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MAKING MARKETS FAIR AND EFFECTIVE FOR ALL

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P R O C E E D I N G S

MR. ELLIOTT: Good morning, everyone. You are a remarkably well-behaved audience. I said two minute warning and everybody pretty much came in and sat down. So forgive me if I'm just catching up with you, usually we have to fight a little harder to get everyone in. So I'm Dough Elliott with the Economic Studies Program here at Brookings and it's my honor to host today's event with Martin Wheatley and with Jay Powell.

The last few years have revealed a host of problems in the wholesale financial markets, the markets where large institutions buy and sell foreign exchange, gold, interest rate, and other contracts. Traditionally these markets have been fairly loosely regulated on the theory that all the participants were big boys and girls and could take care of themselves. However, scandals have shown that these markets can sometimes be rigged through collusion among key parties and that a lack of transparency may sometimes reduce the fairness and the efficiency of these markets. The ramifications of the problems that surfaced in the last few years have extended well beyond the circle of participating institutions, the big boys and girls I referred to. And so this has highlighted a societal interest in appropriate regulation of wholesale markets and a broad belief that regulation has not been sufficient as it was prior.

The United Kingdom in particular has taken a lead in addressing many of these issues, partly because London and New York are clearly the two major centers for wholesale financial markets by considerable distance. Having been in those markets I will say the British usually say it's London, we usually say it's New York. I have a sneaking suspicion it might actually be London, but I'll let our two distinguished speakers today wrestle about that if they feel like it. So a little while ago Chancellor of Exchequer George Osborne commissioned something called the fair and effective markets review

which is run by a combination of the Bank of England, the Financial Conduct Authority, and Her Majesty's Treasury.

We're honored to have Martin Wheatley here today to talk about that review. He is the Chief Executive of the Financial Conduct Authority and has been very closely involved with this review. And prior to taking that position -- he is the first; he came in 2013 when the FCA was established -- prior to that he was a Senior Executive of the UK's Financial Services Authority which is one of the predecessor organizations. Before that he spent five years running Hong Kong Securities Regulator. The packets that were available when you came in contain a longer bio of him and it would take quite a long time to go through all of his accomplishments and Jay's so I'm going to keep this on the shorter side. I would just note that Martin also ran the UK's review of the Libor Scandal. And the Libor Scandal of course is one of the precipitating causes of the belief that there needed to be a much wider review.

We're equally honored to have a distinguished discussant to comment on Martin's remarks and to provide an American perspective on the same issues, and that is Jerome Bailey -- Powell, sorry, Jerome Powell known as Jay (laughter). I don't know why I did that. I should probably at this point mention I'm coming off a long and severe cold, so if I start talking nonsense at some point just be gentle. (Laughter) Anyway, Jay is a member of the Board of Governors of the Federal Reserve Board and has been given particular responsibility in watching over these market issues. Prior to joining the Fed Jay held a number of senior government and private sector positions, including as serving as Undersecretary of the Treasury. As you will see in his full bio he was also a think tanker. I am always pleased to see a think tanker make good, or frankly even do honest work. (Laughter)

We have a simple format today. Martin will replace me at the podium to

give some prepared remarks. We'll then swap in Jay for his thoughts with particular emphasis on the American context on the same issues. After that the three of us will sit down here and I will lead a discussion amongst us. And then finally you in the audience will have a chance to ask your own questions of these two distinguished individuals.

So with that let me turn the stage over to Martin.

MR. WHEATLEY: Thanks, Doug, for that intro. I've got some slides. Okay. Doug said he wasn't sure whether it's London or New York, it's London, okay, (laughter) just so we don't get any confusion up front. What I'd like to do, what I'm going to talk about is what do we mean, so what is this piece of work about, why have we set it up, and give you a little bit of background as to the concept, and particularly fair and effective markets, what do we mean. Doug, I don't know if you caught the slight slip of tongue there, he talked about effective and efficient markets. We don't talk about efficient markets. I know there's lots of very clever academics who will tell me what an efficient market it and so we tried to avoid the use of efficient markets and getting into efficient market hypothesis and things like that. So fair and effective. I'll explain what we mean by that and I'll talk a little bit about the framework that we're using to describe this. But the one thing I would say, and I hope those of you who read the conservation document, at this stage we start with questions rather than answers. So we're not starting with a clear framework that says actually we know where we're going with this, we're starting with a set of problems frankly and we've got a reasonable understanding of some of those problems, I wouldn't say even all of those problems. A framework for how we might think about solutions and we've got a time schedule. And beyond that it's all up from grabs. So the rest is easy after that.

I think as Doug said one of the precursors to starting this piece of work was the series of scandals that we have uncovered in the last five or six years, but

particularly since the financial crisis. And the first of those you'll be familiar with now was Libor where we found that a rate, a benchmark rate that was used globally to value everything from we think around $300 trillion with the swaps contracts through to corporate loans, to reset mortgages, through to mortgages that were set throughout Europe. That concept, that benchmark was systematically manipulated over a sustainable period and by the firms not wanting to give credit signaling to the market as to what their true credit worthiness was, or by traders simply wanting to fatten their P&L. And we saw that happen and we took significant action and in that case predominantly the lead was the FSA as was then the precursor to the FCA along with the CFTC and DOJ. And that resulted, as you know now, in some very, very high profile fines, actions taken against these firms, and a lot of clean up of that area. And because we took such stringent and tough action frankly it was a bit of a surprise that we found a couple of years later that we were stumbling over some quite similar problems in the foreign exchange market. And I say similar, they were different in some respects; they were different in terms of the individuals involved, some of the tactics being used were quite different. These were trades which were used to influence a trade-based benchmark as opposed to effectively an opinion-based benchmark or a survey-based benchmark, which is what Libor was. But nonetheless the similarities were traders exchanging information for their own benefit, usually using unmonitored chatrooms and we allege significantly moving those markets. And it wasn't just Libor and FX, we've had similar but different -- again they're all different -- but similar concerns about manipulation of some commodities markets. We took a major case for a manipulation of the gold market in the UK where the appropriately named "gold fix" was fixed. We've also had problems in other commodities markets. We've seen it in energy markets, allegations. And all of this led us to a view that said we can't simply keep stumbling across another asset class where we

find out that things are not working as they should be. We can't somehow take the view that the average trading room, and most banks measure the size of their trading rooms by how many football pictures you fit in. So I don't know why they do but that's what they do. So the idea that you can have a trading room equivalent of 8 football pictures and somehow what happens 25 yards away is irrelevant to the asset class that you're trading just can't work. You can't pretend somehow, okay, yeah the Libor guys they got it wrong, they did something bad, but actually what we're doing over here, well nobody is looking so we'll carry on with it.

And so the real genesis of the review was to say well we don't really want to constantly as regulators keep stumbling across significant gaps in ethics, in oversight, in management or conflicts of interest across markets; we need to do something different. And that's where we started. We started with the Chancellor of the Exchequer, the UK Chancellor setting up a review led by the Bank of England, the FCA, and the Treasury to look at what needed to be different, with a view that we would publish a series of recommendations within a year from the start of that review. So that time goal takes us to June of this year.

In terms of what we tried to cover there were broadly four themes that we organized the review around. The first one is what we mean by fair and effective for the relevant markets. And the relevant markets we chose to be fixed income, commodities, currencies. And I'll explain a little bit about what fair and effective means. We spent some time looking at where fair and effectiveness was deficient in those markets, and deficient in our terms is where a price would be reflecting things other than the interaction of buyers and sellers or supply and demand where there were groups of players, cartel groups of players within that market sharing information appropriately where there was front-running of client deals or manipulation for a particular end in those markets. We

organized it around the extent to which actually we've already got the answers to many of these problems because again if you think about it the whole thrust of regulatory change over the last five, six, seven years has been partly about cleaning up the balance sheet of banks, but also about making markets work. And so we've had a lot of discussion about technological change, what needs to be done, what is already happening, so what trends are we seeing, what organizational changes. And in the UK in particular a lot of focus on accountability of individuals, not just the accountability of firms, frankly large firms for whom writing $100 million check is -- you know, it may not be painless but it's certainly not life threatening, it's not existential. And we've focused very much on moving to individuals and thinking about well how is a career harmed if you are found to be somebody who is on the wrong side of this sort of expectations of society at large not just the regulators.

And we looked at what further steps were needed to boost the fairness in particular markets, fairness and effectiveness in particular thick market because one of the things I think everybody will know is that the term "thick" covers a very, very wide range of markets. And the ethics and the practices that operate in the energy market or the oil market are different from the copper market which is different again from fixed income which is different again from credit. And so the nature is this is a very, very wide field.

We published the document in October and it closes for comment at the end of this month, so we are expecting to have a heavy reading list at the end of this month and then as I've said one of our aims will be to move from that to what does solution look like, what does the solution architecture look like. Now the one thing I would say about the solution architecture, and this is partly what makes it very difficult, is that these at the moment are a set of UK authorities that are running this exercise, the

markets that we are running this exercise on are a set of global markets. And every single one of them is global in the sense that the volume of trading would move between London, New York, Singapore, Hong Kong, depending on the asset cast. So if you look at foreign exchange the UK typically has about 40 percent of the foreign exchange markets, New York would have 20 percent, Singapore 4 percent, and so on and so forth. In the copper market you'll see London has a very large share of the copper market but increasingly Shanghai has a growing share of the copper market. So the thing is every one of these asset classes is a global asset class and therefore the difficulty is frankly if we in the UK said here is the answer, we're going to make it a criminal offense to manipulate any of these asset classes. And that's the sort of thing we could do and it's what we've done with Libor. You could imagine a trader having a conversation with his boss saying actually, you know what, this is not about regulation but I think I might like to go and do my trading in -- and I won't mention the market because I do not want to cast dispersions about other markets, but you can imagine a pretty fast drift of people saying actually let's run this book from X or from Y. And so what we've realized from a very early stage is that actually it has to be a global solution; we cannot have a local solution to a global problem. So we have spent a lot of our time as the group reaching out to other regulators. We've spent a lot of time here in Washington, we've been reaching out to the Federal Reserve Board, to the FCC, to the CFTC. We've spent time talking to the European authorities, we've spent time in Singapore and Australia, in Hong Kong, in Japan. The only way that the solution to this problem can work is if it is a global solution. And I think all of you will know who study markets is that they're quite hard things to do. And that's why we have bodies like the FSB and IOSOC and Basel trying to come up with global solutions to problems, but knowing that every single jurisdiction will have a set of priorities that it has to fix as well. And I think you've got something here called Dodd-

Frank which still needs to be finished off which may get in the way of me saying actually here's a whole set of new priorities that I think you should legislate for. So we've recognized the difficulty. It's complex and it's difficult. And that's why when we come forward with the document in June we'll come forward as far as we can with a set of recommendations, but we'll also come forward with a set of sign posting events or recommendations for further work to be done.

What the different components mean -- I'm not sure why I've got that bit on the screen. I'm sorry about that. If somebody can come and change that. I know, I know, but I'm not going to do that and talk at the same time. (Laughter) So if somebody can do it while I'm talking. The characteristics of effective markets. If I can start with the characteristics of effective markets, we started with the view that said it's one that allows the end uses of markets, of borrowers and investors to undertake transactions, risk transfer, channeling of savings to investment in a predictable way, in a reasonably robust and a trusted environment. And that's what we mean by effective. We're not trying to be too grand. It's something where you trust that the system is pretty well there for all and you trust that you're not being front-run or abused or your information isn't being shared. It's also one that allows markets to trade at competitive prices set through a price discovery process that by and large reflects supply and demand, but we weren't going to be fundamentalist about this. This wasn't that it has to be the same price for all and we weren't driving to a view that often it thrown back at us that says well you do realize that transparency is the opposite of risk and the more you regulators try to create a completely transparent market the more we won't operate in that market because we can't be predictably profitable. We weren't trying to do that. So our ambitions were relatively simple. So we were trying to define something called fair and effective in simple terms that people would understand, not trying to create something that was a

very far reaching concept or challenging frankly for the users of markets to say well that won't work for markets.

Characteristics of fair, this is again became really quite interesting because the question that came back from the industry was well fair for whom, fair for the counterparty I am trading with at that particular moment, fair for the shareholders of my organization and the P&L that I'm trying to generate for them, fair for me the trader who came into this business to make shitloads of money (laughter), fair for the man on the street who when you for ex at the airport you know that you're going to get ripped off, so does the three or five basis points that I'm taking out of it really feature when you set it against the thirty percent you'll pay if you look at the commission rates as it came through Washington Dulles Airport on the way here. So fair for whom? That's quite an important concept, who is it fair for? And many players in the market said there's a lot of gray areas, it's quite gray. So the ability to share information, client information, you as a regulator might say well how can you be doing that, that's not acceptable, in some asset classes that's how we get the fill. We don't take principal positions, we get a fill by effectively taking the positions that a number of people can take and filling that client with that, is that unfair. We were told that in many places, particularly in for ex, the process of hedging ahead of a 4 o'clock fix or a 1:15 ECB fix actually looks like manipulation but really it isn't, because all we're doing is actually hedging the position that we know we're going to have to deliver. The fact that we move the market in our direction and we profit from that, that shouldn't be seen as a manipulation, that's a natural side result of us hedging effectively in the market. So we got --changed an awful lot that said it's gray, it's difficult, it's not straight forward. A market that had sufficient transparency for market participants have access to information, not absolute transparency. So we're not arguing for a completely open and transparent market, but enough, transparent enough. Open

access for all. Again we're not saying absolutely everybody who wants to play in the wholesale for ex market will be able to play in the wholesale for ex market, but you have to be able to get access to do the things that you need to do, and if you need access to foreign exchange finding a route to do that.

There is competition in the market, not pure competition that everybody has exact equality, but competition on the basis of merit reflecting the equality of opportunity. Many of the firms said to us well when you talk about equality we've just invested $200 million in the better algorithmic-driven system than my competitor, so are you telling me to throw that investment away? Surely I have to be able to invest to get the best access to market. And again we'd say yes, absolutely, but there has to be equality of opportunity not a market that systematically favors those who've got an inside deal with platform operators. And the participants behave with integrity and we can be confident -- they can be confident that they won't be subject to fraud, misrepresentation, deception, manipulation, front-running, all the sorts of things that we think will have no place in markets. But you've sort of got to be confident that those things are not in markets.

So that's really what we meant by fair and effective. It wasn't a grand new design or concept, it was simply something that most people would understand as fair and effective, a reasonable opportunity and absence of corruption and absence of collusion in markets. So that was our starting point. We then get into the difficult part is well then how do you frame those starting points across markets that are quite as complex as we have here. And we developed a concept which is a framework which is how we looked at markets. And this was very much the framework that you'll see set out in the document and it's how we are thinking about solutions in markets. Firstly in terms of the different perspectives, so we grouped what we saw as broadly six sources of

vulnerability into firstly structure and then conduct and then each of those look slightly different in terms of how you come at it. And then the possible responses could be from the market, from the firm, from the individual, or it could be from regulators or legislators. So that's broadly how we have set our work out. And I'll go on and explain a little bit about how we look within those different areas, but clearly under structure there's questions about market microstructure, the extent to which a market is completely opaque OTC, or the extent to which it is a transparent electronic market, or possible an electronic opaque market. And there are lots and lots of different variations. Questions in market microstructure will come down to the design of benchmarks. So benchmarks for all of these markets very, very important. We know that some benchmarks have huge amounts of trading volume that can sit behind them, and so one of our surprises and one of the industry's surprises for ex was frankly that it is so transactional, so transaction driven that there was a surprise that it could be manipulated through to benchmarks that frankly there's one trade a quarter. And the question is how do you create a benchmark based on the price of transferring a freight container from San Diego to Shanghai when I don't know how many freight containers run that route on a daily basis. But benchmarks operate across all of these different classes. Freight classes -- there's even an index, there's a benchmark for salmon in Norway, they have a salmon benchmark which they price the cost of salmon. So one of the questions on microstructure is how do you frame a benchmark? Is it transactional based or is it opinion driven, it is based on a single point in time or is it based over a time period? Is it an averaging benchmark or is it an auction collection benchmark? All of these are questions for every asset class that you have to ask.

And similarly competition in market discipline. So was there adequate competition in these markets, and I'll give you some surprising insights to how

competition worked in these markets in a moment. And does market discipline work, and market discipline is frankly the ability of the counterpart, the sophisticated end user who may be a hedge fund, it may be a municipal, it may be a producer of aluminium, their ability to police the receiving end of the trade because they are very often on the other end of the trade. So how far does market discipline itself act as a solution? And when we looked at the possible responses, okay, a market response could be from a market operator, it could be an exchange platform, it could be a dark pool operator, could introduce changes that made the system more effective. The firm itself, one of the big changes that we made from Libor was to require that firms separated out the responsibility to submit Libor from the people who were trading swaps and we required that that person was a regulated person by us as the regulator. So what things do we require of the firm? We required audit trails of the firm and the individual. And this is one of the intriguing and most difficult questions, how much more responsibility should sit on an individual and should individuals be presented with conflicts of interest which they find very hard to manage. And then ultimately how far should the regulator go, and that's a really big question for us, how far can we resolve some of these problems in markets through the program that we described, how far do we as a regulator do actually need to step in and either create new rules or create a different environment to trade in.

And then you'll see the bottom half of the picture, standards of market practice. So I mentioned earlier many people have said it's gray, it's gray how much information you can share in advance, it's gray whether you can collude to a degree when you're trying to fill a principal position. So does there need to be either a single standard of market practice across all of the instruments or a series of separate ones for fixed income, for currencies, commodities. Do they need to be different? Do we need to change the incentive structure? And again one of the significant changes that we have

been following through in the UK, and I see there's now some discussion in the U.S. on is what you do with deferred compensation. So we now have a model where a significant component of compensation has to be deferred and will be at risk for a significant period after the year in which that compensation -- or for the year for which the compensation was awarded. So if we find three years, four years later that actually either a series of positions or a series of trades were done to a standard that fell short we would require that that compensation was clawed back against an individual. And so it changes the incentive structure. You no longer have an incentive structure where frankly you break the rules knowing that you either get a good bonus in that year or you have to look for another job to one that says actually the bonus that you thought you got in that year may not be yours at all, and secondly you may find it very hard to get another job because there will be more of a record and we'll move away from the cozy situation where frankly an employer and an employee agree to some sort of agreement that neither will badmouth the other, but therefore there's no further issues for the individual.

And the final point is -- and again this comes to the regulator -- what level of surveillance does there need to be and what level of penalties does there need to be? So in equity markets nothing can happen that we don't see in equity markets and that's typically true of regulators around the world. In commodities, currency markets typically there is not reporting of those trades. So in terms of the ability to have any sort of ongoing oversight, any sort of surveillance, it would need to be a very different model if we moved from where we are today. And obviously, finally, penalties, the thing that you may find curious is that even though we have introduced significant penalties for Libor manipulation, significant penalties for for ex manipulation, in the UK in particular there was no effect of Libor manipulation or for ex manipulation. And you might find that curious how we can levy a penalty when there's no offense. They specifically weren't

offenses because they were not regulated activities. What was required is that all firms have proper systems and controls in place and the fact that they're traders were able to do these things was for us sufficient evidence of poor systems and controls. But it's difficult to have penalties unless there's a defined offense and in many, many markets still there is no defined offense of manipulating these markets, there is no such concept of price sensitive information in these markets. Price sensitive information is very much an equity based concept which has now been extended to fixed income. It doesn't exist in aluminium. So if you happen to be the world's largest producer of aluminium and one of your plants has exploded you may think you have something interesting, that would not count as price sensitive information. So quite a lot of interesting challenges about the way that regulation interplays with these different markets.

So in terms of what we might do and I say might do because it's very much at the early stage, but some examples, and this is not meant to be exhaustive, for market microstructure one of the questions in fixed income markets has been the just extraordinary plethora of fixed income instruments that exist which make standardization of trading very, very difficult, can those issues be more standardized. From many of the players in the industry they'd quite like to see that. The issuers will say well hang on, how does that work. So I've got a particular cost stream for a particular period and I want to issue a note against that, and if I standardize does that mean I can't issue a note against the particular exposure I'm trying to fund. So difficult to work out exactly how you would impose that. In FX some of the lessons we learned from the recent cases, so are there structural vulnerabilities within the market, is the largely OTC nature of the market something that we should think of as needing some sort of intervention, is the internalization model that most banks try to operate a problem? So the fact that prime incentive you have when you have an FX trade is to cross it within your own book and

therefore to collect as much as possible, but therefore not to take that trade into a market and be a contributor to overall price transparency. Is that something we should be concerned about? And then commodities again, they're one step removed in terms of transparency. These markets are very, very opaque, and in many cases the players in these markets are either very, very large global producers of the asset or in some cases sovereign states, and sovereign states and regulation is an interesting concept as well.

So quite a lot of difficulties about how for each of these markets you might make to take them forward in terms of structure. We also asked the question about whether better discipline is a solution in the market, whether better competition could be a solution in the market. And this is where you come to some interesting tradeoffs here. So when we looked at the UK for ex market we found that about six firms had sixty percent market share. Now most competition economists would tell you well that in itself doesn't mean that there should be a non competitive mark here if other conditions exist, that could be a competitive market. That seems like some people who could be competing. The fact was that those six or five depending on the asset class were largely colluding with each other, and at the absolute inflection point -- and we put this onto our website when we showed some of the trades that were done, the key inflection point is clearly the point at which the benchmark is struck. And we found one example which was a very interesting example that we put on the website was that a particular ECB, the European Central Bank fix, a 115 fix, you didn't have 6 players with 60 percent market share you had 1 player with 73 percent market share because each of the others had transferred their book to that single trader who therefore had 73 percent of the market at the point it mattered, which was when the price was going to be set. And believe me when you've got 73 percent market share you can set the price.

Benchmarks. Benchmarks as I've said, very, very important. The world

of benchmarks is something we've spent a lot of time on and we've realized that all of these asset classes will have a benchmark which is at a point in time the most important thing, the most important value, that lots and lots of other things are priced against. The question of whether benchmark should be brought more into regulation is something that we in the UK have already taken; we've already answered that question firstly with Libor and then as part of this review with seven other benchmarks that we're now going to introduce to regulation. So things like oil, gold, a number of the commodity benchmarks. We've said they're too important to be left as unregulated so they will be regulated in the future. And that means that we as the FCA will have an oversight role, we'll look at the players, we'll look at the submitters, we will require that they have audit trail, that they manage conflicts of interest, we'll require that the benchmarks themselves operate to what has become the global standard. So there are just a few areas where we're looking at potential changes to the structure of market.

I mentioned that conduct was itself a big topic in these markets and the fact that in many of these markets people don't know what is allowed. Now when you read our files you may say well it's quite obvious that that shouldn't have been allowed, but the players in the markets will tell you it's not clear, it's not clear what is gray, what is just the right side of gray, and what is just the wrong side of gray. So one of the things we're asking is how do we address those uncertainties. And of course there are codes of practice, there are codes in many of these markets. The codes are slightly different and have gone through a different evolution in many markets. In some cases those codes are different in broad -- across markets. But essentially most of the codes that exist today are reasonable. And not to put too fine a point on it they basically say don't lie, cheat, steal, or front-run your client, and variations to that effect. So I would have said that that's not that gray actually; that seems really clear to me. But nonetheless the

players in the markets tell me no, that's not enough and they need more clarity than that. So the question is should that be a voluntary code? Do we ask the players in the markets, the major banks, do we say look, you've got this problem, fix it. You come up with a code, make it a voluntary code. And that might be a solution, that might work across either single asset class or across all asset classes. And in fact in the UK as the FCA we have 11 principals that define how everybody should operate in those markets, in all the markets that we regulate. And those principals are about being fair and open and not misleading and be open with the regulator and show due diligence to your client and act with integrity. And I mean there are a set of things that are hard to argue with, but the question is when you fall foul of one of them who does something about that? And so that's the question when you come back to codes are fine, but do they have effect? If somebody falls short of a code do they lose their job, does that organization get sanctioned in some way, does the regulator come in heavy? And again that comes back to my question about the different legislative priorities that everybody has. If the regulator is to come in heavy you need to create new law, and to create new law you have to go through a legislative process and that's a complex and difficult process.

The second of these conduct points, governance and incentives, responsibilities, and particularly remuneration structures. So how are remuneration structures set to incentivize, be able to exploit conflicts of interest? And if they are what do you do to remove them? And again we've done a lot of work in the UK to remove those conflicts such that incentive structures don't put difficult decisions in front of people. And a lot of the structural changes we've been making in the UK over the last three years and will continue to make in the next three or four years are about taking away the desire, the temptation to abuse a conflict which you have because it will benefit you. So we've taken away that link between the benefit and your action in part by changing the structure

so there are certain things you can't do, and part by deferring your achievement of the benefit and having frankly some doubt hang over it for the next five years. And if we find as we have done with many events, we've gone in and said actually you've got to give up that bonus that has not yet surfaced to your benefit, you lose that. Anything that's not vested you would lose that.

And then of course there's the question about the people you hire. I mean if you hire people when you bring them in and what you put on the brochures that you send out to the top Ivy League universities show somebody who is driving whatever the top car is or whatever, if you're actually hiring people who want to make lots of money actually you're creating an inbuilt problem for you to manage, which is they're the people that you're trying to hire. So one of the questions would be in terms of promotion advancement in organizations who are the people you hire, who are the people that you advance. And again one of the changes that we're starting to see is that we are requiring that promotions and incentives aren't simply geared towards P&L, but it's geared towards a broad set of values and ethical values and your contribution to the firm's culture, and a set of things that gets you away from jut getting advancement through P&L contribution.

And then sort of the last point will come down to the regulators. Well, if we do all of those things is that enough, and the industry says yeah, just leave it, just leave it with all that set of things. That sounds like quite a lot, you don't need to do more. But the question we face, and frankly at the end of the day we're all accountable, we're all politically accountable, is do we need to do more, to encourage the prospect of people within a firm speaking up. And the U.S. has gone much further in terms of payment for whistle blowers than anywhere else in the world, and I think we're starting to see some interesting results coming from that, but should more be done to encourage people from either within the firm or from competitors to step forward and say actually what's going on

over there, it's unacceptable. It's unacceptable for the individual, for the firm, for the desk, it shouldn't be happening in the industry. Should the firms themselves and the clients of firms do more to punish malpractice? So I've been fascinated by some of the clients of people on the wrong side of the for ex trades saying well actually I do a lot of business with them and they may have written me off on this one but I really do need them for this other transaction. And there isn't that market discipline. And so one of my questions would be does there need to be further market discipline?

And then the final point, and this is something that the UK have moved to, is to introduce criminal sanctions for individuals. And that sort of focuses the mind a bit. So when we say to people you do realize if we find what you are doing you could go to jail. That sort of starts to focus the mind. And so that's become the place in the Libor, it will extend to some of the other benchmarks that we talked about.

So that's broadly what fair and effective market is about. It's about a very, very ambitious campaign to try to get what all of us I think would just as to be good ethical standards across a very wide range of markets. It starts from the recognition that this is hard stuff, this is not easy stuff to do. It's hard because of the legal footing and I'm sure the lawyers of you in the room will say well you've got no (inaudible) to do any of this, so I don't know why you're even starting. It's hard because in many of our markets we don't have a legal structure that carries across to these different market. It's hard because it's deeply imbedded in markets, so these practices are not new. They are deeply imbedded; they've been there for a number of years. It's hard because frankly unless we establish the changes at a global level then we'll simply see business moving like water to the lowest point. And that wouldn't create a better market which is what we're about to achieve.

So that's the project, that's where we are on it. I would be delighted to

hear Jay's comments and I'm sure we'll take any questions at the end. Thank you very much. (Applause)

MR. POWELL: Thanks very much. Thanks to Doug and to Martin Baily for inviting me to be here today. And thanks to Martin for his comments. Thanks to Brookings. It's great to be here to comment on the fair and effective markets review which is an ambitious and important initiative. And for this purpose I'm happy to say that London is perhaps the leading center for many thick markets, but the markets are still global and U.S. markets are very important in them and U.S. firms play important roles in them both here and in London and around the world. So the review addresses issues that affect our markets as well.

What the review does is it looks to identify further steps that can be taken to restore confidence in thick markets in the wake of the depressingly numerous instances of serious misconduct in these markets in recent years. And that conduct has been and will continue to be addressed through substantial fines and criminal prosecution of the firms and individuals involved. The Federal Reserve continues to take part in these enforcement actions in cooperation with other U.S. agencies. But the design of the review is not only to advance enforcement, but also to look carefully at markets and firms and ask whether there are structural vulnerabilities and incentives for bad conduct that have not been well addressed by reforms to date. So I'll offer a few comments on a few specific areas and then discuss some of our parallel efforts here in the United States.

First as the review notes there is a common perception that thick markets and their participants are highly sophisticated and do not need protection. This is Doug's group of big girls and boys who don't need protection. And while that may generally be true the perspective is far too narrow because the importance of these markets extends far beyond their participants. The market mechanism allocates credit

and determines the borrowing costs of households, companies, and governments. Proper market functioning is really a public good that relies on confidence and trust among market participants and the public. Bad conduct, weak internal firm governance, misaligned incentives, and flawed market structure can all place this trust at risk.

So one of the ways we have to influence those incentives is through compensation practices at supervised institutions. Many have argued that pre-crisis compensation practices at the largest firms either allowed or created misaligned incentives. And in response many firms have changed their compensation practices since the crisis to better align incentives between individuals and firms. Particularly through enhanced deferral of incentive compensation with delayed vesting and the possibility of more robust forfeiture and clawback in some circumstances. So we've strongly encouraged these reforms in our supervision of these large institutions. And in my view these reforms are both essential and generally on target. In addition U.S. financial regulators including the Fed are also preparing for public comment and a new proposed rule on incentive compensation that will both codify and strengthen these initiatives.

As the review notes greater transparency is critical in helping to curb market abuses and strengthen competition. And in the United States we've had over a decade of experience with trace data in the over the counter corporate bond MBS and ABS markets. MSRB in the municipal market provides similar data for municipal bonds. And Dodd-Frank also imposes rules requiring greater transparency in the over counter derivatives market through the use of central clearing trade repositories and swap execution facilities. Given the issues around OTC derivatives in the crisis these are critical initiatives. But despite significant progress there are still a number of impediments to sharing trade report data across regulatory agencies in jurisdictions leaving us with

only a piecemeal picture of the market rather than the full transparency we desire. I raise this just to show that things like transparency every agency would step forward and say they strongly support it. It's actually the implementation that could be quite difficult, the implementation of these ideas. For example there are legal barriers in the case of data transparency that would need to be overcome and we are working to overcome them.

So the issues around FX benchmarks serve to illustrate one of the important challenges discussed in the review, and that is the difficulty of managing the potential conflicts associated with the traditional market maker model. In FX markets, as Martin mentioned, a wide range of end users seek to guarantee trade execution at the WM Reuters fixing at 4 o'clock every day London time. The practice results in dealers having advanced information about trade flows, and at the same time it places the dealer at risk because they're agreeing to execute these orders at a future unknown price. That advanced information can create the perception that dealers are trading ahead of their clients and it certainly also creates incentives to attempt to influence the fixing price. So the recent FSB report on foreign exchange benchmarks made a number of recommendations designed to address these issues in this specific market, including widening the fix window from one minute, using trading platforms to maximize netting, encouraging dealers to charge either a bid ask spread or another transparent fee to compensate them for the risk they take, and also strengthening their internal systems and controls, better manage the potential conflicts of interest.

Of course similar challenges exist with market making in all the other thick markets. And here is where the gray areas lie. I would agree with Martin that there's nothing particularly gray about the conduct that brought us here today in the Libor market or the FX market, but this area, internal firm guidance around confidential information and things like that, that is where the gray area lies. And many firms have

taken up these challenges in the wake of the Libor and FX problems on their own. And their efforts do serve to show how complicated these issues can be. Dealers have to communicate with other firms, within their own firms, and with their clients, and they've got to execute their clients' trades. The challenge is to identify and preserve the legitimate benefits of such communication and trading while safeguarding against improper uses of information. It may be that these challenges can be further addressed through coordinated private efforts. For example through bodies like the Foreign Exchange Committee and the Treasury Market Practices Group which are both sponsored by the Federal Reserve Bank of New York. Those groups actively work on best practices and have been constructive in prior instances. And it may also be that further supervisory or regulatory action is needed.

I'd like to turn to our work on interest rate benchmark reform. And it's worth recalling that before the scandal broke Libor was not regulated. UK authorities have now addressed this shortcoming by making both the submission and administration of Libor regulated activities, and a process by which firms make their Libor submissions is now subject to careful monitoring. The new Libor administrator, ICE Benchmark Administration is now regulated by the Financial Conduct Authority and is evaluating changes to Libor so that it can be based as much as possible on arms length transactions from a broader base of funding transaction. With surveillance in place and penalties in place and a new administrator one might be excused for thinking that there's nothing more to be done on Libor. In fact some people do think that. But that is emphatically not the view of the FSB Official Sector Steering Group that I now co-chair with Martin Wheatley which concluded that it is essential to develop one or more risk free or near risk free alternative rates to Libor for use in financial contracts such as interest rate derivatives. And the reasons are related to both the structure of Libor and the

market that underlies it.

Unsecured inter bank borrowing has been in a secular decline for some time. And there's a scarcity or outright absence at longer tenors of actual transactions that banks can use to estimate their daily Libors. And Libor is huge. As Martin mentioned $300 trillion, something like that in gross notional amount. So the incentives to manipulate Libor remain in place, and the structural problems go deeper than that. Market needs to be effective, fair, and also safe. If the publication of Libor were to become untenable it couldn't be published because the number of transactions that underlie it declined further and Libor ceased to be published, the untangling of the outstanding $300 trillion in Libor contracts would be quite a mess, a legal mess that could endanger financial stability. So for these reasons the Federal Reserve has convened a group of the largest global dealers to form the Alternative Reference Rates Committee. And we've asked them to work with us in developing an alternative or alternatives, risk free rates to U.S. dollar Libor that better reflect the current funding structure of our markets. And as the consultation document notes issues of this nature are really global in nature; U.S. dollar Libor contracts are traded throughout the world not simply in the United States. And for this reason we're working in close consultation with all of our foreign regulatory counterparts. In fact we had a conference call all around the world just this week.

So one of the reasons I emphasize these structural issues like the market maker model and the decline in unsecured inter bank borrowing is that thick markets are undergoing rapid changes that seem likely to have far ranging consequences. And issues that arose years ago only in the equity markets are now arising in the thick markets as well.

As the consultation document notes broker dealers are curtailing their market making

activities and their appetite for providing liquidity partly due to regulatory changes and partly due to their own reassessment, some of it probably appropriate, of the risks and returns of these activities. At the same time other players, mutual funds, ETFs, high frequency traders, electronic exchanges, are taking on more prominent roles. These changes will affect market liquidity and functioning in ways that are going to be very difficult to foresee. It's possible that some of these factors played a role in the sharp swing in treasury yields last October 15. So we're working with other regulators, many of whom are represented here in the room, to understand exactly what happened that day and to determine whether there are implications for regulatory or supervisory policy.

So I'll wrap up by saying that the review raises the right questions in considering the troubling patterns of market abuse and also in considering the structural changes that we're now seeing in these markets. And it's crucial that market participants and users and regulators collectively take a step back to consider, as the review invites us to do, whether the changing structure of thick markets will result in markets that are fair, effective, and safe.

Thanks very much. (Applause)

MR. ELLIOTT: One of the great things about being here at Brooking is I get to ask the first few questions here and get some discussion going, and then we'll turn to you in the audience.

Martin, if I could start with you. The consultation period ends at the end of January, though I'm sure if people happen to tell you some things afterwards you'll still listen; that's been going on since October. What kind of feedback have you gotten so far? Are there some themes that are already clear?

MR. WHEATLEY: Well, the most positive feedback is actually the willingness to engage. So actually the single clearest feedback is this is a really

important topic and everybody shares the view that it's a really important topic and also shares the view that it's a topic that we've set out broadly the right approach which is a broad topic, it's a global topic, it needs to b dealt with on a global basis. So I'd say that they are things that have come through in the discussions we've had. If I'm really honest you'll expect some of the sales side to say actually it's not that bad, you know, it's okay. A few changes have been made already, just let it run for a while. And so there's an element of the sales side saying actually we don't want to see too much more intervention and frankly we've got a lot on already. So we've got the completion of Dodd-Frank, we've got a plethora of directives in Europe to complete. There's quite a lot that has let this settle down, but if I'm really honest the thoughtful people and certainly the governments and regulators we talked to very, very keen to engage in this not just in the next six months until we complete this process, but what happens beyond that because the thing we've been very clear about is that this is not a short-term thing; we can't just come up with a set of recommendations and then say problem solved. This is something that has to be owned at a global level by regulators, some of whom are represented in this room, but frankly from right across the globe. So the engagement really, really positive. But in terms of specifics no, I think we're waiting to get written responses.

MR. ELLIOTT: Has anything surprised you at this point?

MR. WHEATLEY: I think what surprised me a bit if I'm honest is the sales side saying actually it's okay. (Laughter) It's not and this is sort of a bit of humility I would expect to say yes, actually we recognize this is a big problem and we have to solve it. So that a bit of a surprise.

MR. ELLIOTT: Okay. And you've appropriately, as has Jay, talked about the difficulties and the importance of global coordination of all of this. How can we do that? I mean clearly we'll have to find some way to do it.

MR. WHEATLEY: Well, I mean Libor which both Jay and I are working on, is a really good example. We started with something where it clearly is important and we recognize from right at the start it's important globally. We started with a set of recommendations which started as UK recommendations. We very quickly engaged the FSB and IOSCO and ESMA to say look, we want to have a global solution to this. So Jay and I now run the group, the Official Sector Steering Group, which has now taken forward the recommendations on not just the old Libor but the concept of risk free rates which is something very much that came out of that group. And we've now got central banks in a number of major jurisdictions all working together to produce a set of changes and we'll report in June, I think our next report will be, we'll be reporting on the changes that are being made. So I use that as actually a fairly good example of how you can make this sort of thing work.

MR. ELLIOTT: And one question I have in regard to that is in dealing with bank regulation in the past it's been difficult to -- or the existing powers have chosen not necessarily to listen to views outside of the western markets. It's been a difficult governance issue to try to make sure that we have emerging markets really involved in these processes. Are there things we could do at this point with these markets which are so dominated by North America and Europe to assure that we have buy in and appropriate feedback from the rest of the world?

MR. WHEATLEY: Well, I think the important thing to do is to involve the super national bodies which we have done. And particularly in the case of Libor, both IOSCO and the FSB which are not dominated by just the major western markets, certainly not dominated by the UK and the U.S. And so having socialized it through that process we now know that many of the markets who are not necessarily the largest players on the world stage are actually taking forward the same set of reforms that we put

forward here. You'll have to remember I spent some time before going back to London representing one of these smaller markets in Asia. I think it's very important and I know from the perspective of being in Hong Kong it was absolutely important that Hong Kong -- and I can speak for a number of regions in Asia -- wanted to be and aspired to operate to the global standard if there was one, and so would be very keen that it was given the blessing of one of the super national bodies that then became an agenda that they could drive through in their own countries wherever that may be. So I don't think that's a difficulty. I think it's about the clarity of what is the global standard. I think that's the hard part.

MR. POWELL: Doug, let me just amplify that.

MR. ELLIOTT: Of course.

MR. POWELL: I think in Libor one of the keys was to sort of reach agreement on principals for reform, but then allow some heterogeneity at the level of countries. So what makes sense for us to implement Libor reform here in the States in principal is the same as elsewhere, but the particulars will be different. And I would also add that the yen group is part of -- yen is one of the five currencies that we've addressed in Libor reform. You know, it's dollar, euro, Swiss franc, sterling, and yen. So we do have a global framework.

MR. ELLIOTT: Okay. And since we're talking on this side now -- no, I was going to turn to you on this one anyway so this is a good switchover. I don't mean to be mean about this but it's possible to take away that the British are well ahead of us in examining all this. Could you talk a little bit about whether (a) you think that's true, which I suspect you don't, and (b) how will the process differ here from in the UK in terms of reaching internal national agreement about what should be done?

MR. POWELL: Sure. So let me first say what we have going on. We

actually are working on many of the same things. We have I think a coherent reform program for Libor that is in the process of being implemented. Very challenging work that I mentioned. Right behind that is FX. We're working with the FX Committee to evaluate the FX reform and then implement those, perhaps on a global basis. We're still active on enforcement. I guess the other one I'd mention is conduct. We have an initiative on conduct that's been a very large focus for us and the other supervisors, particularly at the largest firms, conduct and culture let's say. So we have a lot going on. Those are all areas that are within the framework of the review. I think the other thing is as I mentioned all of the big U.S. firms are involved in the review and are involved in global markets, so it doesn't really make sense for us to be running a parallel process and perhaps coming to different conclusions. I think we're eager to hear what the review comes up with in June and then think about how to transplant that to our markets rather than run some sort of a parallel process.

MR. ELLIOTT: And what do you think the process is likely to be once some initial thoughts have come out of the review?

MR. POWELL: I think we'll have to see. In our market it would need to be -- if we were to do something like that of course it would need to be a multi agency thing and I think we would have to weigh the benefits of that compared to the costs and difficulties of it. It's not clear to me that we -- we don't have major, you know, global benchmarks here for example. At the heart of this is Libor and FX of course. We don't have legal authority over regulating them for one thing, but we also just don't have those kind of benchmarks here in the United States. Those are really in the UK. So I just think we're going to have to wait and see. I think the review really has raised a lot of questions and the answers are not obvious. So I guess I'd want to hear the answers before I think how we're going to think about going forward.

MR. ELLIOTT: It sounds like cheating to me, but okay. And I'll ask first you, Martin, and then Jay, this is sort of a hard question to formulate, but how much of the problem do you think is the ethics were already clear and there were people cheating and how much do you think is in the lack -- either gray areas or an outright lack of agreement as to what the right overall framework should be on which markets operate?

MR. WHEATLEY: I think if the ethics were clear and it was just a few individuals I think we'd see frankly the banks dealing with it earlier. And the fact is it's taken regulators to say this is a problem that needs dealing with. Honestly, genuinely if you've got ethical businesses and you've got one or two people that are not operating to the culture that you've set up as a business, you know, you get rid of them, you don't wait for somebody else to tell you to do it. So I think the fact that it's taken regulation and significant regulation to step in says that actually it's much broader than just saying a few individuals. I mean we spent a lot of time talking now about culture. In the first post five, four or five years of the crisis all we spoke about was capital leverage and balance sheets, and that's all we spoke about. And actually in the last two years you need to weigh against that the amount of time we spent now talking about ethics and culture. And it's a realization that actually these are as powerful drivers of what happens in terms of profitability per firm, what goes wrong in a firm, what goes wrong in markets, as taking outside risky bets in those markets or overleveraging a position. So I think we've all got to that realization now and it's also true, and I know because the consultants come and talk to me and they told me about how they designed this perfect ethics model that they're about to roll out to bank ABC. And I said well are you sure, because there isn't a value at risk equivalent of ethics. You can't go home at night having measured something and said actually I now know that I'm not more than $50 million exposed unless the Swiss bank sort of rebases its currency, I'm not more exposed than that. In

culture it can pop up at anytime, anywhere. And that's the point we make to people, this is not just about giving your risk professionals, your compliance department, your chief risk officer a model and say make sure everybody understands that, this is all about how people think and breathe and behave, and that's from the very top of the organization to the very bottom of the organization. So from my point of view it's not just about a few individuals, it's about the organization as a whole. I think we've got quite a long way to go to solve that problem.

MR. ELLIOTT: Just because you've emphasized a few many times as you were talking about this, another potential possibility is there were very widespread abuses but that everybody knew that those were abusive things that they were doing. So I'm not sure you would change your answer any but I just want to emphasize my question didn't presuppose that if the ethical rules were clear it was only a few people were violating. It could conceivably have been many more. Which is you'd still have the issue of how do you make sure that regulation or market structure make it not occur nearly as much within these organizations.

MR. WHEATLEY: Sorry, I didn't deal with that other part of your question. I think it was pretty widely known if I'm really honest the things that we're now uncovering and saying this is unacceptable behavior. Some of the worst abuses, so the cartel like behavior amongst a few, I think was probably kept to a few, but the broader concern that markets were operating in ways that were a bit unpredictable and people couldn't quite see what was going on and there were probably some abuses in there I think was more broadly known. And frankly we do look at these things through a different lens now. So you have to go back probably 40 years in equity markets to find actually insider trading wasn't an offense in many of the world's major equity markets. That became an offense over time and a number of those markets took quite a long time to

catch up with that. But it was known that it was going on even when it had been outlawed and people understand that. So I think it is fairly widely known that some of the abuses that we've seen in these markets are deep rooted. Not the worst cartel like behavior, but some of the abuses of using client information inappropriately and, you know, part of this review is about resetting the dial and just making it very, very clear that that's not acceptable.

MR. ELLIOTT: Okay. And, Jay, do you want to tackle the same rather vaguely defined question of how much of this is about lack of clarity and how much of it is about unethical behavior?

MR. POWELL: So the conduct -- the way I think about it is this, the conduct is looking at it back in hindsight clearly reprehensible and wrong. And I was never in these markets, but it may have been the case that there may have been a sense that if everybody is doing it it's not really cheating, sort of like -- I mean it's like that in professional cycling. If everybody was taking drugs then that's their rationale, that it's okay if everybody is doing it. And I think there may have been some of that here. In any case as Martin indicated you find that you simply can't have this. And in a sense that is a cultural change because it may have been that it was fairly well known in the marketplace at least some of the conduct was going on. So I'll just say that I think that the right thing to do though is it's sort of a pattern recognition thing, you want to now look around in other areas and ask where are the bad incentives, where could this happen again. If it's not going to be obvious ex-ante, you know, let's think where are bad incentives in place that could lead us down this road again where we can once again find out that things really just won't stand the light of day. I think that's the right thing because Martin is right, standards do change over time and they change through events like this.

MR. ELLIOTT: Okay. Let me give the audience a chance to participate

now. So several ground rules here. First, we are webcasting this and so for both the people in the room and those who are being webcast please wait until the microphone comes to you, please identify yourself by name and organization if you're affiliated with an organization, and please make it an actual question. I'll also go further, we have two very important regulators here who have influence on a wide range of topics. Please, if you can try to keep your questions at least for the beginning of this period until we run out of those, focused relatively narrowly on the wholesale financial markets questions rather than taking advantage of all the other things you'd like to know about their thoughts. And I'm sure we will not get into monetary policy at all, so don't even try going there. (Laughter)

So, all right, questions? In the back.

MR. DA COSTA: Pedro da Costa from the *Wall Street Journal*. Would jail time be a better kind of incentive or counter incentive to the sort of systematic market rigging that we've seen? Are there any plans in the United States, Governor Powell, to follow the UK's lead in kind of making changes to the kind of punishments that traders could face for manipulating markets?

MR. ELLIOTT: Jay?

MR. POWELL: Thank you, Pedro. So as I suspect you know there is criminal jeopardy for actions like this and this is not something that we administer at the Fed, this is something the Justice Department administers. So we have a role in referring conduct as we do all the time in money laundering and tariffs, financing, things like that, but we do have criminal laws that apply to some of this conduct and they will be used.

MR. ELLIOTT: Anything you'd like to add from a British perspective?

MR. WHEATLEY: Well, I think as you know that is the route that the British have gone down. I think one of the big frustrations of society is through this crisis

there does not appear to have been people that have basically served time. We've got working through the system in the UK a number of Libor submitters and for ex submitters who are currently facing criminal prosecution.

MR. ELLIOTT: (Inaudible) able to do that with existing law or did you need parliament to change the law?

MR. WHEATLEY: The laws we now have are stronger, so we've introduced new laws, but those prosecutions were done under existing law.

MR. ELLIOTT: Next question. Sir?

MR. MACKINTOSH: Thank you. Stuart Mackintosh for the Group of Thirty. I wanted to ask Mr. Wheatley, can you develop a little bit your point about how you address extremely problematic, unethical behavior that is not quite criminal but which at the moment individuals can mask and then move on and work in another space? And I know that Bill Dudley has talked about that as well and you know they register or something of that type to get to the reemployment of unethical individuals in the future.

MR. WHEATLEY: So we're working through a program of change to create a new senior manager regime in the UK which will have a number of components to it. Some of the components are just about establishing what it is acceptable and what isn't acceptable. Some of the components to it will have -- certain senior people will have to go through a much more detailed process and to be certified each year that they are still fit and proper. And as part of the process the expectation is those who fall short of being fit and proper will not simply be allowed to move from one firm to another and therefore simply perpetuate their role through the industry. That's the intention, and the lawyers will tell you that this is quite a difficult thing to do, so we're working through exactly how that gets implemented in practice. But obviously people have a right to work and it's trying to balance the people's right to earn a living against the breach of things

which, you know, they fall short of criminal. It's are you impinging on human rights. So that's the sort of balance that we're trying to strike. But the intention is absolutely to get where you described which is people should not be able to simply sign a non disclosure agreement and turn up at a competitor the following day.

MR. ELLIOTT: Okay. Martin?

MR. BAILY: Thank you and thank you for that. I'm Martin Baily here at Brookings. Thank you for the terrific presentations that we've heard. I want to talk about this global enforcement issue that you've raised and that Doug raised. Now so suppose you have a market that wants to get into the business of trading and maybe they're not as particular about the ethics and so they tell the global community oh, yes, we agree to that but actually they're not going to agree. So what do you do about that? And one thing is is there any power to sanction that exchange or that country? And second, will market participants themselves sanction? In other words companies maybe decide not to list on exchanges which tolerate insider trading because it undermined the value -- in the end it undermined the value of their companies, and then now everyone sort of accepts insider trading as a bad thing. Are we going to get to the point where the traders themselves say -- not the traders, excuse me -- the people who want to participate in the market, the buyers and sellers, say we want to go to London or we want to go to New York because the standards are much higher there? You made a comment that suggested that maybe that's not true, that they don't care that much about what you're doing on standards, but it seems like in the end that's going to be a primary enforcement mechanism globally, that you get the reputation we want to be in those markets that are fair and effective.

MR. WHEATLEY: Well, maybe I can start and then, Jay, you can add to it. I think in many of these markets where the major players are highly regulated firms and we know in for ex for example they are, I think those firms themselves, and we've all

heard the term from the top of those firms, are not going to want to be seen to regulators or their clients as trying to funnel their business through jurisdictions that give them some sort of advantage against the globally accepted standard. So I think in those asset classes where you have heavily regulated entities, I don't think that will be the case. In some of those asset classes you've got people who are not heavily regulated entities and this particularly the case in many commodities, some energy, where actually you've got non regulated persons, producers, a very, very wide range. I think it might be a different equation there and I think we'd have to look differently at how those sort of players are regulated.

And in terms of the action on the jurisdiction, the jurisdiction that sets itself up, I think there's been less and less tolerance for that over the last 10 years. And what we've seen now is jurisdictions that do that are finding themselves increasingly frozen out by the global system, whether it be on the basis of tax or other reasons, are finding it harder to do business. But I think the former point is probably the more powerful one for the regulated firms in those markets. They won't want to be caught on the wrong side of the regulators.

MR. POWELL: I would just simply add that I think volume in business is going to run to the highest liquidity and that's going to be as long as we can preserve the fairness and effectiveness if I may say of these large wholesale markets in London and the UK and in other advanced economies. And we're going to get the vast part of the business and I would agree that the problem of markets wanting to be much less regulated and that sort of thing shouldn't be a problem.

MR. ELLIOTT: Okay. Here.

MR. ROLAND: Neil Roland, MLex News in Brussels and Washington. With regard to incentive based compensation UK as you've said is ahead of the U.S.

making changes there. Governor Powell, where do you see the U.S. headed in that area from a regulatory standpoint? Do you see any changes being made if at all?

MR. POWELL: So as I mentioned we're in the middle of a six or seven agency process to come up with a rule on incentive compensation. And the themes that will be embodied, and I don't want to talk about precise particulars because it's the subject of complicated discussions, but the themes are -- the heart of it really is to me deferral of larger amounts of compensation over a longer period of time for people who are senior in these companies or important risk takers. And deferred vesting and forfeiture where there appear to have been risk management errors or let alone malfeasance. And even clawback in some cases, although that's fairly extreme, but there should be the possibility for that. So that's the heart of it. In my experience the real problem is the ability to generate short-term profits, but there's a long tail of risk. And then in a free market system, or a free agency system really the way Wall Street was before the crisis, if it didn't work out you could just change firms. So that is the heart of the compensation problem and I think -- so what we're looking at is ways to require longer deferral and in particular forms and over particular times and with particular triggers for forfeiture and clawback. I can't be any more specific than that.

MR. ELLIOTT: Isn't it also the case that the Fed actually for several years now has been providing some guidance in this direction already anyway?

MR. POWELL: So as I mentioned in my remarks the firms themselves got this right after the crisis and if you talk to the senior leadership they've made their own changes and we have strongly encouraged that without regard to what the firm's wanted to do. We have strongly encouraged that as a supervisory matter, particularly at the largest firms. I mean I personally see this as a -- this is a Wall Street problem, this is a big wholesale banking firm problem, it's not a community banking problem. So we've

been strong in encouraging that and I think the rule that we will propose I would think sometime this year will strengthen and codify some of the gains we've made.

MR. ELLIOTT: Okay.

MS. JACKLIN: Nancy Jacklin, Johns Hopkins SAIS. Mr. Wheatley mentioned the fact that in the fixed income markets in particular the reduction of liquidity is not unrelated to this issue of the benchmarks and how you can get kind of a fair system of benchmarking. You also mentioned the problems of trying to standardize bond issuances. I've been told that in the '20s bonds were exchange traded and so I was wondering whether either of you see a promising approach, or the most promising approach to try to enhance liquidity in these markets and whether there's any public policy issues involved in trying to foster those kinds of changes?

MR. WHEATLY: Again if I can answer first from the UK, bonds are still exchange traded, they just don't trade much. And so most issues you would see, I don't know, reasonable liquidity in about the first four or five days of any issuance, and then basically it's held until maturity. And so one of the problems is that there isn't really secondary market liquidity and hasn't been for a long time. And the problem is exacerbated by frankly in the current environment where you have a search for yield, where lots and lots of people want to hold higher yielding assets and higher yielding so-called less risky assets and believe that there's enough liquidity to both go into those products and come out of them. So I think it's quite a problem actually, what's happening in debt markets at the moment. And the idea of the standardization is to say well we can have deeper benchmark issues that would have more people able to trade and you wouldn't have as you have at the moment some of your major corporates issuing 100-200 lines of debt. But the flipside is from their treasurer's point of view they would argue well, I've got to match the funding to the project, I'm going to match it to the liability. And

so when we've had those discussions we found quite a strong pushback from some of the corporates at the idea that since somehow the -- it would effectively cost more, it might give credit market liquidity but it cost more because you haven't got a proper matching profile. So I think that's one of the areas that came up quite early, but it's quite a difficult discussion that we're having.

MR. ELLIOTT: Jay, anything?

MR. POWELL: So I made the transparency point in my remarks, you know, that the trace data here in the United States has been shown or found to have narrowed spreads, led to better pricing in those markets, so transparency and data on transactions really does help. Martin touched on the idea of standardizing bonds, requiring standardized bonds or for example requiring some -- getting involved in regulating the formation of underwriting syndicates and which buyers get to buy the bonds and that kind of thing. So this is where the whole benefit and cost of OTC markets comes into play. The issuers really want -- bespoke manufactured bond. They really want to match a certain liability; they want to do the deal when they want to do it, at a certain rate, and at a certain structure. And they really don't want to be crammed into a -- generally crammed into a thing. So it's a cost from their standpoint. As far as the same point comes up with requiring some sort of formal first come first served approach to who gets to buy the bonds when there is excess demand. And the issuers don't want that either. They want, you know, investors to be invested in their debt instruments, that, you know, who will support the business and won't just be looking to hold them up if there is a covenant violation, that kind of thing. So in these OTC markets there's really a trade-off between perfect clarity transparency and efficiency and -- well, really and efficiency at least in the eyes of the issuers.

MR. ELLIOTT: And I would just second what both of the speakers were

saying. I was an investment banker for many years and I assure you the people who are trying to borrow the money are very particular about how much they're going to borrow, when they're going to borrow, what the characteristics are, what currency it will be in, et cetera. And I'm sure that we would all benefit from some greater standardization. It's a real conundrum to figure out how to encourage the standardization without forcing people to do things that they don't actually want to do. People out in the so-called real economy which we're not -- in general we're trying to make sure our financial system works better for them rather than trying to impose restrictions on them.

Further questions? In the back there, with the beard.

MR. HELPMAN: Hi, John Helpman, American banker. Governor Powell, you mentioned a culture initiative that the Fed is working on. I wonder if you could tell us some more about what's going to be in that and what the Fed in general would like to do to improve cultures at these institutions?

MR. POWELL: Thanks. So I guess I'll start with the end point, and that is the kinds of things that happened with Libor, that happened with FX, and frankly that happened with the mortgage bank securities simply can't continue. And I think everyone agrees on that. And a piece of that -- there are various pieces of it, but a piece of it is we've got to improve the incentive structures and the conduct management if you will within the large firms where the problem has emerged again and again. We have to do that. I think everyone gets that. I think the senior management of the firms get that. So our project, a big part of our project is to make sure that the CEOs and boards know that we think that they own this problem and that they need to be accountable for and drive the message deep down into their firms in case they're doing it already, that this kind of conduct damages not just your career, it damages your colleagues, it damages this firm, and it's probably going to end your career if something like this happens. So that's a big

part of it. And, you know, it goes from a range of just speeches and ideas -- Bill Dudley had a lot of ideas in his speech, Dan Tarullo has had other ideas as well. So Mark Carney has spoken a lot about these issues. I think we're trying to drive those kinds of changes. It's partly incentive compensation, but it's also just tone from the top which is a loose idea. And it may be that some of these ideas that are being discussed like a registry or lifetime bans and things like that could also be used. But it's clear that what has happened really can't happen, it's really got to stop happening and we've got to find ways to make that happen. One of the approaches is through conduct and culture.

MR. ELLIOTT: Okay. Mary Miller?

MS. MILLER: I just would be interested in hearing from each of you what you think could happen on a global level to take advantage of the trade repository data that's being generated. I think, Governor Powell, you referred to some of the difficulties in terms of international coordination and getting different national authorities to work together. But it does seem to me that if we could get to a global trade repository system that we could help a lot with some of the issues you've raised this morning.

MR. POWELL: Just to amplify. So these are really difficult issues. There are legal barriers for example between it, but sharing information between regulatory institutions in the same country or across border and so lots of work is going on. There are workshops, there are negotiations, there are legal proposals, all kind of things going on to get that done. We will get it done. It will take more time than it should but it will happen. The benefits of course are enormous and that's why I cited the trace data. You have transparency, it's not just for enforcement, it's also for considerations of financial stability and ultimately for transparency and serving markets better. So very important, quite difficult.

MR. WHEATLEY: And maybe if I could add to that. One of the issues

earlier, we asked this question earlier, if jail time would act as a disincentive. It would but it's linked up with detection. So you've got to have fairly sophisticated detection algorithms to run and we've got nothing to run them against. So until you've got a full set of the data, you know, all the trades at different times with unique client identifiers and properly time stamped against a global atomic clock, not where everybody's system is, you know, three nanoseconds out from somebody else's systems, they are the set of conditions that need to exist. And if you've got those set of conditions then you can run fairly sophisticated mining algorithms to look at basically aberrations. And frankly the detection problem goes away. It's then a question of showing the proof. But we're a long way from that. So to come back to your question, would it help. Well, you can't do that sort of set of things until you have a global repository capturing all the data. So it's a necessary pre condition of what I consider to be systematic and proper detection.

MR. ELLIOTT: How long do you think it might take to get there?

MR. WHEATLEY: Certainly beyond my working career. (Laughter)

MR. ELLIOTT: That's too bad; you look robust, so now you've got me worried.

All right. Martin, one last question.

MR. BAILY: You mentioned this business of should people go to jail and I would just raise the question is it really a waste of time trying to put people in jail, particularly the U.S. legal system, but I think maybe also the UK legal system is really designed to protect the defendant and it's really quite hard to send people to jail. You can, but OJ Simpson got off despite some fairly strong evidence. And isn't it better to look to disciplinary action and -- you know, I know you have to talk about sending people to jail because of the public outcry, but it just seems to me that given our legal system that's sort of largely a waste of time.

MR. WHEATLEY: Well, I think -- I mean it's a combination of things. You want to have robust detection. So you want people to think that actually if they do manipulate markets it won't get sort of just forgotten about, it won't go unseen. So you need detection, you need consequences. And for us the consequences will range from loss of career progression to loss of job, loss of bonus, and jail is if you like the end of that. But you sort of want people to feel that the consequences of bad acts are real and that's just one of the menu of consequences. How many people actually go to jail is probably less important than the fact that people feel that's a potential consequence, because I think it does focus the mind.

MR. ELLIOTT: Jay, you're a lawyer, do you want to comment on that?

MR. POWELL: Sure. So when I was coming up in Wall Street the common problem was insider trading. Lots of people went to jail for insider trading and it was -- you know, I didn't personally find the need for deterrents of that nature, but I'm sure that it was a deterrent for some. Whether it's clear -- the issue to me just in my view is that you've got to find clear black and white kind of crimes to prosecute anybody successfully in this country. If it's really close to the line then you may spend a lot of energy and it may have sort of ***in terrorem*** and deterrent effect and that kind of thing, but it's a pretty expensive way to do that.

MR. ELLIOTT: Okay. Well, thank you both. We've come to the end of our time. Thanking the audience, Martin, Jay. (Applause)

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