selling constraints
2 don't matter much, or, perhaps, that they do.

3 One thing that I think is apparent from the data,
4 market effects tend to be relatively short-lived. Markets
5 adapt. They come up with new ways to do what they want to
6 do. But for me to say, well, the alternative would have been
7 different is, effectively, a counter-factual analysis.
8 That's very difficult to do.

9 We know financial markets recovered after 1938.
10 What they would have done had these constraints not been put
11 in we don't know.

12 Finally, sometimes a short-lived effect on the
13 market is what's needed, a little time out, whether we're
14 talking about the British government going off the gold
15 standard or some other type of financial event. Back to you,
16 Amy.

17 MS. EDWARDS: Thanks, Frank. At this point, we'll
18 move forward almost 70 years and start studying a more recent
19 time and look at what happened when we removed the rules
20 again last year. Ingrid.

21 MS. WERNER: It's delightful to be here to talk to
22 this audience and the commissioners about Reg SHO. We are
23 going to talk now about the 2005 event of getting rid of the
24 short sale rule for a subset of stocks.

25 And based on what Charles Jones have told us now

1 there clearly are significant differences in the market today
2 compared to what we had in the '30s. We had a much smaller
3 tick size. There were lots of alternatives to short selling.

4 Hence, it's not obvious that we would see any
5 effect at all in today's environment, but what we're going to
6 do is to try to explore the effect of one part of Reg SHO.

7 I guess I should highlight James Brigagliano
8 already mentioned exactly what portion of the rule we're here
9 to study, which is the pilot.

10 And I want to take this opportunity to thank the
11 Commission for providing economists with a perfect
12 experiment. It's rare that we have an opportunity to
13 carefully examine taking away a set of trading rules in this
14 fashion.

15 So we're going to look at the pilot in this work,
16 which is joint work with my co-authors Karl Diether and Kuan
17 Hui Lee, and what we're going to do in this study is we're
18 going to take the pilot program and, as constructed by the
19 SEC, we have to refine it somewhat.

20 And the additional requirements that we have is
21 that we are going to require a pilot stock. Those are the
22 stocks again where we are not going to apply the short sale
23 rules neither on the NYSE nor Nasdaq listed stocks, and we're
24 only studying those two categories. We're not going to study
25 AMEX listed stocks.

1 We require that stocks be members of the Russell
2 3000 Index both in June in 2004 and in June of 2005. The
3 reason is we don't want to have stocks that are moving in and
4 out of the index during our sample. And we also are going to
5 exclude stocks that have a high price or very wide spread.
6 We will use the remaining stocks, those that are still
7 subject to the uptick rule and Nasdaq's bid test, our bid
8 price rule, as control stocks.

9 We're going to do an event study just like we heard
10 Charles talk about and Frank mention. The question is what
11 should be the period. What we decided to do was to study a
12 six-month period bracketing the event itself on May 2nd.

13 However, we were concerned that we would have some
14 adjustment and learning going on just around the event, hence
15 we excluded from the numbers I'm going to present to you the
16 little blocked area, two weeks before the change in rule and
17 two weeks after the change in the rule for the purpose of our
18 analysis.

19 However, for those of you who are interested in
20 that adjustment period there are graphs at the back of the
21 paper that show you daily for every measure that we compute
22 what actually happens.

23 So our pre-period will be the two and a half months
24 prior to the pilot date of May 2, 2005, and the post period
25 that we're going to study are the two and a half months

1 afterwards.

2 The screening allows us to get -- the example is
3 somewhat smaller than you would expect based on Russell 3000,
4 after all, supposedly having 3,000 stocks. That's because of
5 our screening. But it doesn't distort the representativeness
6 of the sample. That's what this simple picture shows here.

7 In order to study this, we're going to look at the
8 effects of the rule on market quality measures primarily, but
9 our interest is also in did it actually change short selling
10 activity.

11 But in order to summarize short selling activity,
12 we need to come up with a measure that makes sense in a
13 cross-section of a large number of securities. So what we
14 did, we decided that the measure that we felt most
15 comfortable with was short selling as a fraction of total
16 trading volume in the stock.

17 So the measure which we call relss, which is
18 relative short sales, is for each stock we take the number of
19 shares sold short that is provided to us by the grace of the
20 Commission forcing the markets to produce the data, and we
21 divide that, then, by the reported short sale -- sorry, total
22 volume.

23 And we were originally trying to separate short
24 sales from those that were subject to rules from those that
25 are not subject to the rules, and that is the exempt short

1 sales.

2 However, due to correspondence between the SIA and
3 the SEC my understanding is that is not interpretable. So we
4 are aggregating all short sales that are reported pursuant
5 Reg SHO.

6 We're going to look at a broad set of market
7 quality measures. These are all measures to gauge the impact
8 on day-to-day trading of the uptick rule and the bid test.
9 Unlike Charles Jones we're not going to look at the price
10 effect. We believe that will be negligible. We're not going
11 to look at returns around this event.

12 Simply looking at measures such as quoted spread
13 and quoted depth at the bid and the ask, we're going to
14 measure effective half spread, which could differ from quoted
15 spreads to the extent that trades occur within the posted
16 quotes.

17 We're looking at order imbalances. By that we mean
18 if the preponderance of orders are above the mid-point on
19 average, we'd call it buy order imbalance. That's the
20 definition of that measure. And we're also going to compute
21 a number of different volatility measures.

22 So to get us started, how would price tests
23 potentially affect market quality statistics, and how do they
24 affect how people trade?

25 Well, the basic message here is that to comply with

1 the uptick rules, NYSE short sellers have to rely on passive
2 strategies. They end up being more or less forced to be
3 limit orders or liquidity providers shadowing the last sale.

4 In a simple example, you can think of a market -- I
5 don't have a graphical of that, but I can illustrate it where
6 it's a bid of 28, 28.05 offer, market sell order that's short
7 is coming in. It cannot actually hit the market bid if the
8 last sale was at 28.05. It becomes a limit order at 28.05.

9 Similarly, in a market, the same market, 28 bid,
10 28.05 offer, last sale at 28.05, if a marketable limit order
11 comes in at 28.03, it actually is not posted as 28.0. It's
12 posted at 28.05.

13 This is adjustments that the NYSE specialist or
14 their systems have to undertake to make sure that orders are
15 compliant with the uptick rule. Similar rules are applied on
16 other exchanges or markets trading NYSE listed securities
17 such as during this period ArcaEx, INET also during that
18 period. I realize markets have changed dramatically
19 recently, but this is 2005 that we're talking about. INET
20 just said we will not take an order that's not going to be
21 okay to be executed as a short sell order.

22 So we believe that this shadowing of last sale
23 produces asymmetries in the order flow and quoted depth.
24 You're, basically, distorting how traders trade. If they're
25 short sellers, they're going to be passive liquidity

1 providers at the ask.

2 It may also have an effect on spreads and on
3 volatility, a dampening effect. Short sellers are trying to
4 be competitive trying to get order flow.

5 By contrast, short sellers on Nasdaq, they are
6 allowed to use marketable limit orders, and they can still be
7 compliant with the rule. So they have a more natural mix of
8 liquidity provision and liquidity demand, passive and active
9 strategies; hence, we believe that there will be much less of
10 an effect on market quality on that rule. That would be our
11 hypothesis to start out with.

12 Moreover, for Nasdaq listed stocks during the
13 sample period, several market venues, including Archipelago,
14 did not enforce the bid price test, which, of course, means
15 it's likely to have a smaller effect on the markets.

16 So let me get into talking about our results. I'm
17 going to be very aggregate here, and when I talk about the
18 results it's going to be just histograms, go quickly through
19 it.

20 But the first question you may ask, if the bid
21 price test and the uptick rule restricted and made it harder
22 for short sellers to trade, then, of course, we would expect
23 a change or increase in short selling when you take those
24 rules away.

25 And here are the results for the change in short

1 sales as a proportion of trading volume. You see on the
2 left-most graph the pilot and the control sample of stocks.
3 And as you can see there is an increase of about -- a small
4 increase, .9 percent, and it's statistically significant for
5 pilot stocks.

6 By contrast, during the same sample period for
7 control stocks there is actually significant decline of about
8 1.6 percent in short sale activity.

9 The right-most column shows that both pilot and
10 control stocks for Nasdaq experienced an increase in short
11 sale activity. However, the increase for the pilot stocks is
12 statistically significant and larger than those for control
13 stocks.

14 So we concluded from this it seemed at least on the
15 margin that short sales, by comparing pilot and control
16 stocks, we can see that there is a larger increase for pilot
17 stocks. It seems that there was some small effect of the
18 rule.

19 The second set of hypothesis that we are going to
20 test is to see -- I talked about the uptick rule, and I said
21 that we would now have a more natural order flow on the NYSE
22 from short sellers.

23 As a result, we anticipate that quote and order
24 flow asymmetries may disappear. We also believe that because
25 short sellers can use more active strategies we may see a

1 marginal effect on quoted and effective spreads, that being
2 that they widen.

3 And finally, as a result of having less of this
4 shadowing of the last sale by short sellers, we may see
5 effects on short-term volatility, an increase. By
6 comparison, we don't expect to see much on Nasdaq, as I
7 already explained.

8 I'm going to continue with my histograms here. On
9 the left, we have pilot stocks. On the right, we have
10 control stocks. These are NYSE asymmetries in order flow.
11 What you see with the blue bar is the pre-period, and the red
12 bar, which almost disappeared for the bid imbalance, is for
13 the post period.

14 And just visually what you see something quite
15 dramatic happened for pilot stocks. Nothing much happened
16 for control stocks. What is it that happened? The first
17 measure is the bid imbalance. That is the proportion of
18 total quoted depth in a stock on average that's on the bid
19 relative to the sum of the bid and the offer.

20 And you see it's negative. That means that there's
21 an unusual thickness in the ask quotes. There's too little
22 by about 10 percent or 11 and a half percent on the bid
23 relative to the ask.

24 The second measure is the buy imbalance. It says
25 that, on average, about 9.5 percent of order flow in pilot

1 stocks executed above the midpoint, on average. This is the
2 bias I told you about, the asymmetries we anticipated
3 occurring due to the tick test.

4 And as you see, they completely disappear after you
5 remove the uptick rule for NYSE stocks. By contrast, on
6 control stocks, you see that there is an exacerbation of the
7 asymmetry over the same sample period.

8 By contrast, moving to Nasdaq there's really not
9 much of an effect. The asymmetries were there. There were
10 some changes, but it's much, much smaller, and there is no
11 significant difference between pilot and control stocks.

12 What most of you perhaps are more interested in
13 than these asymmetries, which I, by the way, believe are the
14 first effects of the rule, is what happened to trading costs.

15 And what we did, we looked at several measures.
16 I'm going to produce two here, quoted spread and effective
17 spread, same pattern of graphical illustration as before.

18 And you notice that there is actually -- a star
19 indicates significance -- a significant increase in quoted
20 spreads for NYSE pilot stocks between the pre- and the post
21 period by about 0.6 basis points. It's small, but it's
22 statistically significant. And we also have a tiny but
23 insignificant increase in effective spread.

24 Now, this is the beauty of having the control
25 stock. We need to see maybe all quotes widen for NYSE

1 stocks. However, that's not the case based on the experience
2 for control stocks, which instead experienced a slight
3 decline.

4 On Nasdaq, same illustration. You see no
5 significant increase. In fact, there is no change at all for
6 quoted spreads. Effective spreads actually decline
7 significantly for pilot stocks. However, that's the case
8 also for control stocks.

9 So in order to make sense of these results, we have
10 to figure out relative to control stocks how was the
11 experience for pilot stocks. We do that in a regression
12 setting, and these are the results summarized from that.

13 So what our analysis suggests is that pilot stocks
14 experience a significant change in bid imbalance of about 12
15 percent and buy imbalance of 10 percent. Those are big
16 numbers.

17 By comparison, the effect on spreads and effective
18 spreads are smaller. However, the NYSE stocks experienced an
19 increase in quoted spreads of .18 cents or .89 basis points,
20 and the effective -- excuse me -- half spread there, so it
21 should be double. To be comparable it would be .14 cents or
22 .58 basis points relative to pilot stocks. But there is no
23 significant change for Nasdaq pilot stocks relative to
24 control stocks.

25 The final thing that we examine are the effects of

1 the rule changes on volatility. Here is the quagmire. There
2 are so many ways to measure volatility, and we produce a lot
3 of different measures in the paper.

4 I wanted just to highlight a few here illustrating,
5 sort of, how it works to help you, kind of, gauge the impact.
6 So the first thing is I'm going to use five-minute quote
7 variances and semi-variances.

8 I apologize if this graph is a little difficult to
9 understand, but let's look at the left-most panel. You have
10 pilot stocks. On the left-hand side, you have what happens
11 to the bid. The center two columns there is what happens to
12 the bid quote returns.

13 You see there is a decline from the pre to the
14 post. The right-most in the left panel is offers, what
15 happened to the ask side of the market. Also there the
16 highest bar suggests there is a decline.

17 Same thing happens with control stocks. So for
18 both control and pilot stock there's a reduction in
19 volatility both at the bid and the offer. But the thing that
20 most people have been concerned about is not volatility per
21 se; it's downside volatility.

22 Letting those short sellers loose will make them
23 pound down on the bid and, hence, increase volatility on the
24 down side. We do not see that. I have blocked in pink what
25 happens to the volatility, which is just the downside

1 volatility from the bid. And, in fact, that's reduced both
2 for pilot and control stocks, and the reduction is
3 significant.

4 We see much of the same evidence for the
5 NYSE -- I'm sorry, for Nasdaq, a significant reduction for
6 both sub-samples in five-minute volatility and a reduction in
7 downside volatility at the bid.

8 But again we have the problem of the volatility
9 measures moving in the same direction, so we need additional
10 analysis to conclude whether the experience of pilot stocks
11 were different from that of control stocks.

12 And what we do find is yes, if I measure it
13 carefully, this seems to be a statistically significant
14 increase, although I don't know how economically relevant it
15 is in the trade-to-trade return volatility, also in our
16 measures based on quotes. I measure it both on quote updates
17 and 5-minute and 15-minute returns.

18 The measure that's I think interesting to note is
19 that in the offer quote update -- so I'm measuring every
20 quote update and the returns and then calculate the
21 volatility based on those quote updates -- there is actually
22 an increase in the offer quote on the ask side that's
23 statistically significant but not in the bid.

24 So there's not more downside volatility, and the
25 bid volatility per se does not change for pilot stocks

1 relative to control stocks. Again, for Nasdaq stocks there
2 is no effect.

3 So what do I conclude from our experiment here?
4 Well, it seems clear to me that the NYSE uptick rule
5 restricts short sale order strategy significantly, and the
6 rule forces short sellers to use passive limit order
7 strategies.

8 And that is what causes these asymmetries that are
9 quite stark and also on the margin depresses spreads and
10 reduces volatility.

11 But I highlight that this bias in favor of passive
12 short sale orders and long limit sell orders it hurts some
13 market participants. It hurts limit sell orders that are
14 long, because -- and also especially liquidity providers as
15 short sellers are trying to actually catch an uptick to
16 actually get a trade.

17 It also, of course, helps some market participants.
18 It actually helps market buy orders to the extent that short
19 sellers are more aggressive in their posting of limit orders
20 than they otherwise would be.

21 Of course, the bias against active short sell
22 market sell orders by limit short sellers also hurt some
23 market participants. It hurts limit buy orders, liquidity
24 suppliers on the buy side who see their order flow coming to
25 them reduced, and it helps market sell order submitters

1 because they are facing less competition.

2 Now, by comparison, the Nasdaq bid price rule has a
3 very limited impact on the measures that we have calculated.
4 The rules already permit, when in force, the short sellers to
5 use much more active strategy than the uptick rule did

6 And we, as a result, see a more natural combination
7 of active and passive strategies on behalf of short sellers.
8 As another side note, of course, we didn't expect the effect
9 to be very large given that there are market venues where you
10 can trade without complying with the rule.

11 So what would be my recommendation based on my
12 finding -- well, based on, I should mention, other work that
13 I have as well we found that short sellers on average are
14 contrarian. They seem to trade on deviations of price from
15 fundamentals.

16 So based on that what I would say is I would
17 recommend the SEC eliminates and the exchanges the uptick
18 rule and the bid price rule. I feel that it unnecessarily
19 distorts how short sellers trade.

20 And these distortions hurt some market participants
21 and helps others, and it's not clear to me that that was the
22 intention of the rule itself and byproduct may discourage
23 liquidity provisions. Thank you.

24 MS. EDWARDS: All right. Thank you, Ingrid. Now
25 discussing, I guess, how reliable some of these results are

1 and what they mean is Paul Irvine.

2 MR. IRVINE: Well, it makes me nervous to sit down
3 and talk to people, so I'm going to try standing. If you
4 can't hear me, let me know.

5 Well, a lot of people on the panel seem to be
6 encouraging the Commission -- I want to thank you very much
7 for inviting me today -- to get rid of the rule, to dump it.
8 And I totally agree, but I came to the conclusion after
9 reading this paper that not proven based on this work.

10 So I'm going to try to explain why I think that
11 way. This is a tree. Now, I think Ingrid has done an
12 excellent job of analyzing the tree. And the tree is what
13 happens in the pilot stocks when you get rid of the rule
14 under normal trading conditions.

15 So I'm going to talk a little bit about the
16 analysis of the tree. I have no problems really with the
17 methodology. As Ingrid mentioned, you rarely get such a good
18 control sample and event sample, and so I think everything is
19 pretty much straightforward in the methodology, and the study
20 of the tree is fine.

21 But you wind up with a lot of statements like the
22 following: "We find a significant increase in quoted spreads
23 from 2.937 to 3.042 cents." So I went and talked to a friend
24 of mine who works on the buy side, and I read them that
25 sentence.

1 And he said, "Do you think that's a significant
2 increase in spreads?" And he gave me a strange look like
3 where you been the last ten years. That spread has been all
4 over the place. And I think that's what, kind of, the paper
5 reads like.

6 You've got a lot of these conclusions that you
7 wonder about the economic significance, and I think Ingrid
8 recognizes that when she talks about the next thing, which is
9 the ask depth puzzle.

10 I'll tell you I first found this -- this is data
11 from Toronto Stock Exchange here, and it really has to
12 do -- which I made a little bit bigger, but in the box you
13 can see if you've got the presentation in front of you the
14 ask depth is much higher than the bid depth, and this counts
15 depth all the way through the book. This is total limit
16 order book depth.

17 I said that's an interesting puzzle. I wonder why
18 that is. How come short sellers use more limit orders than
19 market orders? So every time I met someone or read a paper
20 that was looking at a different market like Hong Kong,
21 Australia or Paris or New York I would ask them this
22 question. "How come there's more -- did you find more ask
23 depth as well?"

24 And they all said yes, which has a lot of
25 implications, as Ingrid found, for this measure of how much

1 buy activity there is, this buying order imbalance.

2 So what I really like in this part of the paper is
3 that this is the first explanation that makes sense and I
4 totally buy it, seems to solve this puzzle. I think it's a
5 big deal.

6 It's a big deal to me, because I didn't know the
7 answer for eight years, and I'm willing to buy this argument.
8 So I really like that in the paper.

9 The other thing, though, I want them to work on is,
10 you know, it was really hard to tell -- and I think maybe
11 we've talked to Frank a little bit about this, but I totally
12 bought the arguments for what's going to happen to the ask
13 depth and the buy imbalance on the New York Stock Exchange.

14 And they're a little unsure in the paper what they
15 want to say about the Nasdaq, whether they want to say
16 whether those results should just be smaller or possibly
17 reversed.

18 We can talk about this a little bit more, the
19 specifics in the paper, but if you look at the boxes again
20 what I'd like to buy -- what I buy is that the results should
21 be weaker on Nasdaq.

22 So all these coefficients should have the same sign
23 but not necessarily significant. Five Nasdaq coefficients
24 have a different sign. I want -- challenge the paper to work
25 tighter and explaining to me what's going on in the

1 Nasdaq. You can say, well, you know, nothing
2 significance, doesn't really matter, but I think the paper
3 could be improved if it just worked on tightening up the
4 Nasdaq explanation a little bit.

5 I want to encourage the paper very much to go back
6 into the forest and chop down a couple more trees, because I
7 thought there's at least two or three issues out there that
8 are fundamentally important and really add to the impact of
9 the paper.

10 The first question that struck me is, kind of, who
11 the heck is doing all this shorting? The paper is coming up
12 with numbers like 25, 30, 35 percent of market volume is
13 short sales, and I don't know who's doing it yet, and I want
14 to know.

15 So I asked Charles, who is an expert at all these
16 things, and he said hedge funds. And I thought about this,
17 and yeah, I believe it.

18 But you know, if hedge funds were doing all of this
19 shorting, they would have to have strategy that would close
20 out, I am convinced, within the day. Otherwise, the relative
21 level of short interest in the market would have risen, you
22 know, much, much faster than it has.

23 So you have, I think, out there a whole bunch of
24 hedge funds that have these really short strategies -- short
25 close, short close, short close -- wolverines on speed, or

1 something, at the trading desk.

2 But it explains a lot of the cause I was getting
3 the interest that hedge funds have in a lot of microstructure
4 and a lot of trading strategies.

5 So I bought it that there are a lot of hedge funds
6 trading, but I wondered it was enough. So I went back to
7 Toronto again which had at this time, and still does for that
8 matter, a tick test rule on shorting.

9 And I had some very interesting data that pulled
10 out of the archives here. Just ignore the classifications.
11 The important thing is in the two boxes and the
12 classifications of traders here.

13 These are client orders, so they come from regular
14 order clients. It's who do they execute against. So about
15 30 percent of the time those client orders are executing
16 against market makers and around 25 percent of the time
17 against professional trading desks and the rest of the time
18 against other clients.

19 So in this market, anyway, market makers are
20 trading enough to explain these 30 percent short sale levels
21 if they're using short sales that much. And I know there's
22 people in the audience that can probably answer that question
23 for us.

24 But it seems to me that the optimal thing for the
25 market maker to do might be instead of holding a large

1 inventory when somebody comes with a buy to sell to them, you
2 know, if somebody comes to the buy, just short it, just
3 borrow it. It lowers your inventory cost.

4 So I would still like to know the question of who
5 is doing all this shorting.

6 The other thing that struck me about the paper was
7 the question of volatility and particularly -- and I got the
8 impression again from talking with Charles and looking at his
9 paper, that the rule came in as a concern about the overall
10 volatility. What effect would this tick have on the
11 volatility in the market?

12 So I don't think that these 5- and 15-minute
13 volatility tests get to the issue for me, and that's because
14 I think the real concern is what happens in periods of
15 unusual volatility? What happens then? Does having the
16 downtick rule exacerbate any price declines in the market?

17 So I thought about that a little bit and what it
18 meant, and I thought, well, what does it matter. You have
19 idiosyncratic volatility. In other words, what happens when
20 one stock is crashing? Is the tick test going to matter?
21 Are there any costs to that in the first place?

22 Well, there could be. There is this argument that
23 retail traders might panic. It has been disputed in the
24 literature. I've seen papers on both sides. So I guess it's
25 possible that they may make sub-optimal decisions because

1 they panic.

2 What about lawyers? Stock goes down you get sued.
3 So there's definitely indirect costs of lawsuits from
4 idiosyncratic volatility, and there has also been some recent
5 work that's very interesting on some overall capital costs
6 related to idiosyncratic volatility.

7 So I convinced myself that yeah, it's possible that
8 there are real costs from idiosyncratic volatility, and if
9 the removal of this rule makes those costs higher, then we
10 could care about that.

11 So the first thing the paper does in its
12 methodology is to drop the open. That's just when all the
13 neat stuff's going on. And I understand why they did that
14 methodologically, but I think in general -- and I think this
15 is very doable -- what I want to know is, kind of, not what's
16 going on in the uptick rule when we have normal trading
17 conditions, but what about, you know, when the stock is down
18 20 percent already that morning?

19 Everybody is running around the floor with their
20 pants on fire. I want to know what happens then? Is there
21 an effect from having the rule in or out then? I think
22 that's a doable thing and a testable thing and I think would
23 add a lot to the paper.

24 The last thing is probably not testable, thank
25 goodness, but I thought I should mention systematic

1 volatility, which I always hear a lot about in Washington and
2 never elsewhere.

3 So I thought about -- well, like Frank, I was on
4 the floor in '87, but I lived through it as well. I was on
5 the trading desk of an investment bank, and the market was
6 down 20 percent, and our stock was down about 55.

7 And I was thinking about what would happen for
8 this -- what the Commission really wants to know is this rule
9 going to exacerbate, kind of, that systematic volatility?
10 Could it create a problem? That's the big issue.

11 And my conclusion is no. I don't think it will,
12 because what's going to happen if you have no tick test? You
13 can imagine the conversation between a brokerage firm and a
14 specialist on that day would go something like this:

15 The broker comes and says, "Well, I want to short
16 this particular stock, and I don't have to worry that the
17 market is down 20 percent because there is no more uptick
18 rule."

19 So the specialist goes, "Okay. That's fine. I'll
20 let you short, but do you have a locate?" "Well, sure I got
21 a locate. No problem at all." Well, maybe you do and maybe
22 you don't.

23 But the specialist says, "Look, this stock you want
24 to short is down 40 percent, and there's no buyers anywhere."
25 So the broker says, "Okay. There's no buyers, but you,

1 according to the rules, have to take the opposite side of
2 that transaction."

3 The specialist is going to react with, "Yeah. I'll
4 get right back to you on that, but first I have to take a
5 smoke break." I know you can't write a smoke break into the
6 rules, but that's, essentially, what the exchange has done.

7 If the market goes down 10 percent, we're all going
8 to take an hour smoke break. And as I have no more time I
9 think I'll go take a smoke break, too. So thank you.

10 MS. EDWARDS: Thank you, Paul. Now we have a
11 second pilot paper. We're going to hear from Gordon
12 Alexander.

13 MR. ALEXANDER: First of all, I'd like to thank the
14 people at the SEC that are responsible for putting on this
15 roundtable, and I'd also like to thank the people that
16 invited us to come here and present our work.

17 My work is joint work with a colleague who spent
18 time at the SEC when I was here, Mark Peterson. Let me begin
19 by talking a little bit about what Mark and I found in a
20 paper that we published in 1999 about short selling.

21 Actually, it involved work that we had done while
22 we were here at the SEC, and we had access to order data from
23 the New York Stock Exchange, which allowed us to do an
24 in-depth study of short selling.

25 First of all, it was rather surprising to see how

1 large a percentage of sell orders are short sell orders. As
2 you can see there's roughly 23 percent of all sell orders are
3 short sell orders, a surprisingly large percentage.

4 The second thing we noticed is that limit orders
5 constitute a large portion of those short sell orders.
6 Regular sell orders limit orders are only used about
7 two-thirds of the time; whereas, with short sell orders,
8 limit orders are used 80 percent of the time.

9 As we can see, we also found out some interesting
10 things about these short sell orders and their execution.
11 Short sell orders are much more likely to receive price
12 improvement than a regular sell order, but there's a cost to
13 that, and the cost is loss of immediacy.

14 These orders don't get executed as quickly as
15 regular sell orders, and we're talking about across a span of
16 orders, whether it be market order, market limit, quote
17 improving or at the quote limit orders. All kind of short
18 orders get executed more slowly than regular sell orders.

19 We also found out that short sell orders were much
20 more likely to be canceled or to simply go unfilled and
21 expire than regular sell orders.

22 The reason for that is because of the uptick rule.
23 Marketable limit orders, market short sale orders cannot
24 execute at the bid. Even though the short seller might want
25 them to, they can't.

1 Often, limit orders that are placed between the
2 quotes cannot be executed right away. Even ones that are at
3 the quote cannot be executed right away. They're all held up
4 because of the uptick rule.

5 This is actually consistent with what you'd call
6 the ask puzzle. We found, if you looked at our table from
7 our 1999 paper, it's quite clear this is what's driving the
8 fact that the depth at the ask is larger than that at the
9 bid.

10 This is from the SEC's release about Reg SHO, about
11 its stated intentions, and we intend to examine these various
12 items. First of all, what we decided to do was to compare
13 May with April of 2005; that is, Reg SHO became effective on
14 Monday, May 2nd, so all of May is going to be our post
15 period. All of April is going to be our pre-period.

16 Now, there are a variety of questions you might
17 ask. Isn't this too short a sample period? Don't you allow
18 for some -- shouldn't you allow for some learning to take
19 place?

20 Well, I can tell you that we've redone everything
21 using January through April as the pre-period and May through
22 August as the post period, an eight-month time period. We've
23 done it including all the trades, every trading day in that
24 time period.

25 We've excluded a week before and a week after Reg

1 SHO took effect. Everything seems to hold. It doesn't seem
2 to make a difference how long a time period, whether you
3 include or don't include the period right around the
4 immediate start of Reg SHO. Results are quite robust.

5 Now, what we did is, first of all, we insisted that
6 stock must be trading every day in both months to be in our
7 sample. What we're going to do is we're going to set up a
8 control sample where we're going to match pilot stocks with
9 non-pilot stocks.

10 We're going to start off by saying, okay, we're
11 going to match them by industry, two digit SIC codes, and
12 also we were concerned about the presence of options, which
13 turns out not to be an issue, but we didn't know that in
14 advance.

15 So we required every match of a pilot stock with a
16 control stock not only to be in the same industry but have
17 the same option status; that is, did it have listed options
18 being traded or not. So that, first of all, limits our
19 sample down some.

20 We did this for each one of five measures,
21 financial measures, which I'll get into shortly. We
22 calculate -- as you can see here, we calculated a Z score,
23 which, basically, matches the difference in a financial
24 variable between the pilot and control, and you want to
25 minimize that difference; for example, price.

1 You don't want to have a low priced stock for a
2 control match with a high priced stock for a pilot even
3 though they both are from the same industry and they have the
4 same option status.

5 So what we're going to try to do is minimize the
6 difference. We can't make the prices to be exactly the same,
7 but what we can do is try to make the difference between
8 those two market prices as close as possible.

9 We're going to do that for five different
10 variables, and we're going to look at the sum of the Z
11 scores; that is, the differences between the control and the
12 pilot stock, and we're going to look at that sum total, and
13 we're going to try to minimize -- set up our sample so that's
14 minimized.

15 And then, after we've done that, we're going to
16 take the 50 percent stocks that have the tightest matches.
17 We've also done it with the 25 percent that have the tightest
18 matches. Results are exactly the same. No differences.

19 The five variables that we matched on, first of
20 all, price and volume, we thought those were important
21 variables.

22 And secondly, people who do studies of portfolio
23 performance or, basically, any other kind of financial
24 studies involving returns try to match stocks on three
25 variables based on a study by Daniel, Grinblatt, Titman &

1 Wermers, trying to match stocks on market capitalization,
2 book-to-market ratio and momentum in stock returns.

3 So we match on those three dimensions also in
4 addition to price and volume. And this table here shows you
5 the Z scores, the composite Z score for each one of the five
6 variables and the aggregate Z score.

7 Basically, what this is saying is that we have a
8 very good fit between our pilot and our control variables.
9 For example, if you look at price, the average difference
10 between the price of the control and the test sample is
11 \$1.33, very close when the average price is roughly \$40.

12 Market cap is 6.66 billion for the pilot, 6.79 for
13 the control, very tight fits, basically, on average between
14 our pilot and control.

15 So we're going to take a subset of the 3,000 stocks
16 in the Russell 3000, and we're going to do this matches, and
17 we're going to end up with 226 stocks for the New York Stock
18 Exchange and 183 -- 224 for NYSE, 183 for Nasdaq in our
19 sample all matched on these five dimensions.

20 Now, how are we going to do our analysis? Well, we
21 can't simply compare pilot pre with pilot post, because there
22 could be changes taking place in the marketplace, and indeed
23 there were.

24 Comparing April and May, we have a bear market and
25 a bull market, basically, in these two months. So you can't

1 simply compare pilot pre and pilot post.

2 So what we want to do is we want to compare the
3 difference in the pilot over that time period on any
4 particular characteristic post minus pre with what happened
5 in the control post minus pre. So we're looking at a
6 difference in differences is what we call it.

7 It turns out it's very similar to the regression
8 model that Ingrid and company were using in their paper.
9 It's a little bit different. We're using a parametric and a
10 non-parametric test here when we look at the difference of
11 differences.

12 The very first thing we decided we wanted to look
13 at is we wanted to see how did the market react when news of
14 this pilot study was made. What happened to the prices of
15 the stocks that were going to have the uptick rule suspended?

16 Did the market think that, oh, this is going to be
17 bad news for these stocks, going to likely be more bear raids
18 on these stocks? Is somehow or other this going to depress
19 stocks because of the fear that there are going to be
20 raiders, or something bad going on?

21 Well, as you can see here -- and unfortunately, I
22 brought my laser pointer, but it doesn't do me much good
23 here. I could point at the screen and show myself what I'm
24 looking at, but there isn't any screen behind me to point to.

25 But if you look here, it's the right-hand column

1 that you see, the extreme right-hand column that's the key.
2 That's the difference in the differences. It tells you how
3 different was the change from April to May for the pilot
4 stocks versus the control stocks.

5 On the extreme right-hand side is for Nasdaq, the
6 three columns, and then the three in the middle -- I'm sorry,
7 on the left or from NYSE.

8 So here the market, basically, said this
9 is -- reacted with a collective yawn to the announcement of
10 the pilot study. There's no reaction on the announcement
11 date. There's no reaction around the time when the program
12 was initiated.

13 And if you look collectively April versus May
14 there's no effect. It's a collective yawn. The market said
15 there's nothing here that's surprising us or alarming us or
16 causing us to be concerned.

17 Next we looked -- a lot of what I'm going to be
18 saying is -- Ingrid was mentioning before using the word
19 shadow. Well, in a lot of ways, I'm going to be her shadow
20 today, because what I'm going to be saying is going to be
21 very consistent with everything that she said here with a
22 couple of exceptions that I'll point out to you.

23 And I also could say that I also feel I've heard my
24 discussion already, because a lot of Paul's comments are
25 applicable to me, too.

1 But here we go. First of all, we're looking at
2 what happened to short trading volume? Was there any change?
3 No, not on NYSE, not on Nasdaq. Was there a change in the
4 number of short trades? Well, yes, there was. There was a
5 notable increase in the number of short trades on New York
6 Stock Exchange, nothing big going on in Nasdaq.

7 Is there a change in the number of -- in the
8 average short trade size? And yes, we find that the short
9 trade size dropped significantly on the NYSE, no effect on
10 Nasdaq. In general there's no effect anywhere with regard to
11 Nasdaq throughout all of these results, which is again
12 consistent with what Ingrid said.

13 This made us think right away what's going on here?
14 Is there order splitting going on? It is well documented
15 both theoretically and empirically that large informed
16 traders often try to disguise their trades by splitting them
17 into smaller size orders and then having them executed.

18 Now, if you were facing the uptick rule, you really
19 lose immediacy. So there really is no reason to try to hide
20 your trade, because you're going to get executed with a
21 notable delay with your order

22 But now your order on the pilot stocks can be
23 executed much more quickly. So now you do want to try to
24 disguise your trade, because you're going to want to take
25 your large order, send it in in several smaller sizes, get

1 them executed before the market gets wind of what information
2 you have that is causing you to make those trades

3 So first thing we thought is this possibly the
4 actions of stealth traders behind these changes? More number
5 of trades, shorter trade size is going on on the NYSE. I'll
6 come back to this later.

7 Volatility. We looked at volatility a lot of
8 different ways, some of them different from what Ingrid did,
9 some of them very similar to what she did. We didn't find
10 any change in volatility.

11 One thing that we did do because of our setup with
12 matched pilot and control stocks -- it also doesn't show
13 here, but it's in the paper -- we also look at the implied
14 volatility of the options on the stocks in the pilot versus
15 the control sample.

16 Was there a significant change in the implied
17 volatility of the pilot stocks relative to the control
18 stocks? We found none. We did not find a significant change
19 in implied volatility.

20 So no matter how we slice this -- there's three
21 actually other tests that are not shown here that we looked
22 at. We looked at residuals, residuals from a three-factor
23 model, residuals from a capitalize pricing model, volatility
24 of those residuals. We couldn't find any change in
25 volatility whatever.

1 This is one place where we differ from Ingrid. But
2 I guess what I would say, given that her differences were not
3 economically significant, I guess is the way I would
4 characterize them, it's not surprising that -- it's not
5 terribly surprising that we might find something a little bit
6 different here.

7 Next we decided to look at some measures of market
8 efficiency. Some people have said you should look at the
9 auto correlation of stock returns. Is there a significant
10 change in the auto correlation of stock returns? And we
11 find, basically, none.

12 Some people have suggested looking at upside minus
13 down side R squared. That is, how closely related are stock
14 returns to market returns when prices are moving up versus
15 when prices are moving down? And again, no notable change.

16 Again, there doesn't seem to be any change in
17 market efficiency here with the pilot stocks.

18 We also looked -- one other things we looked at
19 were price runs, because this is something that going way
20 back to the '30s I believe was a concern of the SEC about
21 price runs.

22 What we did here -- this is somewhat of a
23 complicated table. What we did is for every short order what
24 we then did is we looked and said, okay, what's the
25 probability that the next order is at a price decrease? So

1 that's what P1 says, the probability of the next order being
2 at a price decrease after the short order.

3 And there is no difference between what happened
4 with the pilot stocks versus the control stocks. So there is
5 no sense that there is a short order immediately followed by
6 another short sell order. Same for Nasdaq.

7 Now, P2 says, okay, let's imagine you've had a
8 short order followed by another sell order that price went
9 down on. Is there another one where the price went down on?
10 And again we see only a small evidence of a change there.

11 And then P3. Okay. Let's see, what's the
12 probability of having a price decrease if you've had two
13 consecutive price decreases? And again there is no change
14 here either.

15 So there didn't appear to be any evidence that
16 there's increased tendency for price runs to be taking
17 plagues for the pilot stocks in May relative to those in the
18 control stocks. And Nasdaq again a collective yawn.

19 I'll skip over price increase results here in the
20 sake of time, because they're not quite as important.
21 Liquidity. We looked at quoted spreads. Similar to what
22 Ingrid found we found that quoted spreads increased on the
23 NYSE on the pilot stocks relative to the control stocks
24 albeit by a small amount, 5.5 percent.

25 And actually, it's also true whether you look at

1 quoted spreads or relative spreads where you standardize by
2 price.

3 Then we went and looked next at depths. And as you
4 can see here we do find that there is a change in -- a
5 significant change in both the bid and the ask. The bid
6 is -- the depth at the bid is slightly smaller for the
7 control stocks, but the ask is really 30 percent.

8 It's a much greater drop relative to control
9 stocks, 30 percent larger drop relative to the control stocks
10 on the ask side. And that's not surprising because now we
11 don't have all those short orders going in at the ask backing
12 up that depth that would have been happening with the uptick
13 rule.

14 We also looked at the bid/ask ratio, which is the
15 last line here, and it's also consistent with what I just
16 said, some change in the bid but a huge change in the ask.
17 And again, Nasdaq, nothing going on there.

18 We also looked at effective spreads, which is where
19 we differ. We did find that there is a change in effective
20 spreads, but it's just not statistically significant, nor is
21 it economically significant.

22 We have some concerns about looking at the
23 effective spreads, because in order to measure effective
24 spreads you need to assign trades; that is, you need to
25 decide what the trade was buyer initiated or seller

1 initiated.

2 And we know that most short sales with the uptick
3 rule are going to be buyer initiated because of the uptick
4 rule. So a measure of effective spread is somewhat
5 problematic, but nevertheless we present it here.

6 Panel B, the price location of short sales, is much
7 more meaningful. This measure here is telling you what price
8 was the short sale executed at relative to the midpoint of
9 the spread? A positive number would mean it's being executed
10 above the midpoint. A negative number would indicate it's
11 being executed below the midpoint.

12 And as you can see here, first of all, NYSE, in
13 April, just like the control stocks, executing well above the
14 midpoint. But then, in May, the control stocks don't change
15 much, but the NYSE stocks are executed much closer to the
16 midpoint.

17 So you can see here short sell orders being
18 executed above the bid but after the pilot being executed
19 close to the bit. Nothing big going on here notably
20 significant for Nasdaq.

21 This just, basically, supports what I was saying.
22 We see that there's a -- what's happen is there's an
23 increased possibility for the pilot stocks having their short
24 sale orders be executed at the bid than they were in April.

25 The last line in this shows the price impact of

1 short sell orders, which is what I wanted to come back with.
2 If you notice, in the last line you'll see positive numbers.
3 What this is all showing is that the midpoint of the quote
4 five minutes after the short sale order jumped notably in May
5 relative to April.

6 So there's a much bigger price impact of short
7 orders in May than in April. No big deal on Nasdaq. We did
8 the same analysis using a multi-variate regression equation,
9 same results.

10 But the bottom line on that made us think, okay,
11 what's going on here is this makes us think that there is
12 something going on with this order splitting by informed
13 traders.

14 Informed traders now have immediacy. Informed
15 short traders now have immediacy. They can place their
16 orders. They're disguising them perhaps by splitting them
17 into smaller orders, and they're having an impact -- their
18 information is getting impacted into prices much more quicker
19 than it would have otherwise.

20 So in conclusion, all of our results are really the
21 same as what Ingrid was saying with the exception of we
22 didn't find volatility increase . We did not find volatility
23 changed on NYSE. Nothing seems to be going on at Nasdaq.
24 This just doesn't seem to be a very effective test at all
25 there.

1 We went in thinking that with the ability to use
2 options and derivatives of one sort or another that really
3 the uptick rule and the bid test were not very useful
4 anymore, and we still continue to have that belief. And we
5 would share Ingrid's recommendation that they be done with.
6 Thank you.

7 MS. EDWARDS: Thank you. And our last discussant
8 is Adam Reed.

9 MR. REED: Thanks, Amy. I'm here to discuss the
10 paper "How Do Price Tests Affect Short-Selling?" The basic
11 of the paper is exactly what the title says. It's to look at
12 how the price tests effect short selling.

13 As we've seen here, Reg SHO temporarily suspended
14 the price tests for a set of pilot stocks, about 1,000
15 stocks. The goal of this study is specifically to look at
16 the date of the change, just a two-month period and see
17 exactly how things changed right around that rule change.

18 The study's design is a pure apples-to-apples
19 comparison. It's a very robust study in that sense with a
20 simple methodology that's robust in all sorts of
21 misspecifications errors.

22 Before I continue talking about the paper, though,
23 I think maybe I should take a step back and ask what we
24 should hope to learn from this paper and the previous paper.

25 And, sort of, my framework for thinking about this

1 and for the rest of my discussion is going to be to look at
2 the motivation of the SEC when it first adopted Rule 10a-1
3 and the three primary motivations.

4 The first motivation was to allow unrestricted
5 short selling in advancing markets. Second motivation is to
6 prevent shorts from driving down prices. And the third
7 motivation is to prevent shorts from accelerating declining
8 markets.

9 So I'm going to, sort of, structure my talk around
10 those three motivations and try to ask the question, first,
11 is short selling easy enough to do in advancing markets?
12 Second, does short selling look like it's driving down
13 prices? And third, does short selling accelerate price
14 declines?

15 And since we are where we are at this stage in
16 history, we can ask a few more questions. Is Rule 10a-1
17 doing anything? Is it doing what we intended it to do or
18 anything at all, and does the market respond to the price
19 test being removed through the SHO pilot?

20 The empirical design of this paper is very
21 straightforward. The first key thing they do is match up
22 every pilot stock with a matching algorithm to a control
23 stock and insist that every pilot stock has a matching
24 industry control and a matching option availability control.

25 And then they, sort of, make a list of best matches

1 to worst matches based on five other characteristics,
2 including size book to market.

3 The paper makes a conservative choice. It says
4 we're not going to take all matches. Unlike the previous
5 paper, we're just going to take the best matches. So they
6 take only about half of the SHO pilot stocks so they can be
7 sure that they have good matches with all the pilot stocks
8 that they do study.

9 So the question, sort of, becomes which stocks are
10 left out? Hard to say. We don't know much about them. And
11 that's why, looking at this paper in the context of the
12 Diether, Lee & Werner paper helps us to flesh out these
13 results.

14 But what may be left out of this particular study
15 are stocks in industries that are relatively small or stocks
16 in industries for option availability is spotty, because they
17 would miss those two first, sort of, insistence criteria.

18 The other thing this paper does is another
19 conservative approach with drawbacks, of course, and that
20 conservative approach is to look at exactly two months of
21 data.

22 The advantage here is that when you look at just
23 two months of data right around the rule change you can be
24 pretty safe when you say nothing else has changed about these
25 stocks. It's only the effect of the rule that's making these

1 results.

2 The other advantage is it avoids the Russell 3000
3 reconstitution that starts in June, and that can be sort of a
4 messy thing. The disadvantage is that these two months are
5 not identical.

6 If you look here, it's pretty clear that April 2005
7 is a declining market, and May is the opposite; it's
8 advancing market. But the study is smart. It has a control
9 stock for every pilot stock. So simple market movements up
10 and down should be washed out in the results.

11 The only potential drawback is if you are willing
12 to say something like advancing markets and declining markets
13 affect pilot stocks differently than they affect control
14 stocks. That's a possibility that we can't say much about
15 here.

16 On to the main results. I think the first result
17 is a result about returns. They find that announcement day
18 returns for the announcement of the pilot and also returns on
19 the day of the pilot's implementation are no different for
20 control stocks versus pilot stocks.

21 Of course, they do find that cumulative returns are
22 negative in April and positive in May, but that's what we'd
23 expect from the, sort of, market-wide graph there. This
24 return result really speaks to Motivation No. 2 of the SEC's
25 Rule 10a-1.

1 Motivation 2 was are these stocks subject to bear
2 raids? Overall returns aren't showing that they are. The
3 returns of the pilot stocks are exactly the same as the
4 returns of the control stocks.

5 According to this study there is no reason to think
6 that bear raids are more prominent in these SHO pilot stocks
7 where short selling is unrestricted in the sense of the price
8 tests.

9 What about volume? Short volume. There's no
10 difference in short volume on either exchange, Nasdaq or
11 NYSE, but if you dig into it a little bit deeper what you see
12 is that NYSE volume starts to take a different form.

13 This is something that was pointed out by Gordon,
14 that NYSE volume takes the form of more frequent, smaller
15 trades. So trades were bundled up more frequently than they
16 were -- more frequently in May than they were in April.

17 Volatility, no differences in this particular
18 study. Of course, that's in contrast with Diether, Lee &
19 Werner.

20 Overall, Motivation 1 of SEC's study was to say
21 short selling unfettered in advancing markets in particular?
22 The volume results here show that there's absolutely no
23 difference. In terms of volume of short selling there's no
24 difference between advancing markets and -- there's no
25 different between pilot stocks and control stocks.

1 So the Rule 10a-1 and the removal of Rule 10a-1
2 isn't changing that Motivation 1. There's no reason to fear
3 short selling and upwards advancing markets is hindered by
4 Rule 10a-1 or will be hindered by the removal of 10a-1.

5 Next up is market efficiency. And market
6 efficiency, the results here, sort of, speak to Motivation 3
7 of SEC when it passed 10a-1. Auto-correlation is probably
8 the strongest connection. Auto-correlation and
9 upside/downside R square there's no difference in those
10 measures for the pilot stocks or the control stocks.

11 So that's, sort of, strong evidence that pilot
12 stocks aren't more subject to shorts contributing to
13 accelerating market declines than other stocks.

14 Interestingly, this paper, sort of, does an unusual
15 thing, and it looks at the price sequences, these five-trade
16 sequences after a short order, and it finds two things.

17 Gordon didn't make too much of this, but it finds
18 that the second trade after a short order is more likely to
19 be a price decrease for the SHO stocks, for the pilot stocks.
20 It also finds that the first trade after a short is more
21 likely to be an increase.

22 So there's sort of a symmetric increase in price
23 runs both up and both down. I'm, sort of, inclined to just
24 write this off as noise, but from the SEC's or a regulatory
25 perspective there's no reason to think that this is a danger

1 with the SHO stocks mostly because auto correlation doesn't
2 show that these stocks are more subject to price runs.

3 Furthermore, if you look at, sort of, a methodology
4 like Christophe, Ferri & Angel, what you see is that when you
5 see a daily price decline it's no more likely to have more
6 short selling.

7 Furthermore, maybe in the bigger picture, if you
8 look at the returns result, what you see is that the pilot
9 stocks have no lower returns than the control stocks. So
10 overall I think not a cause for concern there, but there is,
11 sort of, a symmetric increase in the probability of large
12 run-ups in price and run-downs in price.

13 The paper also gets into market microstructure
14 effects. It looks at spreads, and the finds quoted spreads
15 and relative spreads decrease on the NYSE and Nasdaq for
16 control stocks. So that's, sort of, an unusual result.

17 Pilot stocks stay the same in terms of spread, but
18 control goes down. It's hard to interpret that. The one
19 thing I can think of is that the pilot project revealed that
20 bear raids are less likely than market makers thought.

21 So market makers in the controlled stocks where the
22 10a-1 protect still exist were able to relax, but I'm not
23 going to put too much faith in that story.

24 Depth. No change nor Nasdaq stocks. This has been
25 pointed out a few times. There was an interesting change in

1 NYSE stocks, big depth decreases. But ask depth decreases
2 dramatically from about 1,200 shares on average to about 900
3 shares.

4 This the ask depth puzzle. The authors call this a
5 decrease in liquidity. I wouldn't call it a decrease in
6 liquidity. I would call it a return to normal level of
7 liquidity to two reasons.

8 There's no reason to think that ask depth and bid
9 depth should be exactly the same, but they are the same for
10 the pilot stocks. Ask depth is much deeper for the control
11 stocks.

12 The other reason to think about this is as you
13 think about short sellers they're naturally liquidity
14 demanding. They've been turned into liquidity providers
15 through the provisions of 10a-1. So it's more a return to
16 normal as these natural liquidity demanders are turned into
17 liquidity providers under the rule.

18 Trade prices, basically, showed that execution is
19 better for short sellers now than it was before. Overall,
20 maybe an important question for this audience is can we trust
21 the conclusions?

22 This study is, sort of, robust, and it controls for
23 two different things. It controls for differences across
24 stocks but comparing each stock only to itself. It controls
25 for market differences by making sure there's a good, careful

1 match for all pilot stocks

2 Each one of these controls -- causes certain
3 problems in terms of the methodology. The first is we're
4 only getting 407 out of about 1,000 pilot stocks in this
5 study, and the second is that we're only covering two months
6 of data. It's possible to study 27 months of data eventually
7 in the pilot program.

8 Overall, looking back as, sort of, the motivations,
9 we see the study is showing shorts are broken up. Depth
10 decreases especially on the ask side, and execution quality
11 improves for shorts.

12 So yes, the market was responding to both Rule
13 10a-1 and the removal of Rule 10a-1. If you look to the
14 original motivations there's no evidence that shorts being
15 restricted because volume's the same before and after for the
16 control stocks.

17 There's no evidence that shorts are being subject
18 to bear raids, because returns on these pilot stocks are
19 exactly the same as returns on control stocks. And there's
20 no evidence that shorts accelerate market declines both in
21 evidence from previous papers and evidence from auto
22 correlation and R squared in this paper.

23 MS. EDWARDS: Thank you. We have a few minutes for
24 questions before we break for lunch, and Jamie has the first
25 one.

1 MR. BRIGAGLIANO: Thank you. First, I must note
2 that to the extent Amy and I ask questions we're certainly
3 not expressing views of the Commission. In fact, we're not
4 even expressing our own views because we're just seeking
5 additional information.

6 Along those lines we hope you and your colleagues
7 will be commenters when the Commission issues proposals in
8 the short selling arena and other arenas as well. It would
9 be great to have your thoughts.

10 I thought I heard Frank and Paul suggest that there
11 might be some -- even if one didn't think that a price test
12 was good overall there might be different considerations in
13 extreme market conditions.

14 There is some precedent in both SRO rules with
15 circuit breakers and some Commission actions in connection
16 with repurchases in which temporary rules have been put in
17 place in times of extreme market stress.

18 So I was wondering, first with Frank or Paul, if
19 you thought there was utility for something like a circuit
20 breaker short sale rule, and, if so, what parameters or
21 criteria might be appropriate to trigger such a rule.

22 MR. IRVINE: I think that the SEC should continue
23 to concentrate -- I really like the focus on the locate rule.
24 I think if you really nailed the locate rule, then you're not
25 going to have a -- nobody is going to get a locate in that

1 kind of market. So if you nail that, then I don't think you
2 have to worry so much. That's my comment.

3 MR. HATHEWAY: The markets already have a fair
4 number of provisions with how to deal with unusual events,
5 some regulatory or statutory, some practical to stop trading.

6 General authority has the ability to speak to any
7 type of event or any type of particular type of activity that
8 may be a concern at that point in time.

9 Specific events -- specific authority tells you in
10 advance what you need to get around, not that anyone in this
11 industry would ever do that, but that's a limitation.

12 MS. EDWARDS: In the three papers, it looks like
13 Charles Jones' work paper was the only one that specifically
14 looked at smaller versus larger stocks. I'd like to ask
15 Ingrid or Gordon if they had done tests that just weren't
16 reported in their papers and if they could share any of those
17 results.

18 MR. ALEXANDER: We're in the process of doing
19 exactly that, but we don't have results ready to report at
20 this time.

21 MS. WERNER: I would say the same. We don't have a
22 feeling for that at this point that I could report.

23 MR. BRIGAGLIANO: I guess I'd like to first ask
24 Ingrid I think you've done some work in the UK. Have you
25 ever compared short selling in London versus in the States?

1 MS. WERNER: No, I have not. That data set is
2 from -- that I worked on at the time was quite a long time
3 ago, and the entire trading systems have changed dramatically
4 since then in London.

5 As you may suspect, how markets react to rules like
6 this will depend on the market structure, so that didn't seem
7 to be a reasonable comparison with my old sample. However,
8 with newer data, that would certainly be interesting to look
9 at.

10 MS. EDWARDS: This is really a question for
11 anybody, and I did notice that Adam brought this up briefly.
12 But each of the pilot studies today excluded stocks that
13 might be considered outliers, stocks that might have things
14 that were unusual going on; for example, stocks that didn't
15 make it into the 2005 Russell.

16 And I just wanted to know have you thought about
17 whether these extreme observations are really the interesting
18 observations? For example, one can argue that the real
19 benefits of the price tests come from extreme situations, you
20 know, really bad news coming out about a company or it not
21 making the Russell reconstitution.

22 If this is so, have you really deleted the most
23 interesting results from your test?

24 MS. WERNER: I would, of course, agree that extreme
25 events are interesting. However, when asked what the effects

1 of Reg SHO is, the pilot specifically, I think the first
2 thing you have to do is look at the aggregate or the average
3 results.

4 And our concern is then that we would by including
5 outliers be biasing or making it very difficult to see what's
6 going on on average. That doesn't mean that one should not
7 look at the circumstances that you mentioned.

8 For instance, the rebalancing of the Russell or the
9 down drift days to see if there is more short selling or high
10 priced stocks, for instance, that I ended up excluding, which
11 is mainly, Berkshire, Hathaways of the world that we didn't
12 want in the sample. No offense, but they cause trouble for
13 market microstructure analysis.

14 MR. ALEXANDER: I would say that your comments seem
15 to me to be in line with what Paul was saying earlier. I do
16 think that kind of analysis is called for, but given what we
17 had at hand, as Ingrid is saying, first step let's look at
18 the ones -- in our case, using our methodology the ones that
19 we could match up, and thus we did get rid of these rather
20 unusual cases. But I do think that's called for.

21 COMMISSIONER NAZARETH: Could I ask a question also
22 or perhaps even two? I wondered you had analyzed the
23 different effects of lifting the restrictions on large cap
24 versus small cap or on high priced stocks or low priced
25 stocks, similar to the issue that was raised earlier.

1 And also, did any of you discuss to what you
2 accounted for the differences in the results between the New
3 York Stock Exchange stocks and the Nasdaq stocks?

4 MR. ALEXANDER: One of the things that we want to
5 look at that we're in the process of looking right now is
6 there is a paper that examines lendability. Adam is much
7 more familiar with this literature than I am, since he's one
8 of the lead people in this area.

9 But there are certain stocks that are very hard to
10 lend because they're hard to locate. So one of the things
11 we're trying to do right now is to look at the relationship
12 between various characteristics that are associated with
13 lendability.

14 Usually, they're small cap stocks, low volume, low
15 turnover as a percentage of shares outstanding. We're trying
16 to look and see if there is any differences in this group as
17 a subset that's just masked because it's relatively small in
18 our statistical test and doesn't come through.

19 That's one thing we're trying to look at in that
20 regard. As far as NYSE versus Nasdaq, I'm not quite sure
21 what you meant by --

22 COMMISSIONER NAZARETH: Well, some of the results
23 that were discussed were that the lifting of the short sale
24 restrictions seem to have much less of a statistical effect
25 on the Nasdaq stocks than the New York stocks, but no one

1 discussed why they thought that was the case.

2 MR. ALEXANDER: Let me just mention that there is a
3 working paper out there by Jim Angel, Mike Ferri and a fellow
4 by the name of Christophe who have looked at the bid test on
5 Nasdaq and found that it really was a very ineffective test.
6 And I believe they were working at Nasdaq at the time that
7 they did this study.

8 And given what they did with a rather substantial
9 study it's not surprising that we wouldn't find anything
10 either.

11 COMMISSIONER NAZARETH: Yeah. I agree. It's
12 because the tests were different, and I just don't think
13 anyone had gave that in their earlier presentations. But the
14 tests themselves were so different that it's not -- I would
15 have been surprised had the results not been as different as
16 they were. Thank you.

17 MS. WERNER: I completely agree. I think I was
18 trying to mention that in terms of seeing how the impact
19 would be expected to be of the rules. And I think the way we
20 both focused on was the fact that if the rule is less
21 restrictive as the bid test you allow short sellers to have a
22 natural combination of active and passive strategies.

23 The second thing I think is important to highlight
24 is that we have a very fragmented market of trade, or at
25 least we had. I think some people in this room are looking

1 for it to be more consolidated, but as a result we ended up
2 with different rules applied in different parts of the
3 marketplace for Nasdaq, which also makes it harder to detect
4 the effect of the rule.

5 We are using for Nasdaq or NYSE listed stocks short
6 sales no matter where they are recorded, which I perhaps
7 should have emphasized. For instance, that means that during
8 our sample period roughly half of the short sales are
9 reported in Nasdaq's trading systems; whereas, you know, the
10 rest it reported elsewhere.

11 And you all know the fraction that we're talking
12 about, which, of course, means that we won't find as much for
13 Nasdaq.

14 MR. HATHEWAY: Can I just speak to the smaller
15 issuer question? Getting ready for this panel, I called our
16 issuer help desk, for lack of a better term. "Do you get
17 complaints from firms in the pilot wanting to get out or
18 asking what's going on?" And their answer is nobody asks.

19 Three weeks ago I was in Houston and probably
20 met -- at two big meetings like this with all together over
21 100 issuers and raised this same question. They'll come up
22 afterwards. "Do you have an issue with the pilot?" These
23 are not big companies. And statistically, 1 in 6 should have
24 been in the pilot. This is just anecdotal, but this is what
25 I have to share.

1 MS. EDWARDS: Okay. Thank you. It's about time to
2 break for lunch. We'd like to thank our authors and
3 discussants again for taking the time to share their research
4 and opinions here today. We'll break for lunch now and
5 reconvene at 1 o'clock for the afternoon panel.

6 (Whereupon, at 12:05 p.m., a luncheon recess was
7 taken.)

8 S E S S I O N T W O

9 MR. COLBY: Welcome again all the esteemed scholars
10 that have joined us today to discuss Reg SHO. The papers
11 presented this morning reflect thoughtful and careful
12 examination of the short sell price tests and the pilot data,
13 and we really thank the authors for their efforts.

14 We expect the pilot results will help assist the
15 Commission in determining whether further revisions of the
16 current short sale regulatory landscape are in order.

17 This afternoon we ask the panelists for their
18 opinions on how the Commission should use this empirical
19 evidence. For example, should the Commission eliminate
20 commission mandated price tests for all securities or for
21 some securities?

22 Are the concerns articulated by the Commission when
23 it adopted Rule 10a-1; namely, prohibiting short selling from
24 being used to drive down a market or accelerate a declining
25 market, are these still a concern today?

1 Alternatively, should the Commission adopt a
2 uniform bid test possibly extended to smaller securities for
3 which there is currently no price test, or should the current
4 price tests be left in place, or should they be altered away
5 from large securities to smaller securities?

6 We welcome the opportunity to hear from the
7 panelists on these issues. Chester.

8 MR. SPATT: Thanks, Bob. I thought we had a very
9 interesting morning in which we heard about several studies
10 exploring the consequences of pricing restrictions on short
11 sales.

12 We began with Charles Jones' study of the impact of
13 the introduction of pricing restrictions in the 1930s. We
14 then turned to a pair of interesting studies presented by
15 Ingrid Werner and Gordon Alexander addressing what has
16 emerged in the recent pilot or natural experiment created by
17 the Commission to allow careful examination of the
18 consequences of the removal of pricing restrictions on short
19 sales such as the tick test on short sales.

20 Of course, if traders are confronted with
21 constraints on the circumstances under which they can execute
22 orders when desiring to sell stocks short, they will at least
23 modestly alter their order submission strategies.

24 Consequently, since intermediaries who happen to be
25 short rather than long at a point in time are often the

1 natural suppliers of liquidity there will be potentially
2 slightly less competition on the selling side, and market
3 spreads may be impacted somewhat.

4 Also notice that the nature of the restriction, as
5 illustrated by the tick test restriction on allowed short
6 sales is potentially related itself to the prevailing tick
7 size, which has changed dramatically within the last decade
8 with the move from eighths to sixteenths to pennies.

9 Not surprisingly, so far there is no evidence of
10 material changes in short interest or retention of short
11 positions as a result of the difference in the pricing
12 restrictions, because the pricing restrictions don't have
13 much impact on the long-term cost of retaining a short
14 position as compared to the cost of the underlying collateral
15 requirements.

16 For example, the tick test restriction is just a
17 tiny portion of the cost of retaining a short position. We
18 look to this afternoon's panel for insights about the broad
19 meaning of the evidence on short sales and how we should view
20 this evidence.

21 How do the panelists feel about the value of
22 retaining pricing restrictions on short sales? In the event
23 of a major market dislocation, how costly would be the
24 absence of pricing restrictions? Would it be useful to
25 retain these at least for less liquid stocks?

1 Should the same restriction apply across platforms?
2 Should the same restrictions apply to all traders, including
3 intermediaries? Finally, are there broader lessons from the
4 Commission's Reg SHO pilot that can inform rule-making in
5 other contexts?

6 What circumstances are particularly suitable for
7 informing the rule-making process by undertaking the type of
8 natural or controlled experiment that the pilot illustrates?

9 Also, one byproduct of the Regulation SHO process
10 has been the transmission of short sale indicator reports at
11 the transaction level. Should this information continue to
12 be require even if the issue of short sale pricing
13 restrictions is resolved?

14 Now, before turning the conversation over to our
15 panelists this afternoon I'd like to take a moment to thank
16 them both personally and on behalf of the Commission and the
17 Office of Economic Analysis and the Division of Market
18 Regulation for taking the time to participate today.

19 Leading academics and practitioners, they all have
20 thought deeply and carefully about the nature of the
21 frictions in the trading process. All began their careers as
22 academics after receiving their doctorates at some of
23 America's leading universities, and all have thought about
24 the markets over the course of their careers.

25 Larry Harris, my predecessor as the Commission's

1 chief economist, is a leading thinker about empirical market
2 microstructure and trading.

3 The work of Pete Kyle, who recently relocated to
4 our area as a chaired professor at the University of
5 Maryland, helped invent the field of market microstructure
6 theory in one of the most influential academic finance papers
7 in the last several decades.

8 Owen Lamont is an expert is an expert on short
9 selling in our markets who also brings the perspective of a
10 trader and portfolio manager.

11 Bruce Lehmann, one of the founders of the Journal
12 of Financial Markets and the National Bureau of Economic
13 Research's Market Microstructure meetings is a leading expert
14 on market efficiency and trading.

15 I'm pleased that Rich Lindsey, who served the
16 Commission as both its chief economist and then director of
17 its Division of Market Regulation and is now a senior
18 executive at Bear Stearns, is able to share with us the
19 benefit of his industry and regulatory experience.

20 Finally, George Sofianos, who previously served as
21 the New York Stock Exchange's chief economist, brings a
22 sophisticated perspective about trading dynamics to bear from
23 his perch at Goldman Sachs as one of the most recognized
24 industry based scholars in market microstructure.

25 So with those introductory remarks, we'd like the

1 panelists to, perhaps, maybe take five minutes apiece to make
2 some introductory comments, and then we thought Bob and I
3 would follow up with, sort of, additional questions.

4 I thought we'd proceed in alphabetic order. So
5 perhaps, Larry, if you wouldn't mind beginning.

6 MR. HARRIS: Thank you, Chester. We saw three
7 excellent papers this morning that produced, essentially,
8 identical results using different methods or samples, and
9 those results were that in the short-term short selling price
10 tests had very -- have some short-term effects on market
11 quality variables. And those variables most closely
12 associated with the restrictions or with traders' responses
13 to them.

14 Although statistically significant, they're not
15 generally economically significant. They literally just
16 don't pass the intraocular impact test. They don't hit you
17 between the eyes.

18 Except for trade size and ask size and some trade
19 frequencies that are closely related to traders' responses to
20 the restrictions there's not much going on here. The facts
21 that we do see represent the elimination -- or at least in my
22 opinion probably represent the elimination of a distortion
23 rather than a loss of a benefit.

24 In particular, I'm referring to the fact that
25 although the markets appear to be more liquid with the tick

1 test that liquidity is coming at some cost to the short
2 sellers that were requiring them to provide liquidity.

3 Generally requiring people to do something that
4 they otherwise wouldn't is not attractive and comes with a
5 certain cost.

6 Now, I would note that as small as these effects
7 are in this pilot study the size of the effects that would
8 ultimately be observe if we totally eliminated the tick test
9 are overestimated or overstated.

10 The reason is because there are people who employ
11 short selling strategies that aren't specific to individual
12 stocks they will direct their order flow in the pilot period
13 to only those stocks that have the -- that are unrestricted.

14 So the effects that we see in the unrestricted
15 stocks are liable to be overstated. If we relax the
16 restriction across the board, then these short sellers would
17 spread their order flow over all stocks, and we'd see even
18 less of an effect.

19 So overall in the short term, I don't see much
20 impact of the short selling rule, these tick rules, one way
21 or the other except, as I noted, restricting people from
22 doing what they otherwise might want to do is problematic.

23 Now, the real question that we ought to be asking
24 are what are the long-run effects associated with the short
25 selling rule? These rules were brought in in response to

1 concerns about bear raids, which are largely pretty
2 infrequent and, as a consequence, are not likely to be easily
3 identified even in the excellent study that was set up by the
4 Commission.

5 Long-run effects, unfortunately, as an empirical
6 proposition, are, essentially, unobservable either because
7 they're too subtle -- we are, apparently, just not seeing
8 them in a short enough sample -- or because the effects are
9 associated with very rare events such as the bear raids.

10 Now, the question is how do we then deal with the
11 question if the empirical evidence at the long run, which is
12 really where we want to address our concerns from public
13 policy, if the empirical evidence won't help us, what are we
14 going to do?

15 And the answer is that we have to think about
16 things carefully from a theoretical point of view. The
17 theory, I think, is pretty clear.

18 The first effect of any restriction that makes
19 short selling more expensive or difficult will be to produce
20 some sort of bias hard to measure, probably impossible to
21 measure that favors higher prices.

22 While everybody is in favor of higher prices, I
23 will note that it has some certain disadvantages that we
24 should be aware of. It lowers investment returns. Lowering
25 investment returns, of course, will lower total amount of

1 investment.

2 It also allows corporations to waste capital that
3 it otherwise wouldn't. Those are things that are not
4 attractive, and those are reasons why we wouldn't favor such
5 a bias.

6 Now, I've saved for the last the most important
7 point. We brought in the tick test because we're concerned
8 about bear raids, the notion being that we wouldn't allow
9 people to push stocks down that would damage the capital
10 formation process, and so forth.

11 But I'll note that there's another manipulative
12 process about which we're also concerned, and that is the
13 pump and dump. So a pump and dump is the opposite of a bear
14 raid. Instead of the price being pushed down by the
15 manipulator, the price is being pushed up.

16 If you look at the history of enforcement actions
17 at the SEC, the number of actions to deal with pump and dumps
18 vastly, vastly exceeds the number associated with bear raids.
19 Bear raids are very uncommon.

20 That said I would note that the short sellers are
21 the major allies of the SEC in the suppression of pump and
22 dump manipulations, so that the short sellers in this respect
23 are natural allies to the SEC in the reduction of this type
24 of manipulation.

25 The pump and dumps are far more common because it's

1 easier to convince people to buy stock who don't presently
2 have it than it is to convince people who hold stock to sell
3 their stock.

4 So in a bear raid, the bear raid is only successful
5 if you can convince the people who are holding their stock to
6 sell it. That's a small group of people. In the pump and
7 dump, all you have to do is somehow touch the hearts and
8 purse strings of those people who potentially can be sold the
9 story that you have to sell.

10 So I think that pump and dumps are forever going to
11 be more important than bear raids as a problem that plagues
12 our market. The restriction of short selling hurts the
13 Commission's interest in suppressing this type of
14 manipulation, which is by far more important.

15 So I'm, as my comments would suggest, very much in
16 favor of the elimination of these price tests.

17 MR. KYLE: I'm Pete Kyle, and before Larry spoke I
18 told him that I was going to say all the things he didn't
19 say, but he agrees very much with me on these issues, so I'm
20 going to say some of the same things in slightly different
21 words.

22 MR. HARRIS: Probably better.

23 MR. KYLE: The purpose of the CFTC I think is
24 largely to protect smaller and less sophisticated investors
25 from bad things that can happen to them in financial markets.

1 Did I say the SEC or the -- I meant the SEC.

2 MR. COLBY: We're not going to speculate on the
3 purpose of the CFTC.

4 MR. KYLE: I meant to say SEC. Sorry. How many
5 traders complained about being sold very high priced stocks
6 in the late 1990s, and then after that lost a lot of money?
7 I think huge numbers of small investors felt in retrospect
8 like they got ripped off.

9 They may make the mistake of thinking that they got
10 ripped off because short sellers drove the prices of the
11 stocks that they bought down to low levels after they bought
12 them, but they would have been better off if, in fact, short
13 selling had been easier and even more encouraged before they
14 bought the stocks in the first place.

15 So I agree with Larry that the short sellers are
16 the big ally of the SEC in its efforts to protect small
17 investors from schemes that would, essentially, be
18 manipulative.

19 Now, today we saw several papers that I would
20 summarize by saying that tick tests create modest congestion
21 in the market. Essentially, what a tick test is is a kind of
22 very short-acting circuit breaker that prevents someone who
23 wants to sell the stock short from doing so at any tick he
24 wants to.

25 When he's prohibited from doing it, he probably

1 leaves a resting offer in the market at the most aggressive
2 price that he would be allowed to sell. And so not
3 surprisingly these papers tell us that the effect of the tick
4 test seems to be to narrow bid/ask spreads because of the
5 congestion of offers by would be short sellers and therefore,
6 apparently, to increase liquidity.

7 And I say only apparently, because it's not clear
8 that liquidity is actually increased if you're required to
9 place these offers and not to hit bids in the market.

10 What we heard less about were some other issues
11 that I thought we should also discuss today, and one was
12 locates, and the other is buy-ins.

13 It seems to me that the locate rule is an effort to
14 throw a little bit of sand into the gears that would
15 otherwise smoothly allow a market for borrowing and lending
16 securities to operate.

17 How should this market operate? Well, the way the
18 market should operate is that everybody, including retail
19 investors, should see the prices at which securities can be
20 borrowed, and hard-to-borrow securities would show up as
21 being ones where the price of borrowing those securities to,
22 essentially, rent the securities for short periods of time,
23 was unusually high.

24 The way it works the market for borrowing and
25 lending securities is not very transparent to small

1 investors, so I think that we would be better off rather than
2 requiring investors to locate securities instead not
3 requiring them to locate securities but, rather, structure
4 the market in such a way that it was easy to see how
5 difficult it would be to borrow securities so that investors
6 even without locating them at the time they make a trade can
7 make a reasonable determination of what the costs of
8 borrowing those securities could be after the trade is made.

9 And it turns out that maybe retail investors would
10 be better informed and trade with greater skill if they
11 actually took this information into account.

12 So I would suggest dispensing with the tick tests
13 but replacing it with a system of price disclosure which not
14 only disclosed information about quantities and prices being
15 traded but also disclosed information about costs of
16 borrowing and lending securities.

17 Now, these costs are typically quite small, and one
18 of the reasons may be that traders are allowed to fail on
19 positions ultimately through NSCC and other clearing
20 mechanisms.

21 And one of the proposals that I understand is up
22 for discussion is whether buy-ins should be more strictly
23 enforced to eliminate short positions on which traders have
24 failed.

25 If you more aggressively force traders to liquidate

1 their short positions, you make it easier for someone to
2 corner the market and squeeze the shorts in the stock market.
3 This would have the bad effect of making the schemes that
4 Larry talked about, the pump and dump schemes, easier to
5 execute and would, I think, therefore, be kind of a bad idea.

6 So rather than have a forced buy-in for short
7 positions that have been failed on for a long period of time
8 I would recommend as an alternative just a series of
9 escalating modest penalties that would get the job done of,
10 kind of, clearing the market for borrowing and lending.

11 The way it works now is that somebody -- it may not
12 trickle back to a retail investor, but somebody at the level
13 of Wall Street loses interest on their money if they fail.

14 So the penalty that they incur is, essentially,
15 proportional to interest rates. If interest rates are very
16 low, that penalty is tiny, and therefore fails would be
17 relatively more attractive.

18 So one way to remedy that would be to add a small
19 penalty, maybe add 100 basis points, add 200 basis points,
20 add 300 basis points and perhaps have an escalating series of
21 penalties that would apply to all short positions in stocks
22 that had lots of fails. I think that would be better than a
23 buy-in by not allowing -- not really encouraging corners.

24 MR. LAMONT: I'm Owen Lamont. I'm afraid I have to
25 agree with the two people to my right here. I don't have

1 much disagreement with anything they said, so let me start
2 first by echoing what Ingrid Werner said earlier and express
3 my gratitude to the SEC for generating so much data for Reg
4 SHO.

5 That's part of the data used for academics. That's
6 part of the role of the SEC is to improve our understanding
7 of capital markets.

8 I'd like to talk about two things. One is the
9 price test that we've been talking about today, and the
10 second is the subject that Pete Kyle just brought up, which
11 is the stock lending market.

12 Short sellers are very important parts of our
13 capital markets. Short sellers get pessimistic information
14 into prices. We don't want just the optimists to have a
15 vote. We want to have pessimists also to express their view.

16 So our goal in any economy is to get the prices
17 right. You're not going to get the prices right if you're
18 not letting everybody trade on the information they have.

19 Our system in the United States right now for the
20 stock market is not set up to make short selling easy. There
21 are a variety of regulations one of which is the uptick rule
22 or the price test we've been talking about today but other
23 regulations as well that impede short selling.

24 I would characterize short sellers as an oppressed
25 minority. One instrument of the oppression is the regulators

1 in part, but perhaps a more important component of the
2 oppression or important component of what makes short selling
3 hard is the securities lending system.

4 We do not have a well-functioning transparent stock
5 lending system. We have a byzantine bureaucratic
6 dysfunctional system, and, as Charles Jones mentioned earlier
7 today, in 1929 securities lending, stock lending was done on
8 the floor the NYSE.

9 So in that respect, things are worse now than they
10 were in 1929 in terms of the centralization of the securities
11 lending market.

12 Let me make a few comments about the price test
13 rule, the uptick rule. I think that was an idea from the
14 1930s that was always to me dubious in terms of its economic
15 motivation.

16 In particular, it's unclear why we would want to
17 prevent or why we were worried about downward price
18 manipulation but were not worried about upward price
19 manipulation. So it seems an odd, sort of, asymmetrical
20 rule.

21 I think banning trade, which is, essentially, what
22 the uptick rule does, is rarely a good idea To echo what
23 Chairman Cox said earlier today in a different form, if
24 you're really worried about price manipulation, then I
25 suppose you could just ban all trade all together, but that,

1 obviously, wouldn't be a good idea.

2 So in general, we economists like trade. We like
3 unfettered trade, and I think that holds for the uptick rule.
4 Now, having said that I think the price test rule is fairly
5 harmless. It's a mild form of petty harassment for short
6 sellers.

7 It doesn't seem to be the major problem or a major
8 form of harassment, so it's a harassment I could live with as
9 an economist. It seems to me a far more pressing issue; that
10 is, preventing prices from being right, is the dysfunctional
11 nature of the securities lending market.

12 So given a choice between keeping the uptick rule
13 and reforming the securities lending market that's the choice
14 I would take. I wouldn't expend scarce resources, scarce
15 political resources, on abolishing the uptick rule, although
16 I think abolishing it would be a good idea.

17 Now, on the subject of the securities lending
18 market one of other things the SEC has done is create the
19 threshold list, which has given us a lot of information about
20 stocks that are hard to locate.

21 I think my concern or my view of this is the
22 threshold list, the failure to deliver that Pete Kyle
23 mentioned, those are symptoms, and we don't want to treat the
24 symptoms. We want to treat the disease, and the disease is
25 we have a dysfunctional securities lending market.

1 So to me the pressing issue for regulation would be
2 to remove impediments that are causing the market to be
3 dysfunctional and encourage the creation of a centralized
4 securities lending market where lenders and borrows can come
5 together in a transparent way with fewer frictions, with
6 fewer regulations to enhance our securities market and to
7 make it easier to borrow certain securities.

8 One of the reasons the price test was invoked was
9 price manipulation. As with Larry Harris, I am concerned
10 about pump and dump. One particular type of price
11 manipulation I want to mention is it appears to be legal to
12 manipulate prices by manipulating the securities lending
13 market.

14 I can say, hey, everybody who owns stock ABC, let's
15 all withdrawal our shares from the securities lending market
16 and hurt those evil short sellers and cause a squeeze. It's
17 unclear to me why that form of manipulation is legal where
18 other forms of manipulation is not.

19 MR. LEHMANN: Well, I knew I was going to be stuck
20 in the middle between the smart guys and the rich guys. I'm
21 not going to identify them. They know who they are. I'm the
22 comic relief. I have nothing of substance to say, so I
23 should say it at great length. That's what I do best.

24 I also could predict what at least those two guys
25 were going to say, so I had to pick which of those I would

1 echo.

2 When Chester called me up and asked me to serve on
3 this panel, I thought a bit about why we have regulations and
4 why we have studies of regulations. I know why we have short
5 sell regulations, because there are good short sellers and
6 bad short sellers.

7 And what the uptick rule does is it prevents bad
8 short sellers from trading, or at least that's the idea. But
9 that shouldn't be where I start, because everyone here, a lot
10 of people know me. You know that I'll start instead with a
11 story, not the substance.

12 I took my daughter to a skating rink about five
13 years ago, and she was having a skating lesson. And I was
14 sitting with my little three-pound laptop working. Wherever
15 I go with my three-pound laptop, I sell it to people who come
16 by and say, "That's really nice."

17 This guy comes by, and he looks at what I'm doing.
18 He says, "What do you do?" "I teach at UCSD." "What do you
19 teach?" "Finance." He started screaming, I mean really high
20 jet decibel levels screaming about those mother loving sons
21 of long lives of thieves would just knock down his stock any
22 chance they got.

23 And the abbreviated version of that is what happens
24 when you actually talk to people who oppose the uptick rule,
25 because there aren't a whole lot of people in this room who

1 think the uptick rule serves any real purpose, except there
2 is one purpose.

3 Because it is almost meaningless, not meaningless,
4 but almost meaningless, a modest nuisance, it does give the
5 appearance of doing something. I think that matters
6 politically.

7 In any event, when I started making noises about
8 the uptick rule, it became rapidly apparent I should shut up.
9 I've got time left, so maybe I should take this opportunity
10 to stop now, but I'm not going to.

11 Why people would ever mention the phrase "bear
12 raid" in the same sentence as "tick test" is unimaginable to
13 me. Even if we were talking about stock markets in Byzantium
14 1,300 years ago these are wholly unrelated things.

15 You may be opposed to short selling for reasons
16 that have phrases like "bear raids" in them and not give a
17 damn about the uptick rule. The uptick rule would be about
18 the initiation of the bear raid at best or the termination of
19 it.

20 And it's not about optimists and pessimists. If
21 you read academic papers that say, well, there are all sorts
22 of voters in security markets, and some of them are
23 pessimisms, and they don't get to vote when there are short
24 sales restrictions, maybe that's so, but that has got nothing
25 to do with the uptick rule.

1 What that has everything to do with is pump and
2 dump, although I think of football when I hear that, and I
3 don't know quite what it means. But I think the easiest way
4 to manipulate something -- if you are a bad short seller, bad
5 short sellers are people who don't intend to own the asset or
6 be short the asset. They intend to go home flat with more
7 money than they walked in with.

8 So all you care about when you start talking about
9 the uptick rule is you prevent people who go out and buy and
10 buy and buy and buy, have a non-linear price impact and sell
11 all at once or sell in pieces or hammer the stock a lot and
12 attract people into selling with them and buy back. Do you
13 do that by having an uptick rule?

14 It just doesn't make sense to me that you would
15 think that that would be how the uptick rule worked, because
16 it just doesn't make sense to me that if it was so obvious
17 you wouldn't see it when it happened, you'd treat it as part
18 of a painted tape, and you wouldn't take the arbitrage out.

19 Because it's an arb if it's an arb. If there is a
20 zero net investment trading strategy, not an order, a
21 strategy that earns money consistently, it goes away in
22 markets because people are very smart in trade.

23 If you trade the same way the same time every day,
24 markets know that real fast. I think that Larry is right,
25 that you have to sell this, sort of, theoretically not

1 because I think theory is better than empirical evidence,
2 just because I have every reason to think that the good
3 sellers, short sellers, stay in the pilot stocks, but the
4 evil bad short sellers will take a vacation from these stocks
5 while the Commission is looking.

6 The Commission turns it back on, good. We'll start
7 playing in that sandbox again. And the final thing is, and I
8 think everybody would agree with this as well, that penny
9 ticks are not effective ticks.

10 If you really want to have an effective tick rule,
11 a half a dollar ought to work, maybe a buck. That's not such
12 a joke, because it's not so long ago that spreads were that
13 high in fixed income markets, which brings me to my last
14 point, which brings me to my last point.

15 It's off topic, but I wish the Commission would
16 start paying a lot of attention to markets that don't work
17 well. The equity markets are far from perfect, but they're
18 pretty damned efficient.

19 We can all think about fixed income markets that
20 have gotten better in the recent past with very small changes
21 in market structure that make -- create large improvements in
22 transparency. Transparency ought to be what all markets are
23 about.

24 MR. LINDSEY: I'm Rich Lindsey. I have to agree
25 with Bruce. I've personally been shocked at how much

1 I don't agree that I know from evidence, not have a
2 belief from prior beliefs what the world with look like post
3 the death of the uptick rule, because I think that if you
4 think about the kind of experiments that we can run and the
5 things we can measure we measure what happens to trades and
6 venues. We don't measure what happens to trading strategies
7 and venues.

8 So it may well be that there are all sorts of zero
9 net supply traders, folks who go flat every day that are
10 there or that are not there that do cause problems and do not
11 cause problems.

12 I really don't think that there are a lot of people
13 out there who can do arb strategies within the day and go
14 home flat all the time. I may be wrong, but I don't think
15 that.

16 I don't think that the Commission study, which
17 raises the bar considerably for the quality of work done in
18 support or in contradiction to regulation, I don't think that
19 you can remove that last bit of regulatory risk.

20 You have to ask yourself what do you think you know
21 about markets? What do you think he know about players in
22 the markets? Where have you seen things like this that
23 happened that were bad things and then try to decide if you
24 think George is actually doing them, because it's George
25 you're afraid of.

1 MR. LEHMANN: My clothes are still on, so it's
2 clear I don't believe in transparency. I was thinking about
3 transparency of the lending market, and even nothing more
4 than last sale reporting, if there's a way to report what's
5 going on in that market, as more shorts come around, they
6 know that they're vulnerable to squeezes.

7 They know who the other people playing in the same
8 market are. That's what I meant. I think that has to be the
9 idea.

10 MR. COLBY: Could I go back and talk about ghosts
11 that you may think you've exorcised already, and that's bear
12 raids? I thought I heard this morning, I may have
13 misunderstood it, that there was no evidence that there were
14 bear raids being conducted, but I didn't hear it said that
15 there was no evidence that they weren't or that they
16 couldn't.

17 Larry, I think I heard him say he's much more
18 concerned about pump and dumps than he is about bear raids.
19 Rich, I thought I heard him wonder whether there was such a
20 beast any longer in this world. Could you all expand on the
21 incidents, the likelihood of that phenomenon?

22 MR. KYLE: When I was reading about the trial of
23 Ken Lay, my understanding of Ken Lay's defense was that Enron
24 was a victim of a bear raid. I didn't buy it. The jury
25 didn't buy it. I don't know if anybody bought it.

1 A tick test has to do with solving a problem that's
2 very, very temporally specific which at this particular
3 moment in this particular configuration of recent price
4 movements we're going to stop a person from selling something
5 they don't own, and that's not a good circuit breaker.

6 A circuit breaker should be designed for the
7 circuit it's supposed to be breaking. I'm really not sure
8 what thing is trying to be broken here.

9 MR. KYLE: I was simply -- when referring to this
10 as circuit breakers, the tick test creates this queue of
11 orders that in normal time shows up as a large supply of asks
12 relative to other stocks.

13 In abnormal times, it shows up differently in
14 different countries depending on how their circuit breakers
15 work. To take an example of, like, Japan where they -- I'm
16 not sure how they do it right now, but they used to have it
17 where after the stock traded down several cents or several
18 notches you'd take, like, a one-minute or five-minute break
19 because you weren't allowed to place offers at lower prices.

20 So you would see this big overhang of orders, but
21 you didn't know how much further down it would need to go to
22 clear out that overhang. That's a circuit breaker is looking
23 at a big overhang of orders and not knowing how much further
24 down it's going to go because trading has been stopped
25 because the circuits have been turned on.

