OPENING SESSION

WELCOME: PAUL PAUTLER, Federal Trade Commission SPEAKER: EDWARD LAZEAR, Council of Economic Advisors

MR. PAUTLER: If everybody could get a seat, please. Welcome to the Federal Trade Commission and to our conference on behavioral economics and consumer policy.

My name is Paul Pautler; I am the Deputy Director for Consumer Protection in the Bureau of Economics at the FTC. I hope everybody had a chance to have a cup of coffee, and you're ready to think about some new ideas today because I think we'll hear some ideas that we haven't thought hard enough about perhaps, and we're certainly hoping to learn a lot today.

Due to Joe Mulholland's efforts at pulling this gathering together, we have an excellent set of speakers, and they're going to discuss behavioral economics and its potential applications to consumer policy. I want to thank all the participants that have come today, and I'm glad that you're willing to share your insights with us.

Not all of our speakers today are going to be fans of behavioral economics, and so we should have differences of opinion among the various speakers and panelists, and I think that's going to make for an interesting day. We hope we've left enough time so that we can have some give and take among the panelists and also get some interaction with the audience, so if that opportunity presents itself, please don't be shy about pitching in.

In addition to the papers on behavioral economics today, we're also going to have some presentations on consumer evidence in credit markets and also some examples of some research that's been done at the Federal Trade Commission, and I think the papers that aren't directly behavioral economics are related to it and certainly tie into the economics of information.

I think most of us at the FTC, certainly at least the economists, don't think of ourselves as being either behaviorlists or Jeremy Benthemite Utilitarians. In fact, I think the whole debate about which models best fit observable behavior is a little rarified for the Federal Trade Commission. We tend to be a little more pedestrian in looking at issues in the fields of consumer economics; we try to get information on how markets work as they seem to reveal themselves in the real world.

I think the first time I ran into behavioral economics was probably back in the mid 1970s when I was a graduate student at Texas A&M. We had a number of seminars where we brought in people who were doing work on non-maximizing behavior and at the time on happiness indexes, and I remember that the faculty at Texas A&M at the time, in those seminars, reacted by saying, "Well, all this stuff is sort of interesting, but all it means is we're going to just draw utility functions with the wide side of the chalk."

What that meant to economists at least was that they didn't really think that behavioral economics - it wasn't even called behavioral economics at the time, I guess it was called bounded rationality - was going to have a big effect on the way economists viewed the world, but I think that really might be changing now.

Looking, for instance, at the American Economic Review that's probably a pretty good barometer of what's going on in economics - you notice that over the last couple of years, it's virtually impossible to find an issue of the AER that didn't have an article that would be a behavioral economics article, and in some cases there were several articles that would appear in any one issue.

So I think behavioral economics is clearly growing a lot. I'm not sure that we at the FTC know as much about it as perhaps we should, and I think today we'll be able to figure out how we can use that information to do a better job for consumers.

So enough from me of reminiscing and procrastinating. I

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guess we ought to get going. We have a very special guest as our first speaker today. He's Edward Lazear, the Chairman of the Council of Economic Advisors. He's been the head of the council since February of 2006, and he's currently on leave from Stanford University, where he's the Jack Steele Parker Professor of Human Resources Management and Economics. He's also a fellow at the Hoover Institution, has written hundreds of papers and nine books, and he's worked for governments as diverse as the State of California and the Russian Federation.

He's also achieved one of the real hallmarks of academia. He has a concept named after him. There's a thing called "Lazear contracts," and not a lot of economists manage to have concepts named after them. I even ran across an ad the other day for an attorney who said he was a "Lazear contracts attorney," and if you've managed to make it into somebody's advertising, you've really arrived.

Today, Dr. Lazear is going to talk to us about the use of economics and why economics is the premier social science, and his thoughts will be based on his widely read article, Economic Imperialism. Dr. Lazear?

DR. LAZEAR: Thanks.

(Applause.)

DR. LAZEAR: Thanks very much. Let me start by apologizing

to you. This is not really a talk that we should start with. It's one that should come later in the day after you've heard a good sampling of the behavioral economics literature because I was actually asked to come here as someone who would be, I don't want to say critical, but maybe not kind of a subscriber to the mainstream behavioral philosophy.

So I guess the way I'm going to have to put this, this was unfortunately due to scheduling issues. I realized when I came to the White House early in my term that I was not going to have control over my own schedule. That's the one thing that's a lot different from academia. It's not that you don't work as hard as an academic, but you come in in the morning and someone says, Here's your schedule for the day, and you say, How did that get there, I didn't put that on there, so it's a very different kind of life.

So I do apologize, but let me just try to give you some thoughts that I have in terms of how one might interpret the evidence that you're going to see today.

I think, first of all, let me applaud those who have worked in this field and have brought so many interesting issues to light in the past few years. I think this has been an extremely innovative field. It's been an extremely interesting, stimulating field, creative, almost intoxicating I would say, so I think that we certainly can't be critical in any sense of the path breaking work that's gone on by the many behavioral economists, some of whom are here today to speak about the field, a couple of whom I know quite well. Colin and I have been colleagues in a number of different contexts, and I'm certainly an admirer of his great work.

I guess what I would like to argue is that in interpreting the evidence and in thinking about the evidence that you're going to see today, that you make sure that you don't reject the old in going for the new; that really what you want to do is think about the new as perhaps enhancing some of the old theories and some of the ways that we think about it, and the reason that I would argue that it's important to bear that in mind is that economics has been an extremely successful field.

If we just base our views on kind of the survivorship principle, which fields have survived, I think that there is simply no doubt that among the social sciences, economics has been the premier social science.

I am chairman of the President's Council of Economic Advisors. There is no council of psychological advisors. There is no council of sociologic advisors. There's certainly political advisors, but that's a slightly different angle here. I think that that's not an accident. I think that the reason that Washington is so full of economists, it's not that we've been able to capture the world. It's not that there's some conspiracy by American economists who have had the ability to monopolize, but rather because I think we actually have something to offer. The field has been very strong and very useful in terms of both policy and in terms of business.

I would argue that that is primarily a result of the approach that economics takes, and that the approach that the economics takes is to follow the scientific method. More than any other social science, I would say that economics is a field that follows a scientific method, and there are three ways, three respects in which the scientific method is an important background theme for thinking about economics.

First of all, rational maximizing agents, so whenever you write down an economic model, you always assume that agents are rational and maximizing. Now, what I mean by rational and maximizing does not mean that they have the kinds of tastes that everybody would think of as homeo-economists. They may have very weird tastes. They may have very strange preferences, but the way an economist would approach a problem is to say: Let's build those preferences into the model and still assume, given those preferences, that there's going to be maximization.

I would think, and I'm going to come to this name later, but

the person maybe not quite my generation but just closer to my generation than some of the other people in this room that I admire most in this respect is George Akerlof. I think Akerlof's work has been in some sense the epitome of thinking about new ideas, slightly odd preferences, but incorporating it into an economic framework and writing down a model in the way that economists would do it.

The second component of those models is that they have the concept of equilibrium. Every economic paper, virtually every economic paper works out an equilibrium. That may strike you as kind of, yeah, so what, what's the big deal, but the big deal is that if you look at other social scientists, this is virtually unique to economics. You almost never see the concept of equilibrium being pushed or being central to the work in other social sciences, and I'm going to argue that that is absolutely central in thinking about why the field has been so effective.

Finally in government, this is probably more important in academia or perhaps in business, and that is the notion that efficiency is important, and what we mean by efficiency, of course, is something close to Pareto optimality or something along those lines. Why is that important? Because it allows us to make welfare comparisons, and that's especially key in government settings. So it gives us a key way of thinking about welfare comparisons, whether a particular policy is welfare improving or not. We have a rigorous way of thinking about that, and I would argue that that would be the third component that economics has -- that differs from other fields.

Let me put up an example. I apologize for this very long text here, but let me put up an example from my field. I didn't know about the Lazear contract thing, but I am flattered by this. I think I'm going to have to try to market that somehow when I get out of this job, but this is a slightly different example.

It's from the field that I'm most closely associated with, which is labor economics or more specifically, personnel economics, and this is a quote from a couple of my colleagues at Stanford, very distinguished people in organizational behavior and in psychology, Charles O'Reilly and Jeff Pfeffer, and if you read their statement, I'm going to read it to you, it's quite cute actually. "Moreover, the fact is that economics is not very helpful in managing people. This is because the fundamental economic theory of motivation is based on assumptions of effort aversion, opportunism and the lack of goal alignment. In the economists' view, people are assumed to be lazy, dishonest and at odds with the goals of the managers. Although each of these assumptions may be valid in a specific situation or for a

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particular individual, (for instance, when managing economists themselves) none is likely to be right in the most settings with normal human beings."

So how do I feel about that? Well, I basically agree. I think their statement is correct, and I actually think that's the strength of the economics rather than the weakness. Let me show you an example, show you a picture here of how I would think about this.

When I first joined Stanford and moved from the University of Chicago, I was at the Hoover Institution. Hoover is a nonteaching part of Stanford, and I was half time at Chicago and half time at Stanford, and there was a time when I was thinking about moving and deciding whether I should go to Stanford Business School, and I actually insisted that I be allowed to teach at Stanford. I was not willing to move to Hoover full time. I actually wanted to teach a couple courses, and I probably would not have left Chicago if I didn't have the opportunity to teach at the Stanford Business School. Why is that? Well, because I think Stanford - teaching is a good thing, and so Stanford was able to offer me that.

Now, teaching one or two courses is a good thing. Teaching ten courses a year is probably not, and so this is a picture of my indifference curves. They are U-shaped. At one point for early low numbers of courses, teaching additional courses is a good. That means I would actually be willing to give up salary in order to be able to teach additional courses for awhile.

Once I get to about it looks like in this picture three courses or so, then I'm starting to think, Well, this is enough; if you want me to teach a fourth course or a fifth course, I'm willing to do that, but you are going to have to compensate me for that, so at that point teaching becomes a bad.

Now, what's the equilibrium? Well, the equilibrium here is at point A. Why is that? Well, because teaching has value to Stanford, they're actually willing to pay me more to teach additional courses, so what's going to happen in equilibrium is that I'm going to be pushed to the point where teaching is no longer good. Teaching is a bad because the equilibrium is such that they're willing to pay me additional dollars to do so, and that's what's going to happen, all right? That's the nature of the equilibrium.

So what I would argue is that on the margin, Charles and Jeff are exactly right. People are effort averse. People are behaving in an opportunistic way, and they do lack the same goal of the employer. In this case the employer wants me to work more and pay me less, and on the margin I want to work less and get paid more, okay?

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Now, that may not be true for the early courses but it is true on the margin, and it's the margin that determines what happens in markets. Markets are determined not by the average behavior but by the marginal behavior. That's a key insight in economics and it's one I think that we don't want to forget, and again I'm going to return to that theme in the context of behavioral economics in a moment.

The second point that I would make is that when Charles and Jeff talk about goal alignment and they say, Well, you know, most of the time, goals are aligned, people have the same views of the world, same goals as their managers do, the workers have the same goals as their managers do, that may be true, but that is not the interesting part of motivation.

Why is that? Because the things on which goals are aligned are not things that you have to worry very much about. Those are the things that people do automatically, but when we're trying to talk about affecting behavior and inducing people in the managerial context to do something that you would like them to do and they don't want to do, that's where goals are not aligned, and that's where I would argue the action is in terms of what we actually see in market, and that's what determines the equilibrium prices and wages and what you actually have to pay workers to do. All right. Well, let me turn now to the specific topic of behavioral economics, and what I would argue is again, I want to go back to what I said earlier because I don't want you to think that we're starting out on a negative here. I think that much of this work has been incredibly influential and has been really eye opening, but I would also argue that we tend to sometimes overweigh the behavioral evidence, and I hope that when you see the material today, that you'll not overweigh it.

Why is that? Well, first of all, much of the behavioral evidence comes from experiments. What's wrong with experiments? Nothing. Every serious, scientific field does experiments, and it would be silly to think that we should not be doing experiments in economics. If economics is a serious field, then we should be thinking about doing experiments as well.

The best thing about experiments is they are valuable because they allow researchers to strip away what is extraneous. It's very hard to do that in the real world. When we get data from the real world, we do our best through statistical methods and other approaches trying to think of clever approaches to focus in on what we think is essential, but we have to get rid of all that extraneous stuff, and that's hard to do in the real world. That's hard to do when you have a lot of other things going on. The good thing about an experiment is you can design the experiment so that you've cleaned all of that stuff out of there, and you can really focus on exactly the behavior that you're trying to study, so I think that's the big advantage of the experimental approach, and I think we've learned a lot from that.

What's the disadvantage? Well, the disadvantage of experiments is that because we strip out all the behavior, we remove some realism from the situation, but I would say experimenters are pretty good with dealing with that stuff now. This field has been around for a long time, and there's been a great deal of sophistication there, and I think most of those problems are easy to deal with.

What I would argue is that the major problem with drawing inferences from experimental evidence is it doesn't necessarily focus on the relevant people. Who are the relevant people? The relevant people are the agents who are on the margin, not the average preference, okay, so I'm going to come back to that in a minute, and I'll show you some results from an experiment that I did actually that will make this point a bit more dramatically, but again remember that the way economists think about the world is in terms of marginal behavior, not average behavior. Marginal behavior is what matters in markets, not average behavior.

Let me show you a picture. Here's an example of a situation

where the marginal behavior and the preferences of the marginal individual are very different from the preferences of the average individual.

So here's an example where we're thinking of construction workers. Some construction workers work way up on tall buildings. Other construction workers work on the ground. Now, you might think that construction workers who have to work way up on tall buildings, iron workers at 30 or 40 stories above the ground would demand a premium for working up at that height because it's dangerous, and most people have some aversion to height, and that's true, okay?

That depends on the equilibrium. It depends not on the average preference, but it depends on the interaction between supply and demand. It depends on the preferences of the individual who's the marginal person in this market.

So what I have here is a demand curve. The demand curve is simply a demand for construction workers that have to work at heights, so construction workers working at the 40th floor of a new building. That's the demand curve for it, and then I have a supply curve. Let's see if this will work here. You'll notice that the wage that people get, that construction workers get if they work at ground level, that's shown right here, and most workers, much of the supply curve, is above that level. So the average person in this occupation would actually demand a premium to work on the 40th floor. Most people would, but there are a few guys who actually like it. They kind of think it's fun to work up there, and like me, I would be willing to pay to teach a course, these guys would actually be willing to pay something to be able to work on the 40th floor rather than to work at ground level, not too many of them but there are some who actually would be willing to pay for that. All right.

What's the market equilibrium? Well, the market equilibrium is determined by the interaction of supply and demand, and since the demand for people who work at the 40th floor is sufficiently small, there are enough people, there are enough workers who actually prefer to work at the 40th floor to clear that market at a premium that's actually negative; that is, at a price where the marginal guy actually prefers to work on the 40th floor, so the equilibrium wage for those people is actually less rather than more than the wage rate here.

This is of course a stylized example. This is not going to be typical of what we would expect to see in the real world, but the reason that I raise it is that it's important to understand that when we start thinking about equilibrium and we start thinking about the behavior that we're going to observe in the real world, it is necessary to focus on the preferences of the marginal individual and not the average individual.

Another way to say that is that most of this population sorts out of this market. Most of the population is irrelevant, so anybody from here on is basically irrelevant. They're just not part of the story, and that's I think an important thing to remember when we interpret the evidence.

All right. Well, let me give you an example then from a game that I set up with a couple of my colleagues, Ulrike Malmendier and Roberto Weber, who is an experimentalist at Pittsburgh, and Ulrike is at Berkeley, used to be at Stanford, behavioral economist, and we were sort of a strange team working together, but I think we learned a lot from each other, and this was kind of an interesting approach, and what we tried to do in this paper was to figure out how important it is to allow for sorting in interpreting results.

So here's what we did. Many of you are familiar with the experimental literature on dictator games, and what you almost always find in a dictator game is that people share. For those of you who are not familiar with dictator games, the way these things work is you bring people into a room, and you designate half of them as dictators and half of them as recipients, and the dictators are given some money, and then they're told - they're paired in a variety of different ways, sometimes anonymous, sometimes non-anonymous. They're paired with another individual, a recipient, and they're told, Okay, here's \$10, you can do what you want with it, keep it all for yourself or you can gave some to the other guy.

What you find typically in these games is that people do tend to share with the recipient, even though there's no incentive to do that. You kind of say, why are they doing that? That doesn't seem consistent with kind of standard preferences. More money is better than less money, and yet in almost all of these cases people do share, and I think that's a pretty consistent finding. All right.

Well, I would argue that this sharing behavior while it's relevant in this kind of environment doesn't take into account differences in preferences and that individuals who are least inclined to share tend to opt out of situations where they share.

Let me give you an example. When I'm at home, my wife and I like classical music. We go to the San Francisco Symphony and the ballet and the opera, and they're all in the same area, and there's a community of homeless people who tend to congregate around that civic center area in San Francisco for two reasons: One is San Francisco is a relatively warm climate so it's not a terrible place to have to be in the middle of the winter. That's a serious point really if you look at the distribution of populations like that across cities. You do tend to see that, but the second thing is that this is a group of relatively wealthy people going out for the evening, and they're pretty good targets.

Now what happens? So a panhandler, a beggar will be sitting on the street, and you see that guy half a block down the street, and you have a choice. You can either walk by the person, or you can cross the street and avoid the person all together. Now, think about it. Who's going to cross the street and avoid the person?

Well, the people who want to share are less likely to cross the street, but the people who don't want to share are going to cross the street, so if I looked at the proportion of people sharing among those who walked by the beggar, I would see a pretty high proportion of people sharing. If I looked at the broader population, including those who cross the street, I would see a much smaller population sharing.

Now, what do we see? So what we did in this game we tried to kind of mimic that sort of situation and find out how important is this sorting stuff, again thinking about the marginal guys as being the guys who determine what we see in markets.

How important is this? The bottom line is this: What we

did was we set up a multiple round, multiple decision game, so in the first round, you're forced to play the game where you're given money and you are told that you will either share or you won't, but you're in this environment, okay, you have to decide, share or not.

Now, what we find is about 74 percent of the people do share consistent with most of the evidence that you see out there. In round 2 what we say is: We'll give you ten bucks, you can either play the game in which case it's just like the first round; you're going to be paired with someone; you can share or not, or you can simply opt-out, and we'll just give you the ten bucks and you can get out of here, and there are a variety of ways that we do this to try to keep things honest in terms of our treatment and make sure that everything is clean.

What we find when we allow people to opt-out is that a very significant proportion, more than half, opt-out, and of the total population now, something closer to 30 percent shared, still sharing. Doesn't mean that there is not sharing in this population, but the point is that it's a much smaller, much less important effect than we saw in the overall population.

So the point that I'm trying to make here is that when you allow for sorting you're going to get effects that are much lower than the effects that you get in the experiment. So if you look at the numbers here, this is just more data to the point that I just made. These are the multiple rounds, and what this graph shows, and by the way this is a typical Council of Economic Advisors' trial graph where you have two axes, two different scales, different lines, and we always get criticized for this. Only economists love these kinds of graphs. Everybody else hates them, but since this is a crowd of mostly technical people, I figured that I would be able to exercise a little bit of license here and put this up.

If you look at the graph, what you'll see is that the percent choosing to play and to share falls dramatically when people are given the option to opt-out; that is, if you can sort as you can in round two. In round one, you're not allowed to sort so you see that dotted blue line, I'm pointing to - I'm sorry, I always do that, that's not a good point when you point to the screen here. That doesn't work very well.

If you see up here 100 percent played the game in round one, by definition you're not allowed to opt-out, but if you look at round two, and you ask how many opt to play the game versus just take the ten bucks, what you find is that most people, the majority opt-out. Some still opt in and play, but the majority opt-out.

Then what we did in subsequent rounds is we said: We'll

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give you a premium, we'll pay you to play the game, so you can either have ten bucks and just leave or we'll give you \$11 and you can share the \$11 or we'll give you \$13 or \$16. What you find is when you start paying people enough, and even those who don't really want to encounter the beggar, who don't want to play the game, will opt back in eventually.

At some price people opt back in. At the extreme, if I gave you \$20, you could still take your ten bucks, which is as good as you would do in the case where we're just giving you the ten bucks, and you can give ten to the other guy, so unless you're really nasty, chances are you would find that a better solution, and in fact 100 percent of the people opted back in at that point.

So the point is there's a price at which you can get people to opt back in, and this is a way to kind of map out people's preferences in a diversity within the population, but I think the main thing that you want to get from this is the general point that although most people on average do worry about sharing, if they're given the option to opt-out, they will do so.

Markets give people the ability to opt-out, so go back to the skyscraper example that I gave you before. You don't have to work on the 40th floor if you don't want to, so the individuals you tend to see in that market are the ones who are most willing to be in that environment, and again that's something, although not always ignored, but tends to be ignored in the behavioral literature and particularly in the experimental literature.

This is an easy thing to fix, by the way. This is not a fundamental criticism of behavioral economics nor is it a criticism of experimental economics. This is something that one can easily fix. It just tends not to be taken into account, so again I just urge you to think about this in a slightly different way.

One last example for you that I think makes clear some of the differences between the way that economists think about the world and the way other social scientists think about the world. I was at a conference a few years back. Again it was a labor economics conference, and we had a very distinguished speaker, Danny Kahneman, and he was talking about some of his work on utility theory, and it was from a paper he did with Schkade, and what Danny said at this conference was a lot of times economists try to say, "Well, utility theory has to be valid because it's a tautology, and you can always write down a function that takes everything else into account, and so it's tautologically true, has to be true."

He said, "I don't believe that, I don't think it's a tautology, and furthermore I don't even think it's true," and he

gave an example that I thought was quite interesting where what they did was they looked at differences in preferences and happiness across geographic areas, and first they did a survey.

They said the survey showed that most people thought that California, which is where I'm from fortunately, is a nice place to live and that most people like California, good to live in California, but if they surveyed people in California and compared them to people who lived in Chicago or other parts of the country, they found that Californians were no happier on average than the people who lived in other parts of the country, okay?

They viewed this as a refutation of utility theory, basically arguing that people didn't know what they were doing because if everybody thinks that it's such a great place to live, why don't you go to California? That may be a slight overstatement of the way they would put it, but I think it's pretty much consistent with their thinking on it.

When I heard this, I actually asked Danny this question at the conference. I said: This is just not the way an economist would think about it because we think in terms of equilibrium, and in equilibrium, what we know is the marginal guy has to be indifferent between living in California and living in Chicago, so what that means is that people will move to California and

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drive housing prices up in California such that the marginal person is just indifferent between living in California and living in Chicago, and all the inframarginal people, everybody else, will actually be happier living where they are.

So the people who live in Chicago are happier living in Chicago than California on average because at the price differential of housing in California versus housing in Chicago, they just don't think it's worth it. Those who live in California are the ones who have a relative preference for that.

Now, the reason that I think this is an important point is because this is the way an economist would immediately think of the problem. Why? Because we think in terms of equilibrium, and the natural thing for us to think about is: What's the equilibrium this market? How do prices get set to equilibrate that situation?

Psychologists don't have to think that way and really shouldn't think that way, because for the most part they're not dealing with markets. They're not dealing with groups of individuals. They're dealing with individuals and the behavior of individuals.

Economists are pretty bad I think on the whole at describing the behavior of individuals and mapping out the tastes and preferences and specifics of individual behavior, far inferior to psychologists in this respect, but in terms of understanding market behavior, I think we're a lot better, and it's because again I would go back to this notion that we focus on equilibrium.

So the two things that happened in this story was first, prices and wages adjust, that's what happened in equilibrium, and two, people sort on the basis of their preferences. Again the sorting thing comes into play and is an important one.

What's my conclusion? The conclusion is that I think that we can be informed by behavioral evidence. Again let me repeat what I said at the beginning. I've been a little bit critical for the past 10, 15 minutes or so. I think of this as one of the premier new creative fields, and I think we have to pay a lot of attention to it, and I applaud it.

I have many heroes in this field. As I mentioned some of them are here. Some of them are elsewhere, but I think there's a tremendous amount of good work, and I hope that you'll be open minded to the kinds of things that you'll see today and take them seriously, but I would also argue don't be too quick to reject the traditional models.

The goal of trying to understand these things is not so much to find anomalies and to kind of figure out what's wrong but rather to search for a single coherent explanation that we can use and try to figure out things in kind of a parsimonious framework.

So what I always tell my students, my Ph.D. students when I'm back at Stanford is: Entertain the new, always be open to what's going on there, but to quote President Reagan, "Dance with who brung you." There's a reason why you came to graduate school in economics, and there's a reason that economics has been very successful, and I hope that the things that you will learn today will not induce you to reject your roots, so thanks very much.

(Applause.)

DR. LAZEAR: Can we take a question or two? I don't know what your timing is, one or two, a minute or so.

Mr. PAUTLER: Sure, if you like.

DR. LAZEAR: Well, it sounds like we have no questions. I'll let you move on to the next panel and end with that. Thanks very much for having me.