CFA Institute

BEHAVIORAL ECONOMICS: PAST, PRESENT, FUTURE, AND FOOTBALL

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This session from the 2017 CFA Institute Annual Conference discusses the following points:

- Assumptions of economics — the plausibility of optimization, self-interest, and self-control
- The "magic market" and how it should work — considering the efficient market hypothesis, right prices, and rational markets
- Behavioral economics and management — sunk costs, framing, default options, mental accounts, and the fallacy of intervention

JOHN L. BOWMAN, CFA: Good afternoon, everyone. Welcome to Philadelphia and the 70th CFA Institute Annual Conference. We're excited to share the next three days and hope that you'll come away with new insights, new colleagues, and be inspired to sharpen your investment edge.

I'm John Bowman, managing director of the Americas for CFA Institute. And I'm pleased to be serving as your master of ceremonies over the next few days. We're glad that you've joined us, whether this is your first time at the Annual or whether you're a regular.

This year, our in-person audience totals more than 1,800 delegates, attendees from more than 75 different countries. As you might expect, the US has the highest number of delegates. Canada, Canada comes in second.

[APPLAUSE]

Also not surprising. But third, the bronze medal might be a surprise, although they claim it every year, and that is South Africa.

[APPLAUSE]

And I'm told, Canadians, that they are only seven delegates behind, so I would watch your back carefully. In addition to our in-person audience this year, we have launched Virtual Link, an online conference experience. And we welcome those members and industry professionals who are joining us remotely right now. Virtual Link will bring the Annual Conference to our broader global membership with live broadcast of select sessions like this one, exclusive speaker interviews, and discussions on current topics.

We started broadcasting live this afternoon, and we'll continue with programming until Wednesday. All Virtual Link content will be archived for on-demand viewing, so please, share with your colleagues.

To help you navigate the conference over the next few days, you each have a pocket guide tucked behind your badge. We also have a fantastic Annual Conference app that allows you to build your own schedules, search for and message other delegates, and access speaker presentations. So, if you haven't already downloaded that app, please do so tonight. And if you need any help, please see the registration desk.

And one of the benefits of the conference is meeting and talking with new colleagues from around the world. In order to locate fellow conference goers with common areas of focus, be sure to update your profile in the app and affix the stickers that you received at registration to your name badge.

As we go through the next three days of thought-provoking sessions, unique experiences, and professional insights, be sure to share your perspectives with your networks and your global investment community. Please remember to use #CFAedge on Twitter and in all social media activity. You can follow the blog through either the app or online. In past years, we've been a trending topic, so the pressure's on again here in Philadelphia. So, we can't wait to see what your social media posts bring this year.

Now for me, taking the stage here this evening represents a personal journey that has come full circle, because it was right here in Philadelphia in 2005 that I attended my first Annual Conference. And so, I'm thrilled and humbled to be a small part of this great event.

But the larger narrative, of course, around this great city is that CFA Society of Philadelphia was one of the five founding societies, preceding even CFA Institute itself, that had the vision for a federation of societies that would work collaboratively to build a trustworthy and sustainable investment management profession. And 70 years later, the society continues to lead from the front.

We'd like to express our gratitude for the help and the support of our colleagues at CFA Society of Philadelphia throughout the last year. The contributions of society leaders are critical to all that we do at CFA Institute, but that is particularly true when planning the annual conference. So, here to welcome you on behalf of CFA Society Philadelphia is Society President Peter Maher, CFA. Along with several other Society leaders, Pete has played a pivotal role in the planning of this year's conference. Pete.

[MUSIC PLAYING]

PETER MAHER, CFA: Thanks, John. Well, we are finally here. Welcome to Philadelphia. Benjamin Franklin once said, "An investment in knowledge always pays the best interest." So, it is in that spirit that we welcome our members and guests attendees, our conference presenters, and our panelists, and CFA Institute staff. Thank you for choosing to expand your learning for the next three days here with us in the birthplace of American democracy.

That many of you have traveled such long distances to be with us serves to remind us just how important the Annual Conference has become. As president of CFA Society Philadelphia, I've been fortunate to lead an organization with a long history of professional excellence.

Founded in 1943, the CFA Society of Philadelphia was a founding member of the National Federation of Financial Analysts Societies, the organization that would evolve into CFA Institute. Today, with over 2,100 members, CFA Society Philadelphia has had much success in the areas of financial literacy, university outreach, and most recently, with our work in the area of women and investing.

The city of Philadelphia is generally recognized as the place where revolutionaries asserted their independence and later framed the new nation's government. Yet little is spoken of the role the city and its prominent sons played in shaping the very infrastructure of our country's financial markets and institutions.

Today, New York is known as our financial capital. However, before Wall Street, there was Chestnut Street. Before the Federal Reserve was created, there was the First and then the Second Banks in the United States. All three landmarks you see here are just a short walk from where you're sitting.

It can be said that Philadelphia parented our nation's financial system, with notable citizens playing leading roles along the way. Before there was a Rockefeller or a Carnegie, there was Stephen

Girard, a Philadelphian, a banker, and a philanthropist. Girard personally saved the US government from financial collapse in the early years of the 19th century. There was Jay Cooke, innovative investment banker, credited with creating a model for the wire house, and also developing new techniques in securities issuance.

And there was Anthony Drexel, renowned banker and Philadelphian who was asked to mentor the troubled son of a New York business partner. Drexel would then go on to start a partnership with that young man and create a firm that would pioneer investment banking and practice, financing America's railroad system, deepening the capital markets, and stabilizing markets in times of panic. The name of Drexel's protégé — JP Morgan.

And there's no better known Philadelphian than Benjamin Franklin. Among his countless achievements, Franklin founded and was the first president of the Academy and College of Philadelphia. That institution would later come to be known as the University of Pennsylvania, giving birth to the Wharton School of Business.

And once again, Franklin implores the individual to further his or her learning when he said, "If a man empties his purse into his head, no man can take it away from him." Wise words indeed. So it is our hope that you enjoy the conference and be taken with our city. CFA Society Philadelphia is determined to help you make the most of your investment. Thank you.

[APPLAUSE]

JOHN L. BOWMAN, CFA: Thanks so much, Pete. Yeah.

PETER MAHER, CFA: Appreciate it.

JOHN L. BOWMAN, CFA: All right. Thank you, Pete. And it's never good form to correct your host so early in the program, but you forgot a critical piece of the legacy of this great city. And that, of course, for those of us particularly, the Americans in the room, is that it was the birthplace of the demise of none other than Apollo Creed, Clubber Lang, and of course, Ivan Drago. So maybe he'll review that in the follow-up.

Now before we begin the session, we'd also like to recognize our two platinum sponsors for the conference, Macquarie Investment Management and Vanguard. Their generous support helps us to produce this amazing event.

As we begin our opening session, let me remind you to use the cards provided to submit your questions for the speaker, and pass it to one of the volunteers that will be circling the room. At the end of the session, the moderator will pose the questions to the speaker, as time permits.

At this time, I'm pleased to introduce Marg Franklin, who will moderate our keynote session this evening. Marg is president of BNY Mellon Wealth Management Canada and has served in senior positions at Marret Private Wealth, Barclays Global Investors, State Street Global Advisors, and Mercer. Marg is a former chair of the CFA Institute Board of Governors, one I had the benefit and great pleasure of serving under, a past president of CFA Society Toronto, and is currently part of the leadership team for the Women in Investment Management Initiative, including the Alpha and Gender Diversity conference. Please welcome Marg Franklin.

[MUSIC PLAYING]

MARG FRANKLIN, CFA: Thank you.

[LAUGH]

Thank you, John. Long a believer that much of what we do for investors is more than optimization, equations, and the math of investing, I happened across the book *Nudge* by Richard Thaler and Cass Sunstein. Now Richard will readily admit that the most famous anecdote in the book has to do with urinals, and it starts out like this.

"As all women who have ever shared a toilet with a man can attest, men can be especially spacey when it comes to their aim." I looked across the room at my husband and then to the right at my son and I thought, indeed.

The story continues that an economist who worked for the Amsterdam International Airport had the idea to put an image of the black housefly onto the bowls of the urinals, just to the left of the drain. The result? Spillage declined by 90%. The conclusion? If you give a man a target, he will aim at it. Indeed. Dr. Thaler is the author of *Nudge: Improving Decisions About Health, Wealth, and Happiness*, and the author of *Misbehaving: The Making of Behavioral Economics*.

He has played himself in "The Big Short" alongside Selena Gomez. He is the professor of economics and behavioral science at the Booth School of Business at the University of Chicago. He is provocative, he is incredibly witty, and he has the inimitable ability to nudge us, to help us help ourselves. And when we don't quite do that, to shove us to certain parts. So, as a woman who can tell a story about a urinal, it is my great and distinct pleasure to welcome Dr. Richard Thaler.

[APPLAUSE]

[MUSIC PLAYING]

RICHARD H. THALER: Thank you. OK. Thank you, Marg, for that nice introduction. Using up my best material early, but you know, I'll see if I've got something left to say.

So, I'm going to talk today about the field of behavioral economics and how we got to where we are now. And since the NFL draft was held here just a couple weeks ago, I thought I'd sneak in a little bit of football.

So, let me start by answering what might be an obvious question, which is, what is behavioral economics? And let me offer you a quotation from a forerunner of current behavioral economists, Herb Simon, who says, "The phrase *behavioral economics* appears to be a pleonasm." I'm guessing no one in the room knows what that word means. It means a redundant phrase. And as he correctly points out, one might reasonably ask, what other kind of economics could there be? Presumably, economics is about the behavior of people in markets.

But then he answers his own question. The reason why we need that adjective is because of the "assumptions of neoclassical economic theory." So what is the core assumption? The core assumption is that people choose by optimizing.

Now, economics wasn't always that way. In fact, it didn't begin that way. Let's go to the first economist, Adam Smith — turns out to also be the first behavioral economist. Here are just a few passages from Smith talking about overconfidence, one of our favorite topics, loss aversion, self-control. Smith had it all.

And let's fast forward to the 1930s. John Maynard Keynes, who… no one reads Keynes anymore, which is too bad. If you read chapter 12 of his magnum opus, *The General Theory* — it's the best chapter ever written on behavioral finance and absolutely is true to this day.

Here's a quote. "Day-to-day fluctuations in the profits of existing investments, which are obviously of an ephemeral and non-significant character, tend to have an altogether excessive and even absurd influence on the market."

Who doesn't think that's still true today?

So, what are the defining assumptions of economics? I've mentioned optimization, self-interest, consumer sovereignty, which means economists think an individual is always the best judge of what is in his or her best interest, which means that people have no self-control problems. So, that means that people never eat too much, never drink too much, never have hangovers. I don't know whether you know anybody like these, but I don't.

Finally, these creatures economists study have unbiased beliefs. That doesn't mean they're omniscient. It just means they have forecasts that, on average, are correct. So the technical term for these mythical creatures is *Homo economicus*. To avoid Latin, I just call them econs, a term Cass and I introduced in *Nudge*, and I've retained in my more recent book.

Now, the question we want to ask is, what about humans? Do they also optimize, act only in their self-interest, always choose what's best for them, and have unbiased beliefs? And if not, how do they behave, and how does it matter, especially in markets?

Now let me start by asking whether optimization is even a plausible hypothesis. Could it possibly be true? And the answer is no. It's just not a realistic description of behavior. Why? Well, first of all, some tasks are harder than others. Can we possibly be optimizing at everything? And some people are smarter than others. Do we all choose as well as Einstein? I doubt it.

So here's an example. Here's a set of tasks that vary in degree of difficulty. Breathing. You know, I can master that. Sorry for the typing here. Rock Paper Scissors, Tic-Tac-Toe, Go Fish. You can see we're increasing in difficulties here.

Now, here's a picture of my golf buddy, Gene Fama. Gene is a really smart guy. He's an econ. And he's equally good at all of these activities. What about me? Not so much.

[LAUGHTER]

What about self-control? Again, here's a set of things, some of which are easier to resist than others. Eating kale, easy to resist. So that last one should be sharing a bottle of 1945 [INAUDIBLE]. Now, here's a picture of Gandhi, who had very good self-control. So, doesn't matter what the task is. He's equally good at it. Again, hmm.

[LAUGHTER]

I have an assistant who helps me with these slides, and she puts in some editorial comments. So, what do economists say about this? They have various excuses that one of my colleagues refers to as "explainawaytions," which are reasons why we needn't pay attention to anything Thaler says.

So, what are these? Maybe the most famous came from the great University of Chicago economist, Milton Friedman. And he said, look. It doesn't matter whether the assumptions are realistic. All that matters is whether people behave as if they were optimizing.

And he tells the story of an expert billiards player who plays as if he knew physics and trigonometry and differential equations and behaves just as if he were maximizing. Now Friedman was a brilliant debater, and — this is a well-chosen example. Notice he's describing an expert billiards player.

Suppose we're studying the behavior of some guy in a bar, shooting pool after three or four beers. He's not going to be behaving as if he was optimizing. He'll probably aim at a ball that's closest to some pocket and often miss.

Now the important thing is that economics is about the behavior of everyone. And we're not all experts at everything. In fact, almost all decisions in life are made by people who are not experts in the thing they're doing.

Who's an expert in buying cars? Maybe a used car dealer, but not the rest of the market. Who's an expert at saving for retirement? Well, maybe financial advisors, but not their clients. If the economic theory were right, they wouldn't have any clients, because everybody would already be good at it.

And furthermore, as my mentors and friends Danny Kahneman and Amos Tversky — I think Danny spoke here a few years ago — as they showed, errors are not only frequent, they're predictable. We know what mistakes people are going to make. And so, if people make mistakes, that means economic theory is making mistakes.

So, what do I conclude from this? The "as if" argument is a verbal sleight of hand. It never should have carried any weight, although it did carry weight in the economics profession for about 30 years.

Now, here's another argument that's due to Milton Friedman that I kind of rudely referred to as the "invisible hand wave." And the argument starts out something like this:

Yeah, you guys like Thaler and Kahneman and Tversky, you run these experiments where people seem to do silly things. And yeah, that's fine in those experiments. But out in the market when they're engaging in the market, then — and now it's my claim that no one has ever been able to finish that sentence keeping both hands in their pockets. It's just not possible. You have to start waving your hands, because well, uh, then what?

Suppose I choose — suppose I choose the wrong career or the wrong spouse or don't save for retirement. What happens to me? Or I take out a mortgage that I won't be able to pay back, unless interest rates stay low and house prices keep going up.

Well, people make mistakes in these domains all the time. And what happens, they may lose some money, especially on the marrying the wrong spouse. That's particularly expensive. But they don't disappear.

So here's the — I put this in bold, because it's particularly important. *Markets do not eradicate irrationality*. It's much easier to make money exploiting irrationality than it is to make money eliminating it.

Here's one example. Approximately $27 billion a year is spent on extended warranties. Almost always a bad idea to buy an extended warranty. I've been saying that for years, and I've yet to make a nickel. But people are making $27 billion selling them, so what do we think?

Now what about the biggest stakes of all, the efficient market hypothesis? There are two components to this theory. One I like to call the "no-free-lunch hypothesis," meaning you can't beat the market, and the second I like to call "the price is right," which is the idea that asset prices are equal to intrinsic value. So together, those two components make up what my friend Eugene Fama called the efficient market hypothesis.

So the first one, I kind of give — I'll give a reasonable grade. Maybe A-minus. I call it approximately true. Why do I say that? Well, it is possible to beat the market. I'm a principal in an active management firm. We think we can beat the market, at least more often than not.

But we know, and it's been true for 40 years, that on average as an industry, active management underperforms their benchmarks after fees. So, if it's possible to beat the market, it's not easy, and most people who try fail.

But even if you think it's approximately true, the following three things cannot all be true: Investors are rational, markets are efficient, and financial intermediation is 9% of GDP.

I'll give you two. You can't have all three. So take your pick. All right? If investors are rational and markets are efficient, you guys are all out of jobs.

[LAUGHTER]

Not a single one of you would be employed.

Now when Fama and I talk about this, he obviously likes the fact that I give that part of the hypothesis an A-minus. He doesn't like talking about the second part, about whether prices are right. And I think it's the more important part, because from an economics point of view, we are relying on security markets to allocate resources. And if they're not doing a good job of that — in the 1990s, we sent a lot of resources to Silicon Valley, and we had, at the Chicago Booth Business School, we had students quitting after their first year to go become billionaires, and a lot of them came back a year or two later.

So for many years, this component of the theory was thought to be untestable. And I can tell you as an academic, there's nothing better in a theory than it being untestable. I mean, you sleep really well at night if you're the author of a theory that nobody can refute. And that's the status of this component for a long time. But you know, if you think hard, sometimes you can come up with ways of testing it.

Now why is it untestable? Well, who's to say if Apple is too high or too low? It's got the largest market cap in the world, but is it too high? Well, people say, it's not growing very fast anymore. Must be too high. On the other hand, they're sitting on approximately a zillion dollars in cash.

Some people think of them as a value stock. So personally, I have no professional view as to whether Apple is too high or too low. And if I did, I couldn't prove it.

So let's look at one case — admittedly, not a particularly important one, but an amusing one — and where we can be sure. And it refers to a closed-end mutual fund that happens to have the ticker symbol CUBA.

Now this is a small closed-end fund that invests in stocks that have at least something vaguely to do with the Caribbean. And for years, this fund, like most closed-end funds, traded at a discount of 10%, 15%.

Now needless to say, the CUBA fund never invested in Cuba. A, it would be illegal. B, there are no securities, so it would be impossible. And typically, it was selling at a discount.

Now here's a plot of the price and net asset value of the CUBA fund. The orange line is the price of the assets they own. You can see nothing very exciting is happening during this period. This is about a little over a year I have plotted.

And you can see at the beginning, over on the left-hand side, it's selling — starts out at about 10% discount. Discount gets a little bigger for a while. And then all of the sudden, boom. Goes to a 70% premium in a day.

So assets, a collection of assets — all of which you can buy in the open market, I might add, these are US and Mexican securities — assets that you could have bought the previous day for $0.85 are selling for $1.70. Any guesses as to what might have happened that particular day?

Probably you can guess. That was the day President Obama announced his intention to relax relations with Cuba. Now remember, the CUBA fund has nothing to do with Cuba. Is this an efficient market?

So I think in that case, even Gene — well, somewhat reluctantly — if you want to watch Gene Fama squirm, there's some video of the two of us having a little debate that Chicago Booth put on. And I sprung this particular example on him as a surprise gift.

[LAUGHTER]

He says, ah — it's just an anecdote.

[LAUGHTER]

But you know, it's an amusing anecdote, so you know. I think we can all agree that was a bubble. But it took a year to go away. There was another blip, by the way, the day that Fidel Castro died. Again, it went up above net asset value, and then went away.

But what about other cases where intrinsic value is harder to measure? Let me tell you some history. In the 1990s, the late 1990s, when I would speak to an audience like this of professional investors — maybe some of you who've been around long enough actually heard me talk at that time and participated in one of these surveys — I would ask people two questions.

The first was, I would give them a portfolio of five frothy tech stocks and I'd say, what do you think is the intrinsic value of this portfolio? And then the second question is, what do you think this portfolio is going to do over the next six months?

And the median answers were the portfolio was worth $0.50 on the dollar, and it's going up. Now that, ladies and gentlemen, is a bubble. The stuff is overvalued, but I think it's going up.

Well, that's amusing 20 years ago, right? Never mind, it has nothing to do with what's going on now. Except my friend Bob Shiller has been asking these questions for the last 20 years, not about internet stocks, but about the S&P 500. And he has a time series of two measures. One is what he calls one-year confidence, which is the percent of respondents who think — I'm sorry, it wasn't the S&P, it's the Dow — who expect the Dow to go up over the next 12 months. The second question is valuation confidence, percent of respondents who think stock prices are too low or about right as opposed to too high. OK? These are the same two questions I was asking.

Now here's a plot of these. The top line, this gray line is percent of people that think the market's going up. The blue line is the percent that think the market is fairly valued. And the yellow line is the one I've plotted, which is the difference, and I call it the exuberance delta.

And what you can see is we have now exceeded the late 90s on the exuberance delta. Professional invest… I could show you, the same plot is true for individuals. But this is for institutional investors. Most of you think the market is overvalued and going up. To me, that's scary.

So, what do I think of the price-is-right component of the stock market? Well, Fischer Black, the co-inventor of the Black–Scholes options pricing formula once said that he "might define a market as efficient if prices were right within a factor of two." I think Fischer died in 1996. I think if he had lived to 2000, I think I could have convinced him to revise that up to three, since the NASDAQ fell from about 5,000 to 1,300. But let's say two. That's a pretty generous grading curve.

You know, I think maybe markets might be efficient on that definition. But some policymakers took the efficient market hypothesis more seriously than that and assumed that asset pricing bubbles were not possible. And that included Alan Greenspan, who was in a position to do something about it. And after the fact, after the financial crisis when he missed two bubbles in a row, he admitted that he had made this mistake. Meaning, assuming that asset prices can't be wrong.

So, my take on this is this is fine as a working hypothesis. The only problem comes if you think it's true. And right now I think is a good time to be worried. Now does that mean I think the market's about to crash? No. I have no ability to forecast the stock market. But there are scary signs there.

Now how can we apply these lessons to managerial decision making? One cost sticking to the standard model is that economic theory tells us that some things just do not matter. Things like sunk costs or the framing of a problem, the wording of a problem, which options are labeled as default. Economic theory says, all of these things have no effect. Is that true? Mental accounts. I won't mention that.

I call these *supposedly* irrelevant factors. Supposedly because the theory says they don't matter, but they do. And we've seen that. Behavioral economics —probably its biggest impact has been in changing the way retirement plans are run, and an example is default options.

So, standard economic theory says people save the right amount. That's it. That's the theory. And so design features shouldn't matter. There's lots of money at stake, and the cost of filling out a form isn't very big.

But here's some data from Vanguard, I think one of your sponsors. This is participation rates in plans Vanguard administers. The red lines are the rates in companies that automatically enroll people, and the blue lines are for the companies that don't.

And the categories are by income. And you can see, for any income group, if people are automatically enrolled, almost everybody enrolls. Here's the same chart with the categories by age. So, this is a supposedly irrelevant factor that shouldn't matter, but does.

Now one problem with automatic enrollment is most firms start people out at too low of a rate. The most common is 3%. How can we fix that? Well, Shlomo Benartzi, a former student of mine and I created a plan that we call Save More Tomorrow, where you ask people now whether they'd like to increase their saving later.

Now in the first implementation, people were offered advice. They were told, maybe you should increase your saving by 5%. The ones who turned that down were offered this Save More Tomorrow plan where their saving rate would be increased 3% a year.

Here's what happened. Just look at the third row down, the one in bold, join the Save More Tomorrow plan, and you'll see the saving rates. These were the people with the lowest saving rate, and we more than tripled saving rates in just three years. Using what? A supposedly irrelevant factor.

So, here's a lesson from Danny Kahneman. He calls it the fallacy of intervention. And he tells the story of an Israeli flight instructor that Danny was trying to convince to offer positive reinforcement.

And the flight instructor says, no, look, I've tried that, but it never works. If you praise people, they do worse. If you punish them, yell at them, they do better. What did he discover? Well, of course, he had discovered mean reversion. Now Danny calls that the fallacy of intervention, because when things are going badly, our intuition is to intervene, and that intervention is often wrong.

Here's an example. This comes from the British Premier League. When should you fire the manager? Well, this is a study that compared teams that fired the manager with teams that didn't. And here's what you see.

Teams that fired the manager were doing very poorly before the fact, and improved over 6, 12, or 18 matches. So firing the manager works great. Unless you compare it with teams that didn't fire the manager that improved even more.

The same is true for the NFL, by the way. Teams that don't fire their manager improve six percentage points more than those that do, controlling for their prior record.

And the same is true for portfolio managers. Here are managers that get hired. Not surprisingly, they were doing very well right before they got hired, and they don't do as well after. What about managers that get fired? Not surprisingly, they were doing poorly going into that, but rebound. Managers that get fired usually get fired at the wrong time.

And this is the killer chart. Suppose we compare the managers that they fired with the ones that they hired. The ones they fired do better. Again, the fallacy of intervention.

OK. I promised you a little bit of American football in honor of the draft year. This is a paper I wrote with a former student, who is now right here at Wharton in Philadelphia.

What we were interested in is one particular market, which is the market for draft picks. So, if you don't know about American football, I will give you a 30-second introduction. The way teams acquire players is they pick in an order from the worst team to the best, and there are seven rounds of that. That's all I'm going to say.

So, what you can see from this chart, two things. One is, what does this say? So we gave the first pick a value of one, and then we plotted how much it takes to get the first pick. And when you can see is the 33rd pick, the first player in the second round, is worth 20% of the first pick. So, teams think that first pick is really, really valuable.

The other thing you might notice from this chart — and if you deal with data for a living, you'll be struck by this — which is the fit is fantastic. Every point is just right on that curve. What could be going on?

The first time Cade showed me this, I said, you know, are you sure you didn't make some programming error? Well, the reason the fit was so good is there's something in football that — within the league, it's referred to as the chart. This is the chart.

It turns out, Jimmy Johnson, back when he was the coach of the Cowboys, wondered what picks should be worth, because they're traded all the time. And if a team calls him up and wants the eighth pick, how much should he ask for? And one of Jerry Jones' engineer buddies looked at some data and kind of drew a curve like we did by freehand. And then, since he's dealing with football players, made it into a chart.

This is probably too small to read, but the first pick is worth 3,000 points, and the second, 2,600, and so forth. And to this day, teams use this chart to make trades.

Now it was never created with the intention of saying what picks are really worth. This is just market prices. And it turns out, the market prices are wrong. It's almost as if Black and Scholes had made a math error, and for 20 years, option prices were wrong because people were using some stupid formula on their calculators.

OK. Now I told you the first pick is worth five times as much as the 33rd pick. For that to be true, teams would have to be really good at discriminating good players from great players.

Here's a chart, and it's constructed the following way. We take every player in a certain position — say quarterbacks — and we rank them in the order in which they were picked. And we ask, what's the probability that the third guy is better than the fourth guy, or the seventh guy better than the eighth guy?

Now if teams are perfect, that would be 100%. If they know nothing, it would be 50%. What is it? 52%. They're just a little better than flipping coins. It's 56% in the first round, so they know a little bit more there. But after that, they don't know much.

OK. So here's what we conclude from our study. There are three lines on this chart. The top one is the value of players as we go through the draft. And you can see it declines. They know something. Players picked in the first round are better than those picked in the second round, and so forth. The second line, the red line, is how much they have to get paid. That's also false. And you might notice, it falls more steeply.

Now if you think about, what is a pick worth to a team, it's the difference. How do you get a good team? You get players that are worth more than you have to pay them. Because in the National Football League, there's a hard salary cap, so every team has the same budget. And the bottom line is the difference.

Now I've re-plotted that bottom line. It's now the top line on this graph. And I've plotted it the same as the first graph I showed you, which is the value of picks. In an efficient market, those curves are identical. You can see they're not quite identical. The 33rd pick, which is in the market for picks, worth one-fifth of the first pick, is actually worth more than the first pick. This is the biggest anomaly I've ever found. And Cade and I have been helping some teams based on this.

Now what about market efficiency? How can the market get this so wrong? This teaches us something about how markets work. It can get it so wrong because there's no way to arbitrage. The trader would like to short the first pick and go long second round picks.

But if you're, say, the New England Patriots, Bill Belichick is the only coach in the NFL who I personally know has read our paper, the technical version. He doesn't have the first pick, so he can't do this trade. And neither can we. There's no trade for us. And we can't sell dumb teams short, so this can persist.

The only thing we can do is we can try to buy a dumb team. Unfortunately, that costs a couple billion dollars. So if anybody in the room has a couple billion, or has a client with a couple billion, please see me at the cocktail reception. We can talk. Otherwise, we're stuck.

OK. So I'm going to conclude. It appears I have — ah, here we are. I knew there was one last slide. So we need theories of humans, not econs, to understand how markets work. Humans may need help, especially with the complex things that you are all experts in. When it comes to market efficiency, it's hard to beat the market, but prices can be wrong from the CUBA fund to the tech bubble to the real estate bubble to the National Football League draft. And don't hire and fire from performance. Use process. Thank you very much for having me.

[APPLAUSE]

MARG FRANKLIN, CFA: Not so bad.

RICHARD H. THALER: Not so bad, she told me.

[LAUGH]

MARG FRANKLIN, CFA: We have a few questions here for you. And a couple of them are sort of on the same theme. You won't be surprised. They're all about the markets, and there's lots to talk about.

So, individuals cannot be rational at all times, and we have all kinds of experiments that we can see this. But when and how and with what kind of experiments can we apply that for the market in aggregate?

RICHARD H. THALER: Well, so I showed one way. So, those charts from Bob Shiller, I think, should be pretty scary. When we see that people think that prices are too high, but are going up, I take a deep breath.

When it comes to picking stocks, I think it's possible to use behavioral concepts. I think it's possible to use behavioral finance as a way of investing. At our firm, what we try to do is predict your mistakes. So, we don't try to evaluate firms, but we try to find the firms that you will all become more optimistic about soon.

Because to quote another famous line from John Maynard Keynes, "In the long run, we're all dead." And in the world of portfolio management, the long run is about two years. So, I think that's a strategy. And in fact, it's about the only coherent strategy I know of.

If you're a value manager, and so you're just buying stocks that are cheap, you have to ask yourself, why are they cheap? And when is the market going to realize it? If you think Apple is cheap, when is the market going to wake up?

So, Keynes talked about the market as guessing what other people are guessing other people are guessing. And I think that's the way to think about investing from a behavioral point of view.

MARG FRANKLIN, CFA: So, as we see that really, two firms, BlackRock and Vanguard control huge amounts of the market, which would be called informationless, tight investing, passive investing. How do you think about that force in terms of the way that you apply behavioral science to investing?

RICHARD H. THALER: Well, so you know, I wear two hats. One is as an investor, one as somebody who advises people how to invest. And certainly, for things like retirement plans, the boom in index investing and the plummeting of fees is great for individual investors, especially when it comes to investing in large-cap stocks.

Now, there is a limit to how much of the market can be invested that way. We know that if everybody indexed, there would be nobody setting prices. So that can't work.

Personally, it would be a lot of fun to be a portfolio manager in a world where 80% of the market was indexed, because there would be huge liquidity with dumb money. Dumb — I don't — dumb by construction, right? So I'm not saying it's dumb to invest that way. Much of my retirement wealth is invested that way. Dumb because the weights are the market caps.

So, we're not there yet, and I have no prediction about how large a share indexing will take. It's getting pretty big in the large-cap sector, and how big it can get is an interesting question.

MARG FRANKLIN, CFA: So, then which behavioral biases do you believe are best dealt with groups of professionals, people that fill this room? And which are exacerbated by those groups as you look at stuff right now?

RICHARD H. THALER: I would say the bias I would be most worried about, if I were one of you, is the one that was most important in our study of the National Football League, and that's overconfidence. When we talk to the general manager and the owner of some team, they're sure that if they can just get this guy, that's all that's preventing them from winning the Super Bowl.

In spite of the fact I show them, look. Here's a list of the last 20 people that were the first picked, and half of them were busts. How can you be so sure about this one?

MARG FRANKLIN, CFA: And what's their response?

RICHARD H. THALER: They're sure. I mean, I can tell you, I am not consulting for my hometown Chicago Bears —

[LAUGHTER]

— who had the third pick in the draft this year, and they were so sure they knew who the next savior was that they gave away three picks to move up to the second pick to take a quarterback who is not particularly outstanding compared to other players picked at the top of the draft.

MARG FRANKLIN, CFA: I hope you contacted them after that.

RICHARD H. THALER: It's funny. The owner ran into my co-author about 10 years ago, and they had a conversation. The owner said, no, we have no interest in that.

[LAUGH]

MARG FRANKLIN, CFA: OK. The VIX. Really, really low.

RICHARD H. THALER: You know, this is — if you ask me, this is the biggest mystery to me about the market. We live in what I think most people would feel are the most uncertain times in memory.

And I think it's fair to say that regardless of your political persuasion. If you love Trump, you're worried that people are out to get him. If you hate Trump, you're scared to death about what he might do. And there seems to be a new surprise at 5:30 each day. Now, we have that with the lowest volatility we've ever seen. What are you guys thinking?

[LAUGHTER]

I mean, the only thing I can think is there's a tendency for animals, when they get afraid, to just freeze.

[LAUGHTER]

And are you all frozen? If so, I recommend raising the thermostat, because the low volatility combined with high prices and confidence is a pretty bewildering mix. And I'm baffled.

MARG FRANKLIN, CFA: So, you have designed all kinds of strategies to nudge people along in certain behaviors. What would you do to nudge us along? What would be your nudge sort of strategy?

RICHARD H. THALER: Well, here's a potential cure for overconfidence. The basic lesson is, look at your past record. I'll tell you a football example to illustrate this.

Cade and I used to work for a different team than the one we're working for now. And we were getting a tour of their facilities, and we went into a room that was full of file cabinets. And I said, oh, what's there? You know, if I see file cabinets, I think data. And they said, oh, that's 20 years of scouting reports.

MARG FRANKLIN, CFA: Wow.

RICHARD H. THALER: I said, great. Have you ever analyzed that data? No. So you know, this is a team with a $150 million a year payroll. And so I said, well you know, you think we could look at this data? So, eventually we convinced them to spend a couple thousand dollars coding it up so we could look at it.

And then we asked everybody in the front office who they thought was the best scout. And they were all confident, and they were all wrong. There was one guy in the building that was better than chance, and it was a guy who never left the building. All he did is watch tape.

So, the analog is, you think you're a really good stock picker? Look at your past record carefully and see what your batting average is. Is it 52%? Probably not much higher.

MARG FRANKLIN, CFA: So, let me ask you this then. Do you actually think beating the market is the right goal, when you think about what it is we are trying to do for investors, which is, generally speaking, create secure —

RICHARD H. THALER: Well, no, not necessarily. Obviously, you could form a portfolio of index funds or ETFs. But then the question is, what portfolio? And how to do the asset allocation. And for sure, that's the more important job for a financial advisor, because the first part is really hard. And now the second part is really hard too. Tell me what's cheap. Since I'm not going to get somebody with $2 billion, somebody who knows what's cheap, come see me, and I'll buy you a drink in the reception.

MARG FRANKLIN, CFA: So, a couple of years ago, Danny Kahneman was up on this stage. And you've worked with him, and he's a good friend of yours, so you know he's charming and humble. And he was asked, do you make money on the insights that you have about all of this? So I'm going to ask you, do you — as our final question — I can see the clock coming down — do you make money on — do you personally invest differently the way you know and what you know, and do you make money at it? Your track record.

RICHARD H. THALER: Well, I will say that I called the bottom in 2009 one day off. And I have a record of this, because I emailed my business partner and said, write it down. Today's the bottom. And it was the next day.

But on the other hand, I don't own a single security, in part for compliance reasons, but mostly because I don't think I know anything. But I invest in our products, and we manage $8.5 billion. So, yes, I've made money.

[LAUGH]

MARG FRANKLIN, CFA: Great. Well, listen. Thank you so very, very much for your time, your thoughts. And I know that you will be doing a book signing afterwards. Would you please join me in thanking Richard for a most excellent speech?

[APPLAUSE]

JOHN L. BOWMAN, CFA: Thank you so much, Richard and Marg. What a great start to the conference.

KELLI PALMER: Director of corporate citizenship for CFA Institute.

JASON VOSS, CFA: And I'm Content Director Jason Voss of CFA Institute. Kelli, what did you think of the day? Let's give everybody out there a wrap-up.

KELLI PALMER: Well, it was quite an exciting day, but I think I have three really standout moments. So, Arun Sundararajan, he talked with us about fintech. And two things from his talk that I thought were particularly interesting were the flattening of capitalism between the 20th and 21st centuries. And he talked about how investors are becoming more distributed and heterogeneous and the impact that this may have on the markets.

I was also interested in what he had to say about the digital trust grid, and really thinking about personal brand management, say, if you have a Facebook account, but you also want to be an Uber or Lyft driver, that trust is being triangulated through feedback, which includes those sources. So, how that's impacting the way consumers make decisions, and ultimately what's valuable.

So that's that piece. Then I had the opportunity to interview Olu. And he is a graduate student locally who was attending the conference for the first time. And that was just absolutely refreshing to see someone at the start of his career and the enthusiasm that he has for both the profession and the organization and his desire to carry back all that he's learning to Nigeria, which is his home country.

JASON VOSS, CFA: Yeah, and I had a chance to meet him. He was absolutely wonderful, and Nigeria's in good hands if he is representative.

KELLI PALMER: Absolutely. And then the final piece that really spoke to me was Chris Ailman. That interview that you did with him, it was heartening to hear his real belief that we need to get past the discussion about the fiduciary rule and move to acceptance. He is really interested in the power and importance of us being advocates for our investors.

And the analogy that he gave to doctors and the Hippocratic Oath was particularly vivid for someone who — I don't work in the markets. I'm a consumer. And I believe in him and what he has to say about them.

JASON VOSS, CFA: Right. Yeah. In fact, that was one of my highlights from today as well. I had earmarked that. I thought that he didn't hesitate at all when I asked him, hey, are we at a crossroads? And he said, I hope we're at a crossroads, and I hope that that crossroads represents greater fiduciary responsibility on the part of market participants.

Some of my other highlights from Arun Sundararajan session. Something that struck me — and this wasn't something he specifically said. But as a former investor myself, this was something that I thought was especially interesting, is that I have been concerned that as the demographics of the world are not particularly favorable, birth rates are slowing, it's great for the environment.

But if you have assets built for a seven-billion-person planet, but your population goes to six billion, you have a lot of stranded assets like empty buildings, empty houses, empty schools, highways that aren't used. That's a tremendous amount of capital that's tied up.

But because of the presentation he gave today, I'm more confident that people would find a productive use of those assets. And maybe even since it's the sharing economy, you have an empty bedroom in your home, for example, potentially that doesn't go away. So you don't need a new hotel room built because there's a room available. So, I thought that was super interesting.

KELLI PALMER: Did it stick with you, the two million people on New Year's Eve who were in Airbnbs? And the whole holding for Marriott Starwoods, 1.2 million?

JASON VOSS, CFA: Yes, it did. But here's the thing. As a long-term resident of New York City, [INAUDIBLE] everybody Airbnbs. But yeah, I mean, to actually see it stark, side by side, that was quite interesting.

Another highlight for me, the interview I did about the future state of the investment profession. What was really refreshing for me to hear — I was one of the authors of the document — was to hear our CEO Paul Smith, CFA, say that his experience has been that firms that have read it are beginning to incorporate it into their strategic conversations. So, it was gratifying at a personal level.

But I also think if they're doing so, it means that there's kind of a wedge being built there potentially, because a lot of firms forecast. Whereas this is scenario-driven, which requires you do deeper thinking, a little bit more thoughtful. So, that was exciting for me.

And then that last session with Richard Thaler, I cover behavioral finance for CFA Institute, so there wasn't a lot new in there for me. But what I appreciated was his index that he put up there in terms of — and I can't remember the name he gave it. I frantically was writing down notes. But it was something along the lines of, you know, the irrationality index. And he said, it's the highest it's been since the dot-com era. And I take note of those kinds of measures. I mean, I myself think things are a little bit irrational.

So, anyway, that's it for my daily wrap-up. I wonder if you could give us a sneak preview of what's going to be happening tomorrow. And as a reminder, we go live tomorrow, 8:30 AM with Paul Smith, CFA. I mean, if you could give us a sneak preview.

KELLI PALMER: I am happy to do that. Tomorrow is an exciting day. We begin with extensive coverage of Women in Investment Management, both research and programming. Then we have an interview with S&P Market Intelligence, one of our Virtual Link sponsors. There's a panel discussion about the current geopolitical state of the world, a session I know that you are eagerly awaiting.

JASON VOSS, CFA: You are absolutely right, I am.

KELLI PALMER: A check-in with the CFA Institute standards team. They are central to earning trust for our industry. Then, live on set, we have a series of interviews: David Blanchett, Robert Brown, Bryan Esterly, Robert Shiller, and Jeremy Siegel. If you have limited time tomorrow, that is absolutely when I would recommend tuning in. Then there's the panel on responsible journalism in the era of fake news. I am so excited.

JASON VOSS, CFA: You have been. For many, many days, you've been saying you're looking forward to that.

KELLI PALMER: And then the day ends with a live broadcast of Robert Brown's session on global asset allocation. It is a rich day, and I hope that you all will return to view.

JASON VOSS, CFA: It is our busiest day. This concludes our coverage of Virtual Link for the 21st of May, 2017. Thank you so much for joining us. We will see you tomorrow.

