SECURITIES AND EXCHANGE COMMISSION

ROUNDTABLE ON THE REGULATION SHO PILOT

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C O N T E N T S

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 affect on markets.

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

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

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

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

The lifeblood of investing is risk, and from that comes reward. The two go together and have a direct relationship, rising and falling in tandem.

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

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

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

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

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

To start things off, we have Professor Charles

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

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

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

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

The first of these two papers examining the pilot will be presented by Professor Ingrid Werner. Professor Werner is the Martin and Andrew Murrer Professor of Finance at Ohio State's Fisher College of Business. She has long experience with securities markets, having been a visiting research economist at the New York Stock Exchange in 1996 and 1997 and then a visiting academic fellow at Nasdaq in 2001 and 2002.

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

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

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

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

Professor Alexander formerly served the Commission as a visiting academic scholar. He's the author of several books on investing and portfolio management. His paper on our pilot will be critically discussed by Professor Adam Reed, Assistant Professor of Finance at the Keenan-Flagler Business School at the University of North Carolina.

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

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

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

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

Well, clearly there's a lot to talk about, and I think we put together just the group to do it. I want again to thank each of our participants for sharing with us your expertise and for so generously donating your time to be with us here today.

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

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

So let the show begin, pun intended.

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

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

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

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

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

PRESENTATION BY CHARLES JONES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Now, what that did do was this was a, sort of, shock to the lendable supply of shares. And what that led to was a decline in the short interest. So if you look right around the middle of the chart here, you can see that the blue line shows a dramatic decline in the amount of short interest as soon as this rule was put into effect.

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

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

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

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

So on October 1931, October 6th, in fact, the NYSE, basically, stated that all short sales on downticks were going to be presumptively demoralizing, and any demoralizing trade had always been prohibited by the NYSE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

And there is some evidence that people were trying to hurry to beat the new rule. There are whole lot of stocks that were expensive to borrow just prior to the imposition of the new rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Now, in terms of combining these two, one can, sort of, think about a meta analysis of these three events. And, basically, the meta analysis concludes that, essentially, there are positive returns associated with restricting short sales and definite effects on liquidity from the tick restrictions.

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

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

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

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

And again, you would caution that these are conclusions drawn from single-day events in a broad market a long time ago. So with that, I think I will stop there.

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

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

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

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

It's always a delight to discuss Charles' work. This is not the first time I've done it. He always done a clear and very thorough job with his presentation, so I'm just going to go over some high points of his paper and then get right into my comments.

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

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

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

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

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

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

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

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

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

Across the top, summarize what happened to prices. For the authorization hypothecation, prices went up when it was announced, down when it took effect. The NYC's downtick rule there was a sharp price increase. The SEC's uptick rule no price reaction on the news, a small price increase when it took effect.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Just to get to the conclusion we look at the price trends during the '30s we have all these additional restrictions on short selling as well as the ones Charles addressed. Reasonable to conclude short selling constraints don't matter much, or, perhaps, that they do.

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

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

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

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

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

And based on what Charles Jones have told us now there clearly are significant differences in the market today compared to what we had in the '30s. We had a much smaller tick size. There were lots of alternatives to short selling.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Well, the basic message here is that to comply with the uptick rules, NYSE short sellers have to rely on passive strategies. They end up being more or less forced to be limit orders or liquidity providers shadowing the last sale.

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

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

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

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

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

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

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

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

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

And here are the results for the change in short sales as a proportion of trading volume. You see on the left-most graph the pilot and the control sample of stocks. And as you can see there is an increase of about -- a small increase, .9 percent, and it's statistically significant for pilot stocks.

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

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

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

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

As a result, we anticipate that quote and order flow asymmetries may disappear. We also believe that because short sellers can use more active strategies we may see a marginal effect on quoted and effective spreads, that being that they widen.

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

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

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

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

The second measure is the buy imbalance. It says that, on average, about 9.5 percent of order flow in pilot stocks executed above the midpoint, on average. This is the bias I told you about, the asymmetries we anticipated occurring due to the tick test.

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

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

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

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

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

Now, this is the beauty of having the control stock. We need to see maybe all quotes widen for NYSE stocks. However, that's not the case based on the experience for control stocks, which instead experienced a slight decline.

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

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

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

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

The final thing that we examine are the effects of the rule changes on volatility. Here is the quagmire. There are so many ways to measure volatility, and we produce a lot of different measures in the paper.

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

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

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

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

Letting those short sellers loose will make them pound down on the bid and, hence, increase volatility on the down side. We do not see that. I have blocked in pink what happens to the volatility, which is just the downside volatility from the bid. And, in fact, that's reduced both for pilot and control stocks, and the reduction is significant.

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

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

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

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

So there's not more downside volatility, and the bid volatility per se does not change for pilot stocks relative to control stocks. Again, for Nasdaq stocks there is no effect.

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

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

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

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

Of course, the bias against active short sell market sell orders by limit short sellers also hurt some market participants. It hurts limit buy orders, liquidity suppliers on the buy side who see their order flow coming to them reduced, and it helps market sell order submitters because they are facing less competition.

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

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

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

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

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

MS. EDWARDS: All right. Thank you, Ingrid. Now discussing, I guess, how reliable some of these results are and what they mean is Paul Irvine.

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

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

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

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

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

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

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

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

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

And they all said yes, which has a lot of implications, as Ingrid found, for this measure of how much buy activity there is, this buying order imbalance.

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

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

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

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

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

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

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

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

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

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

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

So you have, I think, out there a whole bunch of hedge funds that have these really short strategies -- short close, short close, short close -- wolverines on speed, or something, at the trading desk.

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

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

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

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

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

But it seems to me that the optimal thing for the market maker to do might be instead of holding a large inventory when somebody comes with a buy to sell to them, you know, if somebody comes to the buy, just short it, just borrow it. It lowers your inventory cost.

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

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

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

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

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

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

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

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

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

The last thing is probably not testable, thank goodness, but I thought I should mention systematic volatility, which I always hear a lot about in Washington and never elsewhere.

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

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

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

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

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

But the specialist says, "Look, this stock you want to short is down 40 percent, and there's no buyers anywhere." So the broker says, "Okay. There's no buyers, but you, according to the rules, have to take the opposite side of that transaction."

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

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

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

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

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

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

First of all, it was rather surprising to see how large a percentage of sell orders are short sell orders. As you can see there's roughly 23 percent of all sell orders are short sell orders, a surprisingly large percentage.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Comparing April and May, we have a bear market and a bull market, basically, in these two months. So you can't simply compare pilot pre and pilot post.

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

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

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

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

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

But if you look here, it's the right-hand column that you see, the extreme right-hand column that's the key. That's the difference in the differences. It tells you how different was the change from April to May for the pilot stocks versus the control stocks.

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

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

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

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

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

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

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

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

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

But now your order on the pilot stocks can be executed much more quickly. So now you do want to try to disguise your trade, because you're going to want to take your large order, send it in in several smaller sizes, get them executed before the market gets wind of what information you have that is causing you to make those trades

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

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

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

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

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

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

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

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

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

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

What we did here -- this is somewhat of a complicated table. What we did is for every short order what we then did is we looked and said, okay, what's the probability that the next order is at a price decrease? So that's what P1 says, the probability of the next order being at a price decrease after the short order.

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

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

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

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

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

And actually, it's also true whether you look at quoted spreads or relative spreads where you standardize by price.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

And, sort of, my framework for thinking about this and for the rest of my discussion is going to be to look at the motivation of the SEC when it first adopted Rule 10a-1 and the three primary motivations.

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

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

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

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

And then they, sort of, make a list of best matches to worst matches based on five other characteristics, including size book to market.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

So there's sort of a symmetric increase in price runs both up and both down. I'm, sort of, inclined to just write this off as noise, but from the SEC's or a regulatory perspective there's no reason to think that this is a danger with the SHO stocks mostly because auto correlation doesn't show that these stocks are more subject to price runs.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. IRVINE: I think that the SEC should continue to concentrate -- I really like the focus on the locate rule. I think if you really nailed the locate rule, then you're not going to have a -- nobody is going to get a locate in that kind of market. So if you nail that, then I don't think you have to worry so much. That's my comment.

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

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

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

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

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

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

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

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

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

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

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

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

MS. WERNER: I would, of course, agree that extreme events are interesting. However, when asked what the effects of Reg SHO is, the pilot specifically, I think the first thing you have to do is look at the aggregate or the average results.

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

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

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

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

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

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

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

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

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

COMMISSIONER NAZARETH: Well, some of the results that were discussed were that the lifting of the short sale restrictions seem to have much less of a statistical effect on the Nasdaq stocks than the New York stocks, but no one discussed why they thought that was the case.

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

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

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

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

The second thing I think is important to highlight is that we have a very fragmented market of trade, or at least we had. I think some people in this room are looking for it to be more consolidated, but as a result we ended up with different rules applied in different parts of the marketplace for Nasdaq, which also makes it harder to detect the effect of the rule.

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

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

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

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

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

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

S E S S I O N T W O

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

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

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

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

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

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

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

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

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

Consequently, since intermediaries who happen to be short rather than long at a point in time are often the natural suppliers of liquidity there will be potentially slightly less competition on the selling side, and market spreads may be impacted somewhat.

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

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

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

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

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

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

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

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

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

Larry Harris, my predecessor as the Commission's chief economist, is a leading thinker about empirical market microstructure and trading.

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

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

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

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

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

So with those introductory remarks, we'd like the panelists to, perhaps, maybe take five minutes apiece to make some introductory comments, and then we thought Bob and I would follow up with, sort of, additional questions.

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

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

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

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

In particular, I'm referring to the fact that although the markets appear to be more liquid with the tick test that liquidity is coming at some cost to the short sellers that were requiring them to provide liquidity.

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

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

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

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

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

Now, the real question that we ought to be asking are what are the long-run effects associated with the short selling rule? These rules were brought in in response to concerns about bear raids, which are largely pretty infrequent and, as a consequence, are not likely to be easily identified even in the excellent study that was set up by the Commission.

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

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

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

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

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

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

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

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

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

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

The pump and dumps are far more common because it's easier to convince people to buy stock who don't presently have it than it is to convince people who hold stock to sell their stock.

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

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

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

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

MR. HARRIS: Probably better.

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

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

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

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

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

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

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

When he's prohibited from doing it, he probably leaves a resting offer in the market at the most aggressive price that he would be allowed to sell. And so not surprisingly these papers tell us that the effect of the tick test seems to be to narrow bid/ask spreads because of the congestion of offers by would be short sellers and therefore, apparently, to increase liquidity.

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

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

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

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

The way it works the market for borrowing and lending securities is not very transparent to small investors, so I think that we would be better off rather than requiring investors to locate securities instead not requiring them to locate securities but, rather, structure the market in such a way that it was easy to see how difficult it would be to borrow securities so that investors even without locating them at the time they make a trade can make a reasonable determination of what the costs of borrowing those securities could be after the trade is made.

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

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

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

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

If you more aggressively force traders to liquidate their short positions, you make it easier for someone to corner the market and squeeze the shorts in the stock market. This would have the bad effect of making the schemes that Larry talked about, the pump and dump schemes, easier to execute and would, I think, therefore, be kind of a bad idea.

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

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

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

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

MR. LAMONT: I'm Owen Lamont. I'm afraid I have to agree with the two people to my right here. I don't have much disagreement with anything they said, so let me start first by echoing what Ingrid Werner said earlier and express my gratitude to the SEC for generating so much data for Reg SHO.

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

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

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

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

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

I would characterize short sellers as an oppressed minority. One intrument of the oppression is the regulators in part, but perhaps a more important component of the oppression or important component of what makes short selling hard is the securities lending system.

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

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

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

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

I think banning trade, which is, essentially, what the uptick rule does, is rarely a good idea To echo what Chairman Cox said earlier today in a different form, if you're really worried about price manipulation, then I suppose you could just ban all trade all together, but that, obviously, wouldn't be a good idea.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

And the abbreviated version of that is what happens when you actually talk to people who oppose the uptick rule, because there aren't a whole lot of people in this room who think the uptick rule serves any real purpose, except there is one purpose.

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

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

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

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

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

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

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

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

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

If you trade the same way the same time every day, markets know that real fast. I think that Larry is right, that you have to sell this, sort of, theoretically not because I think theory is better than empirical evidence, just because I have every reason to think that the good sellers, short sellers, stay in the pilot stocks, but the evil bad short sellers will take a vacation from these stocks while the Commission is looking.

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

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

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

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

MR. LINDSEY: I'm Rich Lindsey. I have to agree with Bruce. I've personally been shocked at how much academics are getting paid nowadays also since I left academia.

I can also answer one of his questions which are, you know, what's the purpose of laws or regulations, and that's clearly to impose some type of social convention or morays on the way people behave or act.

Now, I live in New York City, so there are lots of social conventions imposed upon us by laws. I'm going to talk about a few of my favorite ones.

For instance, in New York City, it's illegal or you're required when you're riding in an elevator that you must not talk to anyone. You must hold your hands in your lap and look at the door, and everybody in New York does that.

There's also a provision on the books that says that citizens in New York City cannot greet each other by putting their thumb to their nose and wiggling their fingers. Now, I think that's probably a very good social convention. It would be rather distracting if everybody on the street were doing that. There's also a $25 fine that can be levied for flirting.

So these things kind of go right in hand, I think, with the uptick rule. It's an old law that's on the books. The markets from the '30s are probably not the markets that there are today. I think almost everything that has been said or can be said has been said.

That doesn't mean that we won't all throw in our two cents. Another way of looking at it is if you take 12 financial economists and put them up here and ask them what they think of the uptick rule, they're all going to agree because it's just an inhibition on the market. I'm presupposing George here, but I have a feeling he's going to join the club.

The real question in some ways with the uptick rule is who is it that we're preventing from being able to short? There was a very good question that was asked early today. Who are all of these short sellers?

If we're looking at 30 percent, if that's the number, of the activity being shorts, that's a pretty good question. Where is all the short selling activity coming from? Because clearly it can't be 30 percent every day cumulative or somehow we run out of the stock fairly quickly.

So who do we prevent from shorting? Well, I can tell you that we're not preventing any of the professionals from shorting by the uptick rule.

Either by virtue of the fact that we have a penny or sometimes sub-penny tick in a market that's not much of an inhibition. I agree with Owen that's, kind of, a petty harassment associated with what anybody who want to short -- any professional who wants to short can do.

At the same time, the markets today are so connected and so electronically available, at least to any professional, that you can probably find a market someplace where you're not on a -- where you don't have to worry about the tick rule one way or another.

And beyond that there are ways to construct derivative or swap instruments that, essentially, take it out of the realm of you even having to worry about it or care about it.

So from that standpoint, it's not clear that we're -- I found it slightly amusing when somebody said, "Well, who are all the shorts?" The answer was hedge funds. Well, anything that's magical and we don't know what's happening, it must be the hedge funds that's doing it.

For sure they're not the ones particularly worried about it, because they've got lots of other ways to achieve and put on those short positions without worrying about the rule other than minor harassment.

So then it comes down to the question of who are we trying to prevent from going short? And does preventing, the what I'll call, basically, the retail investor from easily shorting, does that somehow stop market prices from going down, or does that stop and create some type of ability to prevent bear raids?

I don't even really know what a bear raid is anymore. I think that market manipulation was something out of our long ago past, and we all know that market manipulation today is probably illegal and much easier to find than it would have been in the '30s. So we probably don't need to prevent bear raids.

It's really a matter of the asymmetry in the market, and it's not an asymmetry from the professional side. It's really an asymmetry as to how we're letting individual actors behave in those markets and whether or not we're having a level playing field from that standpoint.

MR. SOFIANOS: George Sofianos. I was getting progressively more sad and more sad going through this discussion here. And I kept thinking poor uptick rule. I mean, it has been with us for 70 years now. Anybody to stand up in defense of the uptick rule?

Well, it's not going to be me. Of course, the other challenge I have I'm the last here, and so how can I make it different and interesting.

What I thought I'd do is, sort of, take a more general tack, because some of the issues we're addressing here I think are more general issues in the context of rule-making.

I'd like to begin by first congratulating the SEC on the approach they have taken for the Reg SHO tick test, a well-design experiment, and I would definitely like to see more of this in our rule-making going forward.

Cost benefit analysis, of course, is the way to go, but cost benefit analysis based on empirical research. The Reg SHO experiment is a good example of how it should be done, try to quantify as much as possible the tradeoffs, including the cost of implementing the regulation itself, and I'm going to come back to this in a second, my practitioner perspective on that. We tend to underestimate the actual cost of implementing rules.

I would also like to congratulate the researchers. They did a great job, high quality empirical research and also make a plea for more applied research of this kind, sort of very, sort of, down to earth applied questions, try to find the answer.

Let me make some general comments. The empirical research approach in the context of rule-making raises the important question how to evaluate the empirical evidence. My view is the burden of proof in the case of regulation to regularity should be very high, not marginal benefits.

Substantial benefits are needed to justify a regulation, and here is my sound byte. I want the need to scream, not to whisper. All I've been hearing today is whispers, kind of marginal benefits here and there, kind of, maybe significant. I don't know.

And it, kind of, makes it easier, actually, sort of, to evaluate the empirical evidence. If it's not, sort of, screaming at you from the data, then you shouldn't bother.

And the reason here is, of course, the cost of regulation. Again, I'm going to recap here as most of the people before me touched on this. Because of regulation the monitoring and enforcement costs can be very high, especially since all these rules inevitably come with exemptions, the need for exemptions that complicates the rules and make the enforcement much harder.

I'm not arguing against exemptions. I think the exemptions are needed. It's just that there is an alternative approach, kind of, go for the simplicity, and unless the need screams do not impose the rule.

And then of course there are the inevitable attempts to get around the rules, and a lot of ingenuity is wasted on this because of the nature of our markets. Then there are the jurisdiction issues. We touched on this, the derivatives trading and regulated arbitrage by synthetically creating what we're not allowed to do in the underlying.

In the dynamic environment, rules quickly become stale. Again, the tick test itself is a good example of this. The switch to pennies dramatically reduced the impact of the rule.

These are not necessarily reasons against the rule.

They just raise the burden of proof because of regulations that need to be taken into account and how to assess the empirical he had. They need to scream, not to whisper.

There's a tendency to severely underestimate the cost of implementing a new rule. I'll give my favorite example of this, and this is a rule I like, by the way, and I think we should see more of this. This is the famous Dash 5 rule, Rule 605.

It so happened that when I joined Goldman that was the first project I was assigned, to implement the rule. It was an interesting experience, because we spent probably at least a year, weekly meetings 12 of us trying to implement.

It wasn't to circumvent the rule, or anything, just to get it right and do the right thing the way, sort of, the rules requires. Because markets change, our systems change it is a very expensive rule, but on balance I do think that particular rule justifies the cost

Quickly some comments specific to Reg SHO. Again, we've touched on this, a fundamental problem with restricting short selling. There is good and bad short selling. Momentum short selling can be destabilizing.

Unfortunately, we cannot distinguish, so we handicap the good with the bad, washes out and we're left with the dead weight cost of regulation.

Another important point that needs to be reemphasized the short sellers are already handicapped, a lot of restrictions. I do think these restrictions already do most of the job.

So quickly my recommendations. Based on the evidence I'd get rid of the tick test definitely on the large cap and midcap stocks. Again, it was touched in the earlier panel there is little evidence about the small cap stocks at this point.

But whatever is decided cross-market uniformity is crucial. Again, we touched on this panel, continuous focusing on the lending market and enforcement of locate and delivery rules.

Continue marking I think the short sales, the marking of the short sales should be retained. I think we at Goldman at least we need it for internal purposes anyway, so I don't think that's an extra cost.

Should exchanges continue reporting Reg SHO pilot data? I have no strong view on this, and I'm not very sure of the cost. But at least in the short order I think the answer should be yes. It would just give the academics more data, so we can get more interesting research. Thanks.

MR. COLBY: Well, I was under the impression we were going to talk about in the roundtable in the Reg SHO pilot, and we started off from debating whether bear raids were as bad as pump and dumps all the way down to the existence of the market regulation program. So it has been enlightening.

I feel a little bit like a person of faith facing the lions and debating whether the ethics of eating someone that's there to be eaten.

If you don't mind, I'd like to go back to some of the questions about the pilot, if that's okay. The first would be is there reason to believe that the pilot is representative of what trading would be like if the rule were applied across the market?

I think Bruce said that maybe the bad short sellers might not -- they may have behaved during this period. I look at my son, and while I'm watching whether he should be allowed to drive the car, he drives very well. I'm not sure if I weren't watching he'd drive as well.

Is it a pilot experience that you think is representative of what conduct would be like in all stocks once the decision had been made about whether there should be an uptick rule or not?

MR. HARRIS: Can I respond to that? I think the pilot demonstrates very conclusively and very clearly that if the tick rules were drop that, essentially there would be no difference in the markets that you would be able to identify.

There would be slight changes in liquidity, as we've seen, but it wouldn't be an issue. As I noted in my discussion, if anything, the results of the pilot probably overestimate what effect it would have.

I just don't see any -- I think it's very successful in that respect and will demonstrate that there's not much regulatory risk of dropping it, at least from all processes except for political processes.

MR. LINDSEY: I mostly agree with Larry. I think the only place where there is real question is in much less liquid stocks than were included in the pilot. I think it's much harder to tell. Those, of course, generically are also the stocks that Larry was talking about so much earlier when he was talking about pump and dump type of schemes.

You're not seeing that in very liquid stocks generally. It's going to be in stocks that most of us have never heard of. So that would be, I think, an issue open for additional study or additional dialogue.

MR. SOFIANOS: And there may be also a practical way out of the dilemma. You can, sort of, gradually phase out the rule, sort of, gradually expanded list of stocks that are not subject to the tick test and, of course, always reserve the right, if something turns out wrong to go back.

MR. LEHMANN: I'm now in the middle so I can talk again. I actually think the study was incredibly well designed. The experiment is a really, really good one. I agree that the tick test should be dropped.

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

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

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

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

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

It's not some guy -- and George is not doing this stuff. I'm not even coming close to intimating that. The last thing, George reminded me of something. Dash 5 is another good piece of regulation, but it's again one that you can't interpret unambiguously.

You can't tell if the high cost venues are better or worse than the low cost venues, because maybe the hard trades are done in the high cost venues, and the easy trades are done in the low cost venues.

You always have this problem of interpreting these experiments. They're not ones run by physicists under controlled conditions.

MR. KYLE: I have a quick comment. I think that the experiment that has been done is convincing for normal market conditions, but where it probably matters the most is in situations where the market is crashing.

To take a day where stock prices are down 10 or 15 percent. What would happen then? And essentially, what the tick tests do is require the sell orders to accumulate and be a, kind of, overhang on the market rather than be executed immediately.

In a crash situation where there might be a lot of people selling some of whom are short already and some of whom aren't, it's a circuit breaker question. So I want to, kind of, reiterate what I said earlier, that the tick test is a, kind of, back door way of doing circuit breakers, but where it really matters, which is in a crash situation, it's your real circuit breakers that matter.

And I don't see any reason why in a situation where circuit breakers are going to be invoked you would want to apply those circuit breakers differently to someone who's shorting compared with someone, say, like a portfolio insurer who is dumping a large portfolio of stock that they already own.

Nor do I think it matters whether they would have to borrow the stock to complete the stock or whether they wouldn't have to borrow the stock to complete the transaction. There are, kind of, two definitions of being short.

One is do you need to borrow the stock to complete the transaction? The other is are you a person who is happy when the price goes down based on the positions you hold in all the different securities you invest in?

I don't see why the answers to either one of those questions should have a big effect on circuit breakers operating in, sort of, a panic scenario. But I think it's a circuit breaker question and not a tick test question.

MR. SPATT: I'd like to ask a follow-up question. Clearly, all the panelists suggest getting rid of the pricing restrictions with the possible exception of the smallest stocks.

And I guess I'd like to get a little bit more understanding of what folks think with respect to smaller stocks. Do folks think that the Commission should retain pricing restrictions with respect to the smaller stocks? And if so, how small is small?

MR. COLBY: Could I point out that the really small stocks have none now. There's a strange illogic to it.

MR. SPATT: Here is the stocks for the Russell 3000 stocks.

MR. LINDSEY: Right. I just want to be clear. I said that there was no evidence in the research that said that.

MR. SPATT: Right.

MR. HARRIS: I was just going to say the same that Bob said, that the smallest stocks right now aren't subject to the tick test, and you don't see a lot of people clamoring for it. Of course, those are the ones that are most subject to the pump and dump. You can only imagine how much worse it would be if people were restricted from trading against those.

I think it's really worthwhile to say in the simplest terms possible just how difficult the pump and dump problem is. In the last month, I've noticed, and I'm sure everybody else has, that spammers have figure out how to get through the spam filters.

My e-mail reader is just buried in notes saying that I should buy this, that or the next thing. It's always buy this. None of it is you should sell that. It's always buy this, that or the next thing.

And I look to the price and volume charts for these starts, and I think, well, gee, I mean, you can tell the stuff is spam. You can even see the tricks that the spammers are using to get it through the filter, which, basically, says it's spam.

And yet the price and volume charts show that prices are rising, and volumes are rising with the arrival of these literally tens and fifty e-mails per day that I'm getting, and I'm sure many of you are as well.

So what does it say? It says that there are people out there who read this and allow their imagination -- something about the story catches their imagination. They go out and trade the stock.

Now, I haven't read them that closely, but I'm sure they all have disclaimers that they, you know, it's just an opinion, and so forth. And even if they didn't, it wouldn't matter because it's coming from Eastern Europe or someplace. So what can the Commission do about this?

Somebody is expressing an opinion, or they're expressing an opinion that's out of the jurisdiction of the

United States. You, of course, know that there is a dealer who is benefiting from it, but you can't draw a line to the dealer. There's, essentially, not much that the Commission can do, although I'm sure they're concerned about it.

What can short seller do? A short seller can look at it and say, gee, this is going to go up, and it's going to go down, and I can make some money here.

So the short seller steps in and issues his short sale orders and at least keeps it from rising as much as it otherwise would, which, of course, protects those folks who foolishly thought that they should buy on something that came into their e-mail reader.

Now, the tick restriction affects those short sellers only on the way up -- I'm sorry, only on the way down. So they, of course, can sell into it as it's rising, but it prevents them from continuing to profit as they're pushing it back to where it belongs. And that's a problem.

But for these particular stocks, they may not be subject to tick restrictions. The bigger problem is the one that Pete mentioned, which is trying to understand the settlement market.

Usually, these stocks can't easily be borrowed. And so the question is how do you resist the pump and dumps in a situation where you're not allowing naked sales, short sales, and there is still a serious problem.

And the answer can only be that we have to publish the rebate rates or, essentially, publish the prices in the loan market so that people can at least see that there's something unusual happening.

Once the longs see that there is something unusual happening they might sell into it and thereby hurt the manipulator, or other people who are contemplating long positions might see it and say this is just foolish, because, obviously, it's over-priced.

MR. LEHMANN: I was almost going to say nothing, not in substance, nothing, because Larry said most of what I was going to say. I just wanted to add a couple of things.

One is I'm absolutely amazed as how much money is waiting for me in Nigeria. I can't wait to go there. I do think it's kind of strange to talk about pump and dump in little stocks, because the pump here involves getting through spam filters, and the dump here really involves selling. It doesn't really involve shorting.

The uptick rule has a whole lot to do with blowing through the nonexistent liquidity in small cap stock by finding a lot of widows and orphans who all of a sudden want to buy it because they got something from Outlook.

And I do think always the first best answer to anything is transparency. In a transparent lending market, we get rid of a lot of the things that even retail guys would be confused by. I don't think George is confused with our lending market, but I think there are lots of people who are, and it can't be bad to have transparency in that market.

MR. COLBY: Larry, I always thought that the major impediment to shorting in a small stock pump and dump is that the market was so controlled by the firms that were doing the pushing that you could get burned and squeezed on the way up to be able to be taken way past your pricing power.

And so the risk was just too high -- if you don't know where the top of that market was, the risk of getting in was so high that they could outlast you and take you to places, and you'd just be burned out, so it wasn't a safe place to short.

MR. HARRIS: The danger there is not that you could get taken past your tolerance. You can spread that risk around. Most of these situations are so well recognized that people would be willing to spread it around.

The real danger is a short squeeze. They'll push the stock up and then manage to pull it back from you. And this is why the settlement issues are so important.

MR. KYLE: I was going to say the same thing as Larry. The big threat there is a buy-in. If it's a penny stock or really tiny stock, a large hedge fund would short 100 percent of the float in that stock to stop a manipulation that was a, kind of, pump and dump manipulation.

But if they were going to be threatened with a buy-in on their 100 percent of the flow, that would eliminate their ability to protect the small investors from exorbitant prices. Hence, it's necessary, I think, for the fails to be remedied with a, kind of, gentle punishment, if you will, rather than a draconian one of a buy-in.

MR. LAMONT: I think the situation is maybe worse than you guys are characterizing it, because for many of these the spam that you get is not about legitimate stocks on the New York Stock Exchange. It's about penny stocks, pink sheet stocks, and many of those you simply cannot short them.

There is no market, so transparency is not -- you can transparently publish zero short interest, zero rebate rate. Nothing is happening there because the lending market is dysfunctional.

It's not that people are afraid to short. For certain stocks, they literally cannot short. You call up your broker, and it is not a doable transaction.

MR. KYLE: You're saying it's not doable because you can't locate the stocks?

MR. LAMONT: Yes.

MR. KYLE: So if you eliminated the requirement that you locate the stock and just allow somebody to short it with the intent of failing and fail for some period of time with a modest punishment of maybe an extra couple hundred basis points in fees per year, that would enable you to stop a pump and dump.

It's attractive to pump and dump those stocks precisely because the potential shorters can't do that.

MR. LAMONT: I'm not ready to endorse your particular solution, but I think the problem is the securities lending market, and that's the problem with the pump and dump.

MR. COLBY: I suspect -- we're way off topic here. I suspect there's a bigger problem than that. Unless you're extremely highly capitalized, if I was Rich or George, I wouldn't extend the margin for this for several reasons. One, because you could get caught in a short squeeze -- I shouldn't speak -- and also, some of these firms don't survive.

If you survive in taking down that pump and dump, you may take out the firm and break all your trades. I shouldn't speak for the -- so I think there is a the lot of impediments for a white knight coming in and taking down a pump and dump in a thinly capitalized stock.

MR. LAMONT: I'm not sure that could be the solution in most cases, because when you short a stock you usually have to give 100 percent or more collateral. So it's not that George wouldn't lend me the stock. It's just that there is not a system set up where I can go to George and say, "Look, quote me a rate, and I'll short that stock."

It just doesn't happen. This is not an issue with most -- dollar-wise this is not a big deal. This is not the problem with IBM. This is a problem for tiny little micro cap stocks.

MR. SPATT: I'd like to ask a question trying to pull us back a little bit to the subject of short selling but not specifically on the point of the pricing restrictions but on some related issues.

There, obviously, were a number of calls for greater transparency of lending markets. What are the thoughts of the panelists with respect to greater transparency of the short selling market itself?

And here I think in particular of the current disclosure of short interest, which is on a monthly basis, do folks think that's the right frequency?

Do you think the markets would benefit from some other frequency with respect to the disclosure of short interest?

MR. KYLE: I think that currently the ticker system in principle collects data on which trades would have been short sales and which trades weren't, but for the purposes of, say, academic research, that information is stripped away.

So academics can't look at all the ticks for a particular company's stock in a given day and identify exactly which ones were short sales. Is that right?

MR. SPATT: I was posing --

MR. LAMONT: You want to go to the model of Singapore or Australia where they publish it contemporaneous.

MR. KYLE: Let me make my comment, and then you can --

MR. LAMONT: Okay.

MR. KYLE: Because I was going somewhere else with it as well. I actually think that labeling trades as short sales and telling the whole world a particular sale is a short sale is probably somewhat burdensome and not that valuable for the value of the information that you're getting.

Having a tick system for the borrowing and lending market that reports a kind of open interest concept on a daily basis and reports here are borrowing transactions that are made, here is the rate that the borrowing transaction is made, you can have, kind of, a ticker for -- if it was the stock borrowing and lending market that is similar to the ticker that you already have for the trades in the stocks themselves.

And now I do mean CFTC. Analogous to commodity markets they will report not only trades for the futures contracts themselves, but they'll report trades for spreads and give you the spread differences, which are useful pieces of information that people do indeed look at.

So why not do the same thing for stocks to create a transparent market for borrowing and lending not only for overnight borrowing and lending, but, if people wanted to do term borrowing and lending, you could report the terms, meaning the maturities and the rates, for term borrowing and lending. Put it on a ticker. It would make it much -- I think a much more efficient and much more transparent market for borrowing and lending than we have now.

MR. HARRIS: There are two disclosure issues that we need to think about as we talk about these issues. First is the marking of the orders themselves. Should the orders be marked?

And then the second issue I think is the one you referred to is should the aggregate short positions be reported.

On the marking of the orders, I don't believe that they should be marked. Presently, marking the orders gives those people with access to the information an advantage that's not available to everybody else.

If we are to insist upon marking short sale orders, then those orders ought to be marked to a world as a whole, but then there's a question of who gets the information first, and so forth.

And then I still have the problem of saying, well, why would we mark short orders but not long orders? And there's so many ways that somebody can go short from a long position.

So for instance, somebody holds a very large market portfolio, and they tell their sponsors, their investors that, "What I'll do is I'll give you a market rate of return, but I will augment it slightly through a certain amount of short selling," and so forth.

That person will be selling from a long position but, effectively, short selling. How would you discriminate among that from a regular long seller? So it's impossible.

If we were to say that we do want to discriminate between these two types of selling, then the next natural question is, well, shouldn't we be discriminating between -- identifying the long buyers who are cash buyers and the long buyers who are margin buyers, which, of course, is probably an absurdity.

But an equal absurdity at least in the same order of magnitude is the marking of the short orders. So the marking of the short orders I don't think is a good thing. It's a tip-off to who is generally better informed, and it's a disadvantage to the well-informed traders who are making our markets more informationally efficient.

On the other issue, the net short positions, I think it's important information because, at a minimum, it helps the short sellers understand what kind of risk they face with respect to short squeezes.

It also seems to me a fundamental piece of information. When there is a difference between the shares outstanding and the actual float, it strikes me that people ought to know that.

Now, the question, though, is at what frequency should they know it? Is it sufficient to know it on a monthly basis, or would it be better to report it on a daily basis?

If you report it on the daily basis, then you're giving away the net flows of the short sellers, which is, essentially, revealing a relatively well informed order flow, and I'm not comfortable with that.

Monthly seems a little bit slow to me from the point of view of trying to keep people from getting into trouble with respect to short squeezes.

So probably the right answer is somewhere in between, which would indicate maybe every week.

MR. LAMONT: I think we do have experience with other countries in Asia that do publish daily. I think there's two issues here.

The first is that because there are special problems with short squeezes and getting bought in that short sellers are more likely to be the victim of manipulation than other normal people because somebody else can interrupt my trade and suddenly, by manipulating the securities lending market, potentially force me to terminate my trade at a bad time. So that's one issue that would make me cautious.

What I'm worried about is, you know, you publish stock ABC. It has a lot of short interest, and the CEO of stock ABC, who is a evil pump and dump guy, sees that and uses that information to somehow manipulate the securities lending market. Probably not likely to be a common occurrence, but it is a special thing regard to short interest, short sales.

The second thing I want to mention is -- and I'm sure this is not what you had in mind, Chester -- but several years ago a few companies came up with a proposal that individual short positions should be published.

Bruce mentioned transparency is always a good idea. Well, it's not always a good idea, and that would be one thing that would not be a good idea. Basically, that's just a list which says sue me, please, because I'm shorting your company. We wouldn't want that.

MR. SPATT: And as Owen indicated -- as Owen surmised, my question wasn't actually directed about that but about the broader issues that he addressed and the others addressed.

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

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

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

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

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

But the bear raid is the story that a CEO tells when the market is voting against him. And people who like the CEO vote for him by buying the stock. People who don't like the CEO vote against him by selling the stock or even going further and shorting the stock.

And the natural reaction of a CEO is I don't want people voting against me. I think it should be outlawed for people to vote against me.

I think bear raids probably occur hardly ever, but there are some borderline cases that aren't exactly bear raids that would be like death spiral situations with convertible preferred stock where the company, essentially, sentences itself to death and asks the market to carry out the execution for it.

That has the appearance of a bear raid, but it's something that the company itself, kind of, instigates, and, in some sense, the company itself bears responsibility for it.

But outside of those peculiar cases who is going to complain about being able to buy depressed stocks at really cheap prices and earning a great return on that? Milton Friedman wrote a paper on the benefits of destabilizing speculation a long time ago that, kind of, had that point in it.

If somebody wants to hammer a stock down to a really low level, it's a great opportunity for other people to buy. They're going to earn a very high return. That would include the employees of the company that's being hammered down.

If the company is a really sound company, it should benefit from that situation in the long run, if it has some people that do believe in the company.

MR. LAMONT: There are -- short sellers an oppressed minority, and of every oppressed minority some of them are actually bad guys. So there have been documented cases of what you might call bear raids, which are illegal price manipulation involving short selling.

So it is certainly something that takes place. As Larry mentioned, the number of cases involving that is dwarfed in terms of the number of cases by the number of pump and dump cases. It's also certainly dwarfed dollar-wise.

I mean, Enron was a massive pump and dump, and that has harmed investor welfare way more than the entire history of short selling abuses in western civilization I speculate.

An example of something, of a guy who was an illegal short seller, and I believe the courts have -- well, let me just say that there are examples in the past five years where the SEC has caught guys and prosecuted them and they've gone to jail for crimes involving short selling.

So it's certainly something that our system is set up to detect and is detecting. After September 11th there seems to be this idea that short sellers are evil, and if something bad happens it was probably done by a short seller.

So after September 11th there was a massive manhunt for the alleged -- Osama bin Laden was allegedly short selling airline stocks on September 10th. So there was quite a search for nefarious short sellers after that, and they did actually catch a guy who didn't have anything to do with Osama bin Laden. So we certainly have the mechanisms in place to find them.

MR. KYLE: The example of Osama bin Laden is insider trading, not a bear raid. Let's make sure we have the distinction right. A bear raid is I think a situation where you have a healthy company, and somebody decides I'm going to destroy this company by destroying its stock price.

Despite the fact that the company is economically sound, I'm going to somehow do it by -- destroy it by making the stock price cheap. And that would be a form of manipulation.

The other side of that coin and something that is quite the opposite is insider trading where you have some information, for example, that Enron has got some fraudulent accounting going on that you picked up which you could actually have done by reading Enron's 10-K.

That's not even insider. That's what I'm saying.

It's just informed trading. If you got the information improperly, it would have been insider trading, if you were inside Enron, as opposed to manipulation.

And the distinction is that whether you call it insider trading because it's information misappropriated, let's say, from the firm or whether you just call it smart short selling because you read the 10-K very carefully and extracted from that that there was some partnerships that didn't look very appropriate you're driving the price towards its fundamental value, which, in the case of Enron, I suppose, was zero.

I wouldn't call that a bear raid. I would call that either insider trading, if you're privy to private information inside the firm that weren't supposed to be trading on, or I would call it just smart informed trading based on good research, if you had figured that out from reading the 10-Ks.

MR. COLBY: If I broaden the definition of "bear raid" some, I wonder if it affects anyone's view. If it's not to destroy the company, but it's intended to start a visible progression downwards to try to make holders afraid of the direction of the stock and then induce them to sell with the hope of buying back at a very low price by driving the price down and bring everyone in in the same way, is it a different view, or is it only if you're trying to destroy a company in the process that you think it's not occurring?

MR. HARRIS: The classic bear raids that concerned people in the '20s and the '30s involved stocks where people had bought the stocks very heavily on margin where the margin requirements were much, much lower than they presently are. So people could acquire large positions on a shoestring, which allowed them to get into trouble in the price dropped. If the price dropped, they'd be in trouble with their broker, and then a forced sale was ensue, and that would cause the price to drop further, allowing the manipulator to buy at the bottom and profit.

So to some extent, our concerns about bear raids are very closely related to the margin requirements that we have on stock. At 50 percent now those are not anywhere in the same order of magnitude as the requirements that we saw in the '20s.

MR. COLBY: May I interject just to note that there are proposals to start the initial margin at 15 percent that are with the Commission, 15 and downwards depending on hedging.

MR. HARRIS: Okay. Well, it's something to be concerned of along these arguments. Notwithstanding that it's worth reviewing why bear raids of the classic type that you've described are less common than pump and dumps.

In a bear raid, the manipulator sells stock and then hopes that the stock will drop so that he can buy it at a lower price. In order for that to happen, he has to have other people to sell the stock along the way, and typically those are long holders or possibly other short sellers, and then he'll buy at the bottom from those folks.

The long holders are not great candidates for manipulating because they already bought a stock that they know a lot about the company, presumably. They liked the company when they bought it.

Because they're well informed about the company they may buy more stock as the price drops, and it's hard to get people to short sell what they don't know, and, in general, most people don't short sell because they don't know much about it.

To the extent that they know about it, they know that they're exposed to unlimited losses, so it's hard to get people, especially uninformed people, to become short sellers.

In a bear raid, it's hard to get people to follow your selling. In a pump and dump, the object is to buy the -- the manipulator's object is to buy it and get people excited about the stock and then sell it to them as the price rises.

Now you have a universe that's full of everybody who reads their e-mail who potentially could be buying the stock, many of them uninformed, and because that universe is so much larger and full of so many other people who are uninformed it's much easier to fool them than it is to fool the long holders in a bear raid.

So I think that probably explains the reason why the Commission sees so many -- which is generally aware that there's so many pump and dump problems relative to the bear raid problems, that and of course the difference in margin treatment that we see now.

MR. LAMONT: If I could just add, Larry, there's some other problems there. Let's go back to the case of Enron. I mean, Enron had a lot of things on its side that the short sellers didn't have.

Enron controlled the accounting information. Enron bullied the analysts. Enron had the underwriters. So the long frauds have way more tools at their disposal to perpetrate the frauds than the shorts do.

So it seems like that's another reason why we're more likely to see fraud on the long side. It's just easier. Our system is set up such that the long people have more tools.

MR. KYLE: The definition of a "bear raid" that you gave can take place over many different horizons. So at the shortest of short horizons, it's front running. You've got a customer that either has a stop loss order in the market or is about to place a sell order, and you want to, kind of, trade ahead of that customer so you short the stock.

And by shorting the stock, you drive it down and either trigger the customer's order, or you knew the customer's order was coming anyway, and you cover maybe by trading on the other side of your customer. That's front running. It's misbehavior with regard to your customers, and you could call that your little shortest of short horizon bear raids.

The tick tests that we're talking about today may have a side effect of, kind of, making that a little bit more difficult but I think at an inconsequential level. As you get to longer horizons you have things like portfolio insurance.

Portfolio insurance is a, kind of, preannounced strategy of I'm going to sell billions of dollars of stock if there's a substantial decline in the stock market. So the question arises would it be a legitimate strategy or desirable strategy for speculators in the market to sell first?

That raises an interesting question, because if they sell first portfolio insurers are, presumably, going to do what they said and continue to sell, and the next thing you know you have, kind of, a downward spiral to the stock market.

And I've got to give the SEC credit on this. You did a multi-hundred page study of the stock market crash of 1987 months before it actually occurred and had the scenario spell out perfectly and informed the market that you thought this was an issue.

And presumably, the cure for that issue would have been for people to go on and sell earlier rather than later to get the market to a level that was an appropriate level. So if you don't allow people to take actions to, essentially, protect portfolio insurers from themselves you're likely to wind up with a very inefficient market and people getting hurt.

MR. SOFIANOS: It seems to me we left aside a little bit of the empirical evidence presented this morning, because it seems to me that based on the empirical evidence -- I don't know how much of a problem bear raids are or not, but it doesn't seem that the tick test affects them one way or another.

Perhaps we could -- and again I'm turning to the academic researchers in the audience who could refine the test more specifically for this particular kind of event. But I would have thought if it was an issue of tick test affected the possibility of a bear raid we would have seen something in the data that already has been analyzed.

MR. COLBY: Could I take this to a different point now? And that is that another thing we touched on and in particular Pete talked about is the effect of the tick test in extreme volatility conditions.

I just wonder if we could hear of views of other -- Pete, again, if you'd like, another panelist on that, because these papers were done in a time of relatively low volatility.

What do you think the impact of the tick test or lack of a tick test in an extreme upward or downward rise? We should focus on downward, because upward wouldn't be a valid for the tick test.

Pete I know has talked about it being implicitly an unfair discriminatory form of a circuit breaker if I understood what you're saying. I wonder if other people would like to comment or you'd like to expand.

MR. LINDSEY: Well, if I interpret Pete correctly, and I'm sure he can speak for himself, he, basically, said it was a bad form of circuit breaker, because, basically, you had an accumulation of short sell interests that wasn't being reflected in the market quickly enough.

And you had, essentially, an overhang that at some point could, in theory, come off. Now, of course, if it's all downticks at any given point in time, you probably can't get that overhang to come off, because the shorts are not going to happen that way.

We can go into a very long debate about whether or not circuit breakers in any way, shape, way or form are good for financial markets.

And the Commission has been through that a couple of times on the pros and cons and whether or not you should have individual circuit breakers on stocks or whether or not you should have circuit breakers on the markets at all or whether you should let the markets do whatever the markets do.

I think that there's -- not to speak for everyone on the panel, but probably within the world of financial economists most people would kind of say let the markets behave as the markets are going to behavior. Don't put any artificial restrictions on them, and let them work.

That may not be the appropriate policy decision. As was being pointed out somewhat humorously by Bruce about transparency, I think most financial economists would also say the more transparency the better. And particularly if you're an academic, the more data you can see the better.

And that may not be the right public policy decision. Maybe we should have transparency where everybody's Social Security number is posted on the internet. That would be a form of transparency most of us probably wouldn't like.

So it's really a matter of making that distinction between what might be nice from an intellectual type of approach versus what's the appropriate thing for public policy.

MR. SOFIANOS: I just wanted to reinforce what Rich said. To the extent that you do want to worry about unusual events and circuit breakers, I don't think the tick test is a way to go about dealing with events like that.

MR. LEHMANN: In the traditional of echoing that happens to be going on, I'll echo that and just say it still really isn't clear to me precisely what the tick test is a remedy for.

It's not a remedy for the bear raid. That just is not the right thing. It's not the remedy for limit orders being deep on one side of the book and shallow on the other. If you don't see that, you can't notice it.

But if you see tons of sell limit orders hanging out there way up and people just going down and down and down, that's the information you need transparency of the book.

It seems like the tick -- it can't be for pump and dump guys. All you've got to do is do a pump that's 2 bucks a share and just spread your trades outgoing up, and when it stops going up you close out the ones at the end, and you lose on a few of them. Pump and dump has nothing to do with a tick test.

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

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

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

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

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

MR. LEHMANN: Actually, Japan -- just for the sake of information, Japan, if you're going down two ticks in a 10 yen, the stock is stopped there. The screen flashes advertising immediacy, and it usually hits within a few seconds. But the thing that goes for a long time doesn't happen hardly at all.

MR. KYLE: In a crash scenario in Japan, everything is flashing, and there are just big overhangs of orders, and that's your circuit breakers at work in a crash scenario.

MR. HARRIS: I think it's useful not to lose perspective on the fact that there are so many different ways to get around the tick test. We're arguing about its potential benefit without recognizing that even if you thought it had a benefit -- we don't think it does -- there are so many ways around it it's, essentially, an unenforceable piece of regulation.

So what's presented in front of us is potentially an opportunity to get around an ineffective regulation that has no real value associated with it. You, sort of, wonder if the Commission can't get rid of this type of regulation it will never be able to get rid of any unnecessary regulation.

MR. COLBY: I once got rid of a regulation that as far as I could tell had not been used in maybe decades, and the information was sitting behind a secretary's desk. And I was subsequently -- not personally, but the elimination of that rule was fingered as a factor in the 1987 crash. So there are negatives to getting rid of regulations.

MR. HARRIS: Make no mistake that there are constituencies that care very much for this rule besides just the corporate managers, and so forth. In particular, anybody who sees the order flow that's marked has an advantage, because it's well known that the short sellers tend to be better informed than other sellers.

So anybody who sees a marked order flow has a strong interest in maintaining this rule as long as it's not too binding on their own trading.

MR. COLBY: One small follow-up. As I listened to the studies this morning it seems that there was an impediment to trading into shorting from the short sale rule.

So what would you attribute the fact that short sales are still being done in the equity markets, as opposed to these other possible ways to take a short position? Is it an efficiency matter?

MR. HARRIS: You've seen evidence that the rule has effect, because we see that there is some statistically significant but not economically significant difference between two samples where there are good controls on the composition of the samples, and so forth.

But it's not really economically different. I mean, the differences aren't economically significant in any means. The rules exist. People are abiding by the rules. They're adjusting their trading strategies in reflection of those rules, but by and large they're able to get their trades done in certainly the more actively traded stock because there are so many ticks available.

They're getting them done in the Nasdaq stocks because you had a couple major venues where the bid tick test isn't being enforced because they weren't required to, and so everybody short selling is going to send to those venues.

I mean, it's no surprise at all you got no effect in that market. The world seems to be continuing along just fine. It keeps compliance attorneys in work.

MR. SPATT: I'd like to ask a couple of maybe broader questions as we start to wind down. We've focused to some degree in the panel on the tick test, not completely. And we've also talked a bit about other markets, including the lending market, and we had some interesting discussion about the lending market.

So in general do you feel that markets treat short sellers appropriately, or is it environment too harsh or too lenient for short sales? Certainly, my take-away from a lot of the discussion today is that the tick test is simply sort of a minor -- it's a cost on short selling, but it's a pretty minor one.

Are there other broader impediment -- particularly, if there are broader impediments, are they regulatory in character, or is it just, sort of, fundamental about the nature of what short selling is about?

MR. LINDSEY: The tick test may be a minor thing, a minor impediment, but it's a little bit akin to if every time you get in your car --

MR. SPATT: I wasn't defending --

MR. LINDSEY: No. Let me finish. If every time you get in your car you have to, kind of, rock the steering wheel back and forth before you can get your car started, you know, it's just an impediment.

You can always get your car started, and you can always get to work, but it doesn't mean that you like it, and it doesn't mean that it makes your life particularly easy.

So it's a little bit -- I think Owen has used the phrase that, you know, short sellers are an oppressed minority a couple of times, but it's a hassle in terms of their activity in the market. When you really want to do it as professionals, it can get done, but you have to jump through a hoop that, kind of, makes no sense in terms of its normal application.

So from that standpoint, you know, I don't want to downplay the fact that, gee, since it's only a minor inconvenience therefore there's nothing we should do about it, I would still argue that there should be something done about it.

MR. SPATT: Let me also sort of say in my question I wanted to really emphasize whether there were other aspects of the way implicitly or explicitly short sales are regulated that impose -- either do impose other burdens relative to long transactions or perhaps don't.

MR. KYLE: I think I said this earlier, but I'll repeat it. If you're an unsophisticated trader and you want to go short, my understanding -- I've never done that before, and maybe I am not as sophisticated, but my understanding is you wouldn't get the rebate that the market would probably give you if you were more sophisticated and knew how to ask for it.

So in that sense, retail investors are probably well-advised not to engage in a lot of short sales because they are, essentially, discouraged by lack of transparency and lack of getting the benefits of the rental rates for securities. I said it wrong. If a retail investor sells short, he may not benefit as much from the low borrowing cost as he should. So that's an issue but not a big one.

MR. HARRIS: I was going to make the same point. Let me add to it. I have a fair amount of experience short selling as a retail investor.

To my experience for my size account there has -- there's only one broker out there that is offering short interest rebate, and I've called up a lot of brokers, full-service brokers, discount brokers, and the like, and dangled in front of them million dollar accounts with million dollar short positions, not that I had that but that I was trying to see where the line was where they'd actually say, "Okay. Well, I'll take it."

These are extraordinarily lucrative accounts for the dealers -- for the brokers, because the brokers take the short interest proceeds, and then invest them.

So for example, if somebody is holding a million dollars in short positions, that represents $50,000 a year in interest income that potentially could be rebated back.

Now, there's one retail broker now who will provide it, and that's a very sophisticated broker, but otherwise they wouldn't do it. And I pressed everyone. I come back with the overwhelming notion that I can't substantiate as an economist and certainly not as an attorney that there's a tacit collusion that nobody wants to break.

Now, I understand that dealing with short sellers is more expensive for the broker. They expose the broker to various problems, including unlimited liability, but those brokers are already exposed to those types of problems with people who take short positions in options, and they're certainly willing to offer those to their retail customers.

So my only conclusion is that there probably is a tacit conclusion here. That's not necessarily a regulatory problem. It would be a failure of somewhere else. But I've always been very surprised that there's so much money in that business that doesn't go back to the retail client.

That's one answer to your question. The other answer is that -- we were talking before there's still a big problem with settlement failures, so we've argued for the benefit of allowing people to be naked against pump and dump situations.

A trade that is arranged between two parties for a three-day settlement that gets converted into a indefinite settlement really represents a renegotiation of the trade on a bilateral basis from a cash settled security contract to a open-ended futures contract.

And that's a very significant problem, and the problems associated with it are twofold. First of all, the buyer doesn't get the security and therefore can't loan it, and these securities are securities that are on special so that the loan fees would be significant.

Buyers typically don't know about it. Certainly, you'd think the brokers would care about this, but because they're on both sides of it I don't think they're too responsive.

The other problem is a problem having to do with corporate governance and the question of how many people out there think that they own the stock and are able to exercise their votes.

If somebody buys a stock and think that they're actually buying the stock and then can't vote it, that's a significant problem.

The solution to the problem, Pete suggested one that I've always been partial to, which is an escalating schedule of penalties, but the problem with that also is it still exposes -- it's sort of a compromise position.

It exposes people to the possibility of getting caught in a squeeze anyway. Now the squeeze is going to be a financial squeeze that's enforced by whatever entity is collecting those fees.

Probably what's needed is a mechanism where it's easier to open up the futures contract that I just described. The individual security futures contracts have been difficult for a variety of reasons, but here's a particular circumstance where you'd think that they would work very well but where you would never authorize them apriori or wouldn't be thinking of doing it.

So a futures contract on a pink sheet stock is just not sort of a normal thing, but these are the ones that are getting manipulated.

So if necessary, perhaps you could somehow let that market get created so that people actually knew what they were trading, that they were going to buy something but that they really weren't going to get settlement and then somehow impose a requirement on the brokers representing the buyers that the buyers need to be advised that there's a market out there where you could buy this thing a lot cheaper than you otherwise could. And are you really thinking you want to buy it for cash settlement, or do you want to buy it for future settlement?

That by itself opens up a huge bunch of problems, but these are the types of issues that will have to be engaged to ultimately solve this issue.

MR. SPATT: And I have one final question, again a broader kind of question and actually one not directed even at short selling specifically.

I noticed in the panel this afternoon and indeed among many of the panelists this morning praise for the Commission and staff for the design of the pilot and in particular for, basically, structuring a natural experiment to create evidence that would inform this rule-making.

Are there broader lessons from this, do you think, about the types of situations in which such an appropriate might be used to inform rule-making in other contexts? Clearly, in many contexts this type of approach wouldn't work. Do you have perspectives with contexts where this natural experiment approach might be beneficial in the context of rule-making?

MR. LINDSEY: Well, I think one of the places or one of the things that's important in terms of doing it -- and I agree. I think this is a great experiment, and I think there was some great papers this morning that I thought were terrific in terms of the work.

And I think the Commission should be praised both for what they did in terms of the pilot program but also in terms of this type, and I meant to, kind of, mention it earlier. It's the first time in my memory, I think, that the Office of Economic Analysis has had a session like this to discuss on a broader sense some type of let's call it market experiment.

So I think that's a very good venue and something that should be pursued. What was a little unique in the Reg SHO pilot was the fact that you have everything going through a few marketplaces, and markets could, essentially, centralize the activity associated with the modification of the systems so the experiment could be conducted.

If, on the other hand, the experiment needed to be conducted so that, you know, 8,000 market participants -- to just choose, like, broker dealers, or whatever -- but if 8,000 market participants each had to modify their systems to conduct the experiment, I think that would be a terrible waste and a great inefficiency.

So it really -- while I think the experimentation is very good, it is best if it's, kind of, focused in an area where it's not going to be prohibitively expensive to conduct that experiment.

MR. HARRIS: The bread and butter of the Commission is disclosure, yet the Commission knows very little about what makes for effective disclosure.

We know from disclosed data and, if it's possible for people to actually read the data -- of course the Chairman is very interested in this issue right now -- then people will be able to process it.

But there are places where people have to process the data themselves as individuals; for instance, with prospectuses, and so forth, where issues about labeling, how things are presented, become very, very important.

The Food and Drug Administration spent a considerable effort in figuring out how to produce labels on our food packages that I find to be extraordinary useful. That was the result of scientific studies that experimented with alternatives not necessarily in the type of experiments that we have here with Reg SHO but involve scientific experiments to determine what was effective.

We have the same disclosure issue with respect to mutual funds, and so forth. It would be interesting and important to figure out what really needs to be disclosed and how it should best be formatted so that people can obtain the greatest value from it.

That's not to minimize the importance of all the other disclosure that goes on in the form of the NSARs in the backs of the prospectuses, but what appears on the front should be designed for maximal effectiveness. It would be a small use of money compared to its value.

MR. LEHMANN: I would add not anything about specific things that should be done but about experiments. You really can't hope to learn about things that will have permanent impacts from an experiment.

To give an example that I hate, you can learn about the effect of a temporary transactions tax, but you can't learn diddly about a permanent transactions tax. And disclosure is like that.

You can learn something about more timely or differently timed disclosures, but you can't really learn about disclosure. You've got to be doing something that is a temporary remedy for some temporary problem.

I just don't think you can experiment with making a better prospectus, although believe me I think a lot of improvements could be done in that domain.

MR. KYLE: I think there are potential experiments that could be conducted in the disclosure area, especially on accounting issues, because, as Larry suggested, there are areas where information is disclosed such as, say, stock option expensing or other fair value accounting type issues where the information is going to be disclosed somewhere.

But many people think that the way in which it's disclosed actually has an effect on the way in which securities are valued in the marketplace. So I think that there would be potential benefits when different accounting issues come up to maybe applying them to a randomly selected group of stocks.

And then I can guarantee you the accounting professors around the United States would study that very thoroughly, and you'd learn something.

MR. SOFIANOS: I think the question should always be asked when contemplating a rule change or a new rule is this rule change or new rule something we could do a study, do an experiment beforehand. And if the answer is yes, then it should always be done. It should be part of the process. But clearly there's a large number of cases where it's not possible to design an experiment.

MR. HARRIS: I would note for completeness that there are some political aspects of experimentation that ought to be mentioned.

Who gets included in the experiment will be very important to some people, especially if the issue is very important. We were able to do this SHO experiment because, frankly, most people it wasn't going to make a big difference and be able to include a third of all stocks or a third of all the big stocks. And so whether you were in or not it wasn't like you were being singled out in any special way.

But if you start touching something that's really important, you're not going to be able to do it with a third of all stocks. You're going to have to do it with, say, 50 of 5,000 stocks, at which point the 50 who are involved in one way or another are going to be very concerned about that. And that's makes it very difficult.

I think it's very important that we do this type of stuff, but there are some political difficulties that we should be aware of as we discuss the issue.

MR. COLBY: I should just add that those of you who worked on it know that it was not at all clear that wasn't going to be very politically controversial at the time also.

MR. SPATT: I remember. I happened, as a member of the public, to be at the open commission meeting when this was discussed, and there certainly was concern reflected at the time that some issuers -- there was concern that some issuers might potentially be very concerned if they were going to be in the pilot as compared to the control sample, although, you know, I think, obviously, that has not been a huge issue.

Well, I think at this point -- it's about 3 o'clock, and I think Bob and I have just about exhausted our questions. I wanted to again thank the panelists for coming here today and for sharing with us their wisdom about the pricing restrictions, about short sales, about lending markets and a host of other issues.

We appreciate very much your taking the time to share your thoughts with us.

(Whereupon, at 2:59 p.m., the roundtable was concluded.)

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