CHAPTER 4: THE NASDAQ MARKETPLACE

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Robert Hegarty, *Managing Director, TowerGroup Securities & Investment Group*
Richard Repetto, *Principal, Sandler O'Neill & Partners*
Jamie Selway, *Managing Director, White Cap Trading*
Henry Yegerman, *Director, ITG, Inc.*

ROBERT SCHWARTZ: Like many of you, I remember the days when we had NASDAQ and Instinet, and everyone viewed these two entities as standalone competitors. But I always believed that Instinet, even back then, was part of the broader NASDAQ marketplace. Look at it from the perspective of the issuing companies. The issuers care about the market where their stocks are traded. The fact that Instinet benefited customers in trading NASDAQ stocks added value to the broader marketplace. That same sense of contributing to the broader marketplace persists today in new areas.

After the order-handling rules were introduced in 1997, Instinet discovered for the first time that it was, in fact, an ECN. Fast forward a little. Now Instinet finds out that it is not an ECN anymore, but instead is part of NASDAQ. Yet the broader NASDAQ marketplace continues to exist with a variety of new alternatives, including Pipeline, Liquidnet, and others. This is the new NASDAQ marketplace that we will focus on in today's conference. So, let's keep our vision of the NASDAQ marketplace broad. And who better to lead the charge to the broader marketplace than Wayne Wagner!

WAYNE WAGNER: We are going to do this a little differently than the previous two panels. We will open this up to the audience as soon as I get my own two cents in. I was flying over here in the new American Airlines pretzel class. To ward off thoughts of starvation, I was thinking about what

[28] At the time of the conference, Mr. Wagner was Chairman of Plexus Group. On January 3, 2006, Plexus Group was acquired by ITG, with whom Mr. Wagner is now a consultant.

is going on in this industry. What are the underlying motives behind this consolidation?

I came up with three hypotheses. First, what we have is a gathering of allies in preparation for the clash of the titans – New York and NASDAQ – to determine who will be the dominant market in the future. Second, on a more clandestine note, what we are seeing is the establishment swatting down the flies who have made their lives so miserable for the past 15 to 25 years. Basically, the major market centers are trying to put out of business the ones who have been sapping lifeblood from the major exchanges. Third, we are witnessing a re-gathering of the strength of a central market. This is in contrast to what has happened in the past 15 years, a time when the buy-side dominated the debate about what is needed, and about which way it is going to go; something that I am quite familiar with and highly support.

When you think about the needs of the big institutional traders – I am including hedge funds – there are two things that an exchange must do. First, it must gather and enhance liquidity. Reto Francioni spoke about that. Second, it needs to preserve confidentiality and trust. You cannot have an institutional-sized trading market unless your orders are kept confidential and anonymous. You also must have the ability to create liquidity when the ebb and flow of the buy and sell streams are not producing it. Now I would like to congratulate myself. This is my first speech in about ten years that did not include the word 'iceberg' (laughter).

Let me introduce my panel. We have Kim Bang from Bloomberg, Rob Hegarty from TowerGroup, Rich Repetto from Sandler O'Neill, ITG's Henry Yegerman and White Cap Trading's Jamie Selway. All of these professionals are extensive users as well as tremendous thinkers on markets and market operations. Let me bounce one question down the line. Who will be the 800-pound gorilla?

KIM BANG: The only 800-pound gorilla in our space is Bloomberg. We sit on top and are fully integrated with that 800-pound gorilla. But in terms of transactional space, we are quite modest. Our focus is very much on servicing the Bloomberg client, the institutional client if you like. Actually, there is a fair amount of speculation now that Bloomberg Tradebook is one of the few independents left holding an ECN medallion. The question is, does that now create a business opportunity for us? My response is, the economics of operating an ECN have diminished significantly. When you look at some of the ECN business models (some of them are public), you can see that the revenues and profits associated with that endeavor are minimal at best. To have a valuable business proposition in that space, you probably have to morph into an exchange, charge for market data, membership fees, and compete for company listings. We do not see ourselves in the exchange business. We are going to stay focused on

servicing our institutional Bloomberg Tradebook clients as a global agency broker. That means building our trading technology, order tools, strategies, transaction cost analysis, etc., on the client's desktop. We will remain agnostic in terms of the liquidity venues that we integrate with and provide our clients access to.

WAGNER: Rob?

ROBERT HEGARTY: I believe that the question you asked is, who will be the 800-pound gorilla? If you could take a gorilla and split it up into two 400-pound gorillas, I think it is pretty clear now who they will be (laugher). But in the future, you have to place your bets on innovation. I agree totally with Kim's point that this is a highly commoditized marketplace now. The economics of that model are not what they were when the markets were first formed back in the late 90s. It strikes me as strange, but the ECN marketplace and the U.S. equity marketplace are starting to look a lot like the auto industry. We will wind up with the Big Three. If you play that out a little, it opens us up to lots of things. In other words, when you look at the auto industry today and what happened with the Big Three, we see serious consolidation that opened the way for foreign competitors. Consolidation in our equity markets today makes them ripe for foreign competition.

So, when looking at who is the 800-pound gorilla here in the U.S., it is only going to be a matter of time before the one that innovates fastest becomes the big gorilla. Clearly, the race is on between our two markets.

RICHARD REPETTO: First, I am a sell-side analyst, and I have to mention my research restriction on NASDAQ. I cannot speak specifically about the company. I have permission from the lawyers to talk about the marketplace. What I find interesting is that we have come full circle. Previously, it was the battle of two 800-pound gorillas, the NYSE and NASDAQ. Now, through technology, innovation, and the entrepreneurial efforts of a guy like Jerry Putnam, you are seeing a lot of competition. Liquidity is definitely fragmented in the NASDAQ market.

In the space that I cover–which is trading companies, whether it is the online brokers, or the Knights, or the exchanges – you are starting to see the first major consolidations that can offer significant synergies. The NYSE and Arca (which I can talk about) are unique because they are not really integrating their trading platforms. The potential here is to bring together liquidity and to reduce costs. I think that is what we are going to see in the future. I agree with Rob, we are getting closer to models were we see multiple products and diversification, like you see on Euronext and on Eurex overseas.

HENRY YEGERMAN: I agree with much of what has been said so far. Obviously, the conventional wisdom is that NASDAQ and the NYSE are going to fight it out and that, at some point in time, one of them will win.

Then there will be a battle with some of the big European exchanges as people go after the global marketplace. But, if we look at all of this as a kind of evolution, we know that sudden shocks brought about by regulation or technology innovation sometimes move markets in unforeseen directions. When they do, they can create exotic organisms. I want to point this out because Wayne asked us something that was a little controversial just to start some conversation…

WAGNER: I asked you to start a fight (laughter).

YEGERMAN: If we accept that the buy-side and other participants in the market want competition, where might that competition come from? I would like to throw out one possibility: perhaps a new wave of competition might come from the Order Management Systems (the OMS vendors) somewhere down the line. But it is not going to happen tomorrow. This is how it might play out. You will see consolidation in the OMS marketplace. You will end up with a couple of OMS vendors that have hundreds of large institutional clients. At that point in time, they might seek to internally match the buys and sells among their clients. The OMSs are moving away from a subscription model to more of a revenue capture model. They have tremendous stickiness on their client's desktop. They are hooked into the client's back office systems. As they seek to grow, they will respond to what the ultimate clients want. I want to throw that out, not in terms of who the 800-pound gorilla might be, but who in the future could tender to that gorilla.

JAMIE SELWAY: Can I throw the first right cross (laughter)? Sounds like Henry is describing Liquidnet to me (laughter). To answer Wayne's question, the 800- pound gorilla is the client. It is the guy with the order, particularly the buy-side trader. What you have seen over the past month is the old-line exchanges going out and acquiring businesses that were built around servicing customer needs, servicing the people with the orders. This is a radical transformation. Exchanges will no longer be protectors of vested interests for people who are out running businesses, people who are trying to grab orders. Ultimately, the exchanges will be into investor fulfillment for the first time. That is a real sea change.

YEGERMAN: Just to follow up. The way I just put it is, whoever controls the order flow, will use it to their own advantage.

WAGNER: Let's open this up to the audience.. I have a series of fiendish questions to ask my panel, but I would rather get questions from the audience. Jim.

JAMES ANGEL (Georgetown University) [From the Floor]: The restructuring of the U.S. equities business brings up many questions about how the markets have been regulated. I am interested in the panelists' views about what kind of regulatory structure makes sense in the new environment.

HEGARTY: I will take a stab at that. My sense is that surveillance is a function that requires some intimate knowledge of the trading process, and that it probably should be organized by the marketplace. Member regulation is somewhat redundant today, as we have multiple regulators overseeing multiple markets. We would be having member related interactions, books and records, registrations, with three different entities, the NASD, the NYSE, and the SEC. That could potentially be normalized into a single regulator. Actually, the SEC, with that concept release,[29] is now in the process of looking at these very questions.

WAGNER: I would add the CFTC to the list.

BANG: As we talk about products broadening out and having a wider set of options, the regulatory oversight could be multiple entities. The question is, should we be looking for a single regulator across multiple products and exchanges? The other interesting point is that the regulatory obligation is shifting from exchanges to market participants. The buy-side traders invariably incur more fiduciary regulatory responsibility as the marketplace becomes more electronic, and as they gain more ability to facilitate their own executions and to make decisions as to where and how they execute a trade, how and where they route an order, and the various strategies and tools they employ.

REPETTO: Jamie says the market looks to be more customer focused. The only reason it has moved in this direction is regulatory change. If the NYSE was not getting automated, if Reg NMS was not being implemented, or if you step back even further, if it was not for the order-handling rules, we wouldn't have had the ECN development. We are definitely moving to customer-centric models now, but regulation has got to be right beside it. I do not know what is the best regulatory structure, whether it is a single regulator or not, but the regulator will have to be separated from the markets, especially in light of today's scrutiny of bias and objectivity. Regulation should be easier with more electronics. Currently, systems are being gamed. We have seen a lot of problems. I cover LaBranche; you have specialists, or human [intermediaries], with a role where they can take advantage of the system.[30]

YEGERMAN: I believe the question was about what type of regulation would make sense. Regulations make sense if they are commensurate with the technology that is feasible to implement them. If we have regulations that go beyond the scope of the firms that need to comply with them, we will end up in a situation that will ultimately blow up on somebody. Much more

[29] SEC Concept Release Concerning Self Regulation, Nov. 18, 2004. See, http://www.sec.gov/rules/concept/34-50700.htm

[30] At issue were regulatory investigations into specialist activity at the NYSE.

data will need to be captured. That translates into a very practical problem of handling databases, being able to maintain clean data, and a lot of other issues that take place on a nuts and bolts level. If we try to regulate beyond what firms can actually do, we will end up with another Sarbanes-Oxley situation. People will be spending millions and millions of dollars. They will be diverting their resources trying to comply with these regulations. Ultimately, they will perhaps be trying in vain.

WAGNER: I have to hand it to the SEC on their remarkable restraint in setting up some directions in which they want to head, and letting the market sort it out.

TERRY O'CONNOR (Cedar Creek Management) [From the Floor]: Could one of you tell us whether you think the current clearing and settlement systems are appropriate for the market that you think will develop in the next several years? Is there a better model? How do you think clearing and settlement will change in the next few years?

HEGARTY: We just looked at the different clearing and settlement systems across the globe. As it turns out, the U.S. clearing and settlement system is pretty efficient when you compare it to the rest of the world. In Europe, for instance, it is very fractured. The various systems are not in sync with each other. From a model perspective, our current clearance and settlement system, with DTCC at the center, is pretty efficient. In many ways, it did a lot to bring the markets back together when the marketplace was fragmented. There was still a single place to go to in the clearing and settlement process.

The biggest challenge is dealing with the volumes that we will experience. We heard on the previous panel that we have not seen anything yet in terms of volumes. I completely subscribe to that. Also, in terms of quote volumes, which is independent of the clearance and settlement issue. But there is no question that we will see an even greater increase in trade and share volumes. A lot of people do not realize that share volumes have been flat for so long while, in the meantime, over the last three and a half years, trade volumes have quadrupled on both exchanges. What happens when share volumes also take off? Those trade volumes will go through the roof. It will be exponential growth.

WAGNER: Yes but, Rob, compare the securities clearance with say MasterCard or Visa. Within minutes of your signing the restaurant check, it is possible to get a record of the debits and credits in the transaction. From that standpoint, it does not look so efficient to me.

HEGARTY: I would have to agree with you that, on the timing side, it is not very efficient. Let's drag out the old argument. We should be going from T 3 to T 1, right? There is room for improvement there, but the model itself works. The timing could certainly use some improvement.

SELWAY: If I could ask a question, how does the DTCC process compare to the clearance and settlement process for the Chicago Mercantile Exchange, the CME? Because one of the thrusts of the question could be that, as we watch this consolidation, some people are declaring an end to the equity trading business in terms of growth. They wonder about these new companies, this new NYSE group, the new NASDAQ with INET. They wonder what they will do. Will they trade options? Will they trade fixed income? Is there something they can do that looks Merc-like, or Deutsche Börse-like, in terms of building the vertical silo that does trading, clearance, and settlements under the same roof? In your study Rob, how does our clearance and settlement on the equity side compare to the other markets?

HEGARTY: The biggest difference, again, is the timing. On the Merc, it is possible, desirable and, in fact, necessary to have real-time trading, clearance, and settlement. It is necessary to have them all at the same time due to the volatility in those markets. I do not agree that we are looking at the end of growth in the equity markets. There is no question that some of the other asset classes will grow faster. But that has less to do with market structure, and a lot more to do with the types of investments involved. Frankly, the buy-side, whether you are talking hedge funds or traditional funds, are more interested now in trading things like derivatives because, number one, they can. They can because these instruments are more transparent and, number two, they are becoming more comfortable with those instruments over time.

The name of the game is trying to achieve alpha. Over the last three or four years, the buy-side has recognized that achieving alpha in the equity markets is next to impossible. When you combine equities with options, derivatives and commodities, it becomes much more feasible.

BANG: I would add that clearance and settlement are quite efficient in the States. Outside the U.S., they can be very complex. We are seeing trends in the U.S. where clients are asking us to provide a wide array of services. Clients do not just want access to execution venues. They also want, for instance, algorithmic strategies, direct market access strategies, special tools, and ways to trade across multiple liquidity venues. With regard to trading across multiple liquidity venues, our clients want one, single, average price ticket at the end of the day, with one central settlement party.

In Europe, there is fragmentation across multiple liquidity venues. For instance, take a stock like Nokia. Not all clients are able to settle a stock like Nokia in the market of their choice with one average price ticket, having access to liquidity across multiple exchanges. That sort of best execution service has been invaluable to our clients.

WAGNER: Jamie, we had a conversation about how the distinctions between markets, participants in the markets, and users of the markets are

blurring to the point where you are not sure exactly who you are looking at. Would you share some of your thoughts?

SELWAY: Sure. It is a trend to watch. My sense is not to say that the equity markets will stop growing, because I do, in fact, think they will grow. But these companies casting about for things to do raises some interesting questions. You can be metaphysical about what is an order type, and about what is a trading strategy.

Exchanges provide pegged orders. ECNs provide pegged orders. Is that an algorithm or is it an order type? Is pegging a function that should belong to an exchange, or to the user of an exchange? The NYSE has CAP orders.[31] The best I can tell is that CAP orders are a poor man's VWAP engine. It is conceivable that the exchanges themselves could start to provide some algorithmic functionality. It makes you think back to the days of early ECN-hood, in the 90s, when the ECNs were competing with the market makers. You had this tension between the market participants and the marketplaces. This is something that will increase, not decrease.

WAGNER: Well, that is particularity true in the hedge fund world where you really cannot tell if somebody is consuming liquidity or is providing liquidity.

BANG: I would add something. NASDAQ said earlier that it had zero intention of providing their particular order types and functionality directly to the buy-side. They are looking to provide these indirectly via their members. Part of the problem with a particular exchange or liquidity venue providing these various liquidity tools and functionality is, as we discussed earlier, the opening and closing crosses that NASDAQ has. The crosses are off to a good start, but they do not include all of the ECN participants' liquidity in the continuous market. Think about how large the ECNs' market share is, and how aggressive price setters, the ECN price setters, tend to be around the open and the close. All of that liquidity does not participate in the opening and closing spin. To facilitate an auction cross, exchanges will have to be all-inclusive, to integrate ECNs and other exchanges' liquidity.

[31] The NYSE, in a filing with the Securities and Exchange Commission, defines CAP, or Convert at Parity Orders, as orders as "orders in which the specialist may convert all or part of an unelected portion of a percentage order, and may trade on parity with the elected or converted portions of the order, as long as the specialist is not holding orders at the same price that do not grant parity." Bloomberg Tradebook's Kim Bang, in a public comment letter to the SEC dated Jan. 6, 2003, raised objections on several grounds to NASDAQ's proposal to establish a Closing Cross where trading interest is subject to automatic execution. The letter contended, for example, that because the Closing Cross would exclude trades, and therefore liquidity, in NASDAQ securities from ECNs that use "order delivery" rather than "auto-execution," the closing price would likely be imperfect. The letter also contended that the proposed rule change would mean a denial of access to ECNs, amounting to an inappropriate burden on competition.

Exchanges have gone a long way to establishing bilateral linkages, smart routing and so forth among themselves, but opening and closing crosses that are focused on just one liquidity venue will have limited upside potential.

REPETTO: When anyone would ask John Thain about a potential IPO, prior to the NYSE and Arca merger announcement, he would always allude to the need for growth at the NYSE. To be a public company, he wanted to show that the NYSE had a growth vehicle. I know for a fact that the NYSE has looked at all of the revenue that is tied to the exchanges, and it is in the billions of dollars. But, unfortunately, a lot of those dollars are tied to membership. As the NYSE completes the merger, if it goes as planned, the members will get equity in the company, and Thain will not have the same conflicts. I can easily see him reaching out to grab more revenue that is generated from the exchange.

WAGNER: What an interesting concept. There is a question back there.

UNIDENTIFIED SPEAKER [From the Floor]: I would like to ask about NASDAQ's closing cross, and then maybe expand across other trading initiatives that have been introduced recently. The way the closing auction is designed, the disclosure of trading imbalances prior to the close should encourage the participation of contra-side liquidity from dealers who are providing capital. It is well known that dealers will not provide capital on the close unless they feel that there is an opportunity to extract a profit from that type of trading pattern. So the NASDAQ cross, through its design, raises issues including pre-trade market impact. Post trade, the question is whether the trading price is somewhat exaggerated to benefit the interests of the capital provider over those of the fiduciaries.

If we consider the effect of new systems on transaction costs and on transaction cost analysis for fiduciaries, should we think of the regulators as having a role to promote disclosure of information about transaction costs? For example, should they know the basis point cost of using this close versus other trading methods? Or, should we think that the fiduciaries themselves are responsible for conducting their own research, and for understanding whether they are getting a fair shake with these trading systems? I use the closing cross here as an example. I would like to ask the question more generally in terms of the broader issues that have come up.

WAGNER: Jamie, you are an active user of those crosses. Do you have any comment on that?

SELWAY: I would say that that they have been a great success. We heard earlier today from Professor Pagano about some of his academic research with Bob, and we heard Frank Hatheway explain it. I won't go through that again. But, to the institutional broker – which is what we are – the crosses allow you to participate in liquidity events at the open and the close.

The liquidity events are particularity interesting for small-cap names. Before this, they just were not possible.

Before the cross, if you used a Market On-Close or Limit On-Close order, or if you were an indexer, you called a dealer and got a guarantee. The dealer priced the order, sometimes based on a 100-share print. Progressing from that non-transparent environment, to an environment where the imbalance is displayed for the final ten minutes, has been very helpful. You can now bid for the imbalance. You can compete for it. Have you been to an art auction and bid against dealers? If you want the item you are bidding on, you probably can beat them because of the dealer's cost consideration. The dealer needs to take the item into inventory and then re-sell it. But if you really want the stock because you are working for a client who wants to own it, you can be more aggressive.

Maybe you can answer further, Wayne. The SEC has a concept release out there about the disclosure of institutional trading costs.[32] It turns out that it is a really hard question, and maybe one best left to the marketplace. If you do a bad job for someone in Pipeline, Liquidnet or the NASDAQ closing cross, the client is probably going to know it before the SEC disclosure report that comes out next month tells them that they did a bad job.

WAGNER: I am in agreement here. You do not want to go very slowly on this. Particularly, you do not want to mislead. The easiest things to report are commissions, but commissions are only part of the big, I am not going to say it… (laughter).

YEGERMAN: I want to add to that. I personally do a lot of transaction cost analysis, and a lot of clients on the buy-side are doing precisely the kind of thing that you are talking about. They are measuring the costs relative to different destinations. They are measuring the costs by different strategies, by different order types. They are tying it into 10-minute, 15-minute or half-hour time windows. They are doing comparisons, to see what works and what does not work for the next kind of innovation. This is something for people on the buy-side who actually have that information available to them, and can capture it in their systems. They get into a virtual feedback loop in terms of measuring and improving their own trading strategies while reducing their costs. What you are talking about is the present, not just the future.

WAGNER: I put that into the category of research. Research into your own process and how it contributes, is part of the edge that an investment manager has. It should not, to my mind, become public property. It should

[32] See, SEC Release No. 34-48966, Dec. 19, 2003. Re. "Measures to Improve Disclosure of Mutual Fund Transaction Costs." http://www.sec.gov/rules/concept/33-8349.htm.

be exercised in the interests of the clients of the investment management organizations.

BANG: Our clients are looking for the ability to do real-time transaction cost analysis. They want to do pre-trade analysis, monitor trade impact in real-time, and undertake pos t trade analytics. They want to do it not only on the NASDAQ closing cross. They want to do it across strategies, liquidity venues, and brokers. They want to compare. They want to be able to design their own benchmarks, and they want to see how those various venues, brokers, algorithms, and crosses compare. They want to know how they stack up relative to the benchmarks they are being assessed and evaluated against. Traders are actively searching for superior results. They are learning to use real-time TCA, or Transaction Cost Analysis.

WAGNER: Paul.

PAUL ARLMAN (Federation of European Securities Exchanges) [From the Floor]: Two members of this panel, and one or two of the previous panel, mentioned competition with European exchanges. However, when I see that the SEC stops trading screens in the U.S. from European, Canadian and Australian stock exchanges, when I see that the futures community did not exactly welcome Eurex when it applied (hail to the CFTC as they were consistently open), when I see that Americans may own European Exchanges (IPE, the International Petroleum Exchange in London, is one case in point), and finally, when you talk to American politicians they say that ownership of an American exchange by foreigners is basically a "no-no," I have to wonder what kind of a tilted playing field we have here. I would be very happy to hear comments about this from the members of this panel.

WAGNER: Sounds like a rhetorical question to me (laughter). Does anybody want to comment?

REPETTO: I know a little bit about the CME. Certainly Chicago was not welcoming Eurex, but there were also significant barriers to entry. This goes back to the original question about the clearing advantage. If you are going to trade Euro dollar futures, you have one place to clear that, and that is with the CME because they are vertically integrated. So there are some impediments that did not allow the Eurex to gain traction here. You mentioned the IPE. That is owned by an Atlanta-based company, and it is doing very well. It is going all-electronic, and is one to watch. It is a U.S.-owned exchange that has already penetrated in Europe.

HEGARTY: I am one of those who believe that the changes have opened up the market to, I do not want to say more foreign competition, but to more global competition. There is a big difference between the two. The difference is that we will have global firms owning the markets. It will be less relevant where the parent company is based. You even saw that in the

NYSE and Arca deal. It is hard to know who bought whom there. What we will see is a merging and a globalization of these markets. The fact is that an Atlanta firm owns the IPE (a lot of people do not know that). But we are going to see a more global marketplace. It will not matter where the markets are based. The New York Mercantile Exchange, NYMEX, is going to be the competitor to the IPE, and its floor-based energy exchange will be run out of Dublin, Ireland. So we are seeing a crossing of the borders at least with the commodities and futures exchanges.

WAGNER: Question in the back there?

UNIDENTIFIED SPEAKER [From the Floor]: I do not want to pick on the CME, but do any of the panelists have an opinion about whether or not they will open up and allow their products to be traded on other platforms, for instance NASDAQ or the NYSE?

REPETTO: Here is a sell-side analyst's opinion. I say absolutely not. They have no incentive to see any liquidity pulled off their platforms. They own the futures exchanges, the Euro dollar contract, and these equity-emitting contracts. When Jerry gets up and talks about diversification, he is going to have to build liquidity. He has bought an auctions exchange so he has some small measure of liquidity there. But to grow in the future, I do not think that the CME will ever let him license liquidity over to the NYSE.

WAGNER: That is a standard response. It is always perfect just the way it is right now. We do not want any competition, and we cannot have it. Every time that happens, every time you get that competition, what happens to trading volumes?

SELWAY: But part of it is a regulatory hurdle, right? The CFTC allows exchanges to mint monopolies, and the SEC does not. The SEC has a concept of UTP, or unlisted trading privileges. If Jerry Putnam convinces some small company to come to list on NYSE junior (ArcaEx), NASDAQ can file its own papers so that this same company can trade its listing simultaneously on NASDAQ under these UTP arrangements. On the equity side, that has hit ahead on the exchange traded fund product. An ETF is sort of a hybrid. It needs to be structured using an index, or using a piece of intellectual property. But it is an equity and so it can trade everywhere. We won't bore you with the details of the lawsuits that have been sorting that out over the past year, but the same thing is happening with index options now. Essentially, it just comes down to a regulatory question. The CFTC allows something that the SEC does not.

REPETTO: That is the difference. I do not know if everybody gets that. If you look at David Krell on the ISE, there is one clearing corporation, the Options Clearing Corp. You can trade an option on any one of the five or six exchanges, and you can buy it on one exchange and sell it on another. On the CME, you cannot do that.

HEGARTY: I will add one thing to that. The key word there was "allow." "The CFTC allows something that the SEC does not." I am not sure if they are going to have a choice eventually. I know that it is a regulatory environment, but we keep asking the question, "Will this one allow that one to trade?" It does not matter whether they allow it or not because, if it is a regulatory issue, regulations can be changed. We have seen that happen twice in a huge way in the last eight years, with the order-handling rules in 1997, and just recently with Reg NMS. If the regulators determine that it is good for the market to allow instruments to be traded elsewhere, they are going to regulate it in. It is this balance between competition and regulation that we are looking at now, and it is difficult to tell the difference between what is being regulated and what is the result of competition.

NARI JOTE (Baruch College) [From the Floor]: With this global market, a lot of European companies are not very happy with this regulatory compliance. At one conference last year, I was told by the leader of the German delegation that they do not like it, and many other companies want to de-list from the stock markets here. Is it good for us here in the U.S. or not? Is it going to create more competition or not? What is your opinion?

HEGARTY: Are you talking about Sarbanes-Oxley specifically? There are burdens placed on companies that are trying to get into the U.S. market. But you do not have to go outside our borders to find those burdens. I personally know people who own companies who have decided to de-list because of the burdens that things like Sarbanes-Oxley places on them. I have a friend who owns a 12 million dollar company, and it was going to cost him almost a million dollars to comply with Sarbanes-Oxley. He de-listed. Do the regulations hinder our ability to grow and to garner business? No doubt about it. There is no question about it.

JOTE [From the Floor]: It is good for us here?

HEGARTY: I do not think it is good for us here. I do not think it is good for global expansion. I do no think it is good for the markets.

JOTE [From the Floor]: OK, thank you.

YEGERMAN: If I could take a little different view on that. I generally agree. However, you have to view regulation as a form of insurance. You keep paying out insurance, and you keep paying out insurance, and you never see any benefits from it, it is just a cost. Until, that is, a disaster or a catastrophe strikes. Then, all of a sudden, the insurance is valuable. I agree that it eats away at business here. I have heard a lot of talk about people de-listing, especially European companies. But if there is some sort of crisis or scandal at some point of time on a European exchange that can be attributed to a lack of regulation, then the pendulum can swing back. Then people will see the value of the regulation. Then investors in turn will consider it a more

necessary requirement. We do not have a crystal ball, but I see regulation as a form of insurance and I think that it should be understood that way. Whatever we think about insurance (laughter).

WAGNER: Not reinsurance, right (laughter)? Any comments that anyone would like to make on another topic here?

YEGERMAN: Yes, Bob Schwartz mentioned NASDAQ at the start, so I have to give you these numbers. Right now, there are 2,768 companies listed on the NYSE with an overall market cap of 20 trillion. There are 3,271 companies listed on the NASDAQ (about 500 more than the NYSE) with a market cap of 3.7 trillion, one fifth of the NYSE. Regarding volumes on the exchanges, the margin is starting to narrow. Yesterday's volume was about the same. But, on average, you see volumes on the NASDAQ that are 1.8 or 1.9 billion, but there is a lower volume on the NYSE. Now this is an informal study. If you are saying that there is only one fifth of the market cap on the NASDAQ, how much volume can really trade on the NYSE when it gets automated? I would look at other things like the float of these companies. I would look at the volatility, I would look at what sectors they are in. But, however you cut it, there will be a volume increase. It is just a matter of trying to get your arms around how big the increase will be.

BANG: I would like to comment on that. I think, Henry, that you are spot on. Reg NMS's impact is clearly on NYSE listed securities. It is interesting that the NYSE has a trade-through rule. But there is a lot to think about – the way Reg NMS pans out with respect to differentiating between slow, manual quotations and fast executable quotations, and with the exception for the sweep function, and so forth, and with New York's Hybrid proposal, and with the Open Book proposal being out there. Reg NMS will take the NYSE into the 21st Century. There will be greater transparency in the marketplace. There will be more electronic access to quotations on the NYSE. The fiduciaries will demand connectivity to all of the regionals, to all of the ECNs. They will contemplate alternative execution decisions. I am referring not only to how they route and sweep, but also to which venues they choose to post their orders.

In the intermediate term, we are going to see fragmentation in the NYSE listed stocks, and much more automated electronic trading. W expect that trade volume will increase significantly. Anecdotally, I have heard statistics from Ameritrade and E*Trade that 70 percent 80 percent of their clients trade NASDAQ listed stocks. Basically they trade NASDAQ listed stock because of better price transparency and electronic direct market access. Retail and institutional investors will begin to trade more effectively in NYSE listed stocks once Reg NMS is fully instituted.

WAGNER: Kim, your comments make me think about the dealers here. How will they be affected by that? Their services are dearly needed in any

marketplace I have ever seen. Are we discouraging dealers? Are we encouraging, are we opening up new opportunities? What is going on?

SELWAY: I would say that we are transforming them. The NYSE will look a bit like NASDAQ. On NASDAQ, the old-fashioned dealers making block bids are still there, just a lot less involved than they used to be. There is a new type of dealer though, the high-end, high-frequency, statistical arbitrage firm, that is doing 80 to100 million shares a day. Their idea of a profitable trade is making 3/10 of a cent. That is not possible for listed securities today because the cost of trading on New York – both the informational costs of leakage and the opportunity costs of not getting a cancel – are too high. But when those strategies are brought to bear on the listed side, they will be the liquidity provision drivers of the volume that other people have talked about. But it is more a transformation of dealers. Proprietary trading will always be there. Risk taking and liquidity provision for profit is intimately important for the markets. It is not going away, it is just being transformed.

WAGNER: Professor Schwartz.

SCHWARTZ [From the Floor]: All these changes afoot have implications for the existence of the floor at the New York. Will the floor endure? If the floor does not endure, where would you see all of those orders going that today are being handled by the floor brokers, not the specialists, but specifically the other floor brokers? Electronic? Internalized upstairs? Maybe both, but predominantly which?

BANG: The inherent problem is that, if you hand an order to the floor, it is a single destination exposure, and you will not have representation. You will not have representation because the quote or the order is not going to be sitting on a specialist's order book. It will be with the floor broker. That means, by definition, that they can be readily traded through, and I believe they will be. There are some similarities when you look back at the evolution of the NASDAQ marketplace. The dealers used to be the source of the manual quotations, SelectNet used to be the order delivery protocol, and if a dealer received a request to trade against the quote, he or she had a certain amount of time to respond to that order. The dealer would have 10 seconds, sometimes 20 or 40, and sometimes they did not even respond. As a result, the electronic venues in NASDAQ picked up market share over a period of time. As they did, clients readily traded through the market makers' quotations. I think that you will see something similar at the New York, with respect to the floor brokers. Certainly, this will happen in the top 100, most liquid stocks. When it comes to the less liquid stocks, there is value to having a floor broker negotiate and go through the auction process of trying to attract the other side.

WAGNER: David?

DAVID KRELL (International Securities Exchange) [From the Floor]: You all spoke about the titans and gorillas clashing here, but you have not said one word about the regional exchanges. What happens to them?

HEGARTY: I will take a shot at that one. First of all, some of the regionals are ripe for acquisition. Look at what happened with the Pacific. If they do not have a value proposition for their members, if they cannot demonstrate how they are adding value to the process, they can go in only one of two directions: either they get acquired or they go out of business. We have seen some of these regional exchanges get fairly innovative, and start to do product expansions. You have the electronic options being done on the Boston Stock Exchange, with some amount of success. Look at the Philadelphia and what it is trying to do in terms of building liquidity. If the regionals do not have a game plan other than trading off of New York's listed equities, their time will be limited. They have to become more electronic, and shutter a lot of the posts on their floors.

ALLAN GRODY (Financial Intergroup Advisors) [From the Floor]: We have heard about the futures markets acquiring each other across borders. Do any of you in your strategies think about the electronic futures exchanges, as more equities markets move away from floor-based to electronic trading? Has anyone building these electronic equity platforms looked deeply into these electronic futures platforms to understand how they were built out? Has anyone thought about how they may incorporate some of the unique features of the futures markets into these new electronic equity markets? The futures markets have evolved their electronic trading systems independently of the equities markets. These futures markets can do things in unique, different and spectacular ways.

BANG: We have seen a lot of interest from our clients, not just in futures, but also in options and foreign exchange. We are not a market center. We are an agency broker that provides access to those liquidity venues. I can definitely confirm that there is a lot of interest in derivatives trading. That business is up by 50 percent in just the last couple of months at Bloomberg Tradebook. We started trading financial futures about a year ago, so we already have pretty good traction. Futures are a very rapidly growing space, and demand for the direct market access and electronic trading in energy and metals should be next.

WAGNER: Think of what you could do if, in one venue, you could trade futures, single stock futures, options, ETFs, bonds, you name it. Oh, yeah, and also stocks (laughter). What kinds of strategies could you come up with, with those things being easily arbitraged and worked against?

HOWARD ROSS (Baruch College) [From the Floor]: Do you people have any thing against honest income statements (laughter)? I would like to know, because the value of Sarbanes-Oxley is above some of these steep

compliance laws. I know how the small firms suffer, but I think you ought to take into account the value that this kind of protection has for the investor.

BANG: The value is clearly there. The problem is that there is regulatory arbitrage going on. In the transactional space and listings, the risk is competition from overseas, or even within our own exchanges. Locally, in the regional exchanges, there are different rules regarding short selling and things like that. This creates a regulatory_fractured marketplace, and opens the door for competitive arbitrage. That is problematic. I am not suggesting that we should go out and adopt the regulatory oversight that the European regulators demand. But, certainly within our own marketplace, we should try to harmonize the way in which stocks are being transacted across multiple liquidity venues. The SEC is attempting to do this with Reg NMS. It makes sense from a regulatory perspective. There should not be different ways of short selling in one exchange versus another exchange.

HEGARTY: I want to respond because I was the one who said it. I think it is bad for everybody all over. Clearly, there is value in honest balance sheets and accounting. I agree with Kim entirely, the value is there. The real question becomes the cost of implementing Sarbanes-Oxley. Its premise is absolutely on target – restore honesty, trust and confidence in markets. It did a lot of that. The real question is, at what cost to different firms?

REPETTO: I do not know the answer to that. I can tell you, though, that the optimal cost is not one million dollars for a 12 million dollar company (laughter). At some point there has got to be a balance.

WAGNER: We have had a great time. But we promised to get the babysitter home, so we have to end. Please join me in thanking out panel (applause).