

# CFO Forum Transcript

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The Energy Management and Innovation Center (EMIC) hosted a CFO Forum on November 8, 2012, moderated by Dr. Sheridan Titman, EMIC's Executive Director. The four CFOs discussed various issues, including stock prices, hedging, pension plans, China and US shale gas. An abridged transcript of the discussion is presented below.

## *Impact of Stock Price on Investment and Financing Decisions*

TITMAN: Given that stock prices have been fluctuating quite a bit lately, we'll start with a discussion of stock prices and how it affects company decisions. I'll start with you, Tom - when the price of Apache goes up and down, does that affect investment or financing choices?

CHAMBERS: Well, it certainly affects financing choices, because when your stock price is very low on a historical basis, you're not going to use equity financing. We look at the stock market as an indicator of what's going on, but we don't let it drive our decisions per se. In terms of financing, we take what the market gives us. For example, we bought about \$7 billion of properties from BP in 2010 and our stock price was down. When we announced the deal and went on the road, we actually got a \$6 bump when we explained the deal. We ended up issuing equity, which we had not planned on doing.

TITMAN: So you got a \$6 bump, but if your stock price fell \$6 would that have led you to pull out of the deal?

CHAMBERS: No, because we'd already announced it.

TITMAN: Would it have changed how you financed the deal?

CHAMBERS: If it was \$6 lower, we would have financed it differently.

TITMAN: Now Paul, at Boeing, you make extremely long term investments. If you are developing a new jet, and that's a ten, 20-year process, I would think that fluctuations in the stock prices probably don't have a lot of effect on that, or do they?

KINSCHERFF: Stock price is an indicator to us as we place long bets. We're investing about \$4 billion a year in R&D, and when the stock price is moving within a normal trading range vis-à-vis the markets, that tells us that we're working within a normal business cycle. In 2001 our stock price actually hit \$24. There was so much fear in the market that we did cut back on our investments, not because of the stock prices, because of the market.

TITMAN: Putting this in perspective, Boeing stock price is about \$70.

KINSCHERFF: That's right. Historically we've been in trading ranges anywhere from \$50 to \$90.

TITMAN: And did you consider repurchasing?

KINSCHERFF: No, we did not consider repurchasing at that time, because all the airlines were lining up at the door and saying, "how can I defer deliveries?" We were not in line to repurchase until several years later when the situation stabilized and we started repurchasing stock and raising the dividend.

TITMAN: Now Steven at Celanese, you're a smaller company, are you more sensitive to what's going on in the financial markets than the larger companies?

STERIN: Maybe a touch, but my comments are similar to those you've just heard. We're not as capital intensive, so we probably would not consider issuing equity for a deal, unless it was a large acquisition. That being said, it's hard to ignore your stock price in the short term. We went from \$52 to \$7 during the 2008 market crash. In retrospect, we learned that companies tend to buy back their stock when they have the most cash and when the market's most robust and that's at the top of the cycle. If you look at S&P 500 companies, most of them bought back shares within striking distance of a 52-week high or three-to-five-year average.

TITMAN: So when your stock price hit \$7, were you in financial distress in any sense, or did you think the market was just misinformed about the situation?

STERIN: The whole industry saw a significant downward movement, but in particular, we were a new company. Celanese is a 100-year-old company, but we were formally a German publicly traded company and then acquired by Blackstone. So we went through a private equity transaction, had a lot of debt on our balance sheet, and we only had three years of history as a U.S. company. Investors didn't know what to expect. But given our high leverage, we had prepared for this and were ready for it.

TITMAN: So part of the interpretation is your price has gone way down, you view it as extremely undervalued, but you can't repurchase it because you're certainly not going to borrow more money. In a lot of these situations where you're undervalued, you need the liquidity in-house. That makes a lot of sense.

### Hedging

TITMAN: Let's talk a little bit about hedging. We'll talk about people on both sides of the petroleum business, the producers and the users. Does BP hedge its output?

SHAH: We don't hedge in the upstream, because we feel like we've got the right discipline and investment program. Currently Brent is trading at about \$110. We don't invest in our capital program based on \$110 oil price. It's much lower than that, and so we think we don't need to hedge. We think that in the long run, the cost of supplying oil will continue to increase and the world will be short of oil. Now we do have a trading organization whose business is to buy and trade commodities. So while upstream doesn't hedge at all, our trading organization may hedge on the back-end of our crude and gas, or on other people's crude and gas as well.

TITMAN: BP is very much exposed to oil price risk, right?

SHAH: Absolutely. If you look at the upstream in the world right now, I'd say the cost of supply in 2000 was around \$5-to-7 a barrel, and now it is in the \$60-to-\$100 range. So if we saw sustained oil prices below, say, \$80, we'd have to re-evaluate our capital program and our future investment program.

TITMAN: Now the story used to be that the super majors, BP, Exxon, Chevron Texaco and the like, they were just too big relative to the size of the derivatives markets to actually think about hedging. I know those markets have grown and I know that at BP you have a lot of experience. If you wanted to hedge, would it be even possible to hedge a significant amount of your oil price exposure?

SHAH: I think we can. On the gas side, if you've got long-term LNG contracts, you typically lock them in for 20 years. That's a form of hedging; you've locked in the price. And that's how LNG plants are built.

TITMAN: But why do you lock in LNG prices while, you know, I could spend a few billion dollars developing an oil field off Africa and I won't hedge the oil price? What's the difference?

SHAH: There is a big disconnect right now that's actually occurring in the gas markets. In the U.S., because of the abundant amount of shale gas, gas prices are quite low. In Asia, you are paying oil equivalent prices for gas. Because a lot of the LNG plants are backed by national oil companies, government entities, they want to lock in

their profits. You can always ship oil somewhere, but for LNG, you can't have stranded cargos of LNG and therefore you have to lock in prices at some point. Investors want to lock in their return on that investment.

TITMAN: LNG contracts, they're indexed to oil prices, is that right?

SHAH: That's correct.

TITMAN: So when you have LNG price risk, such as a long-term contract where you index to oil, then you're basically left with an exposure to oil prices, which you're already exposed to because you're in oil business?

SHAH: That's correct.

TITMAN: Now Tom, Apache is close to a \$50 billion company. So I can't ask you from the perspective of a smaller E&P company, but from the perspective of a company that isn't integrated, Apache currently is not hedging, is that right?

CHAMBERS: That's correct. Typically, a smaller company will hedge oil or gas risk because they don't have significant cash flow and they need cash in order to drill. They're usually highly leveraged, and as a consequence they have to pay off debt and lack consistent cash flow to continue to drill. At Apache, our hedging has centered around deals. When we negotiate a deal, we're taking price risk, because we're negotiating it based on the strip. So we understand the reserve and production risks that we take, but in order to lock in the economics, we'll typically hedge about 50% of the deal for about three years. However, on the base side of the business, the drilling side, we have significant excess cash flow that we don't hedge.

TITMAN: Let's say that you have a lot of oil fields that are producing oil which isn't hedged, and then you decide to buy \$5 or \$6 billion worth of oil fields from Niloy. You want to hedge that deal to lock in economics, before you close the deal?

CHAMBERS: Correct. Because I have to do it on a price I may not necessarily be willing to do, but given the time I'm at, the strip price is what we're all negotiating from. So that's the price I have to make sure I lock in.

TITMAN: And two years later, you've got two fields that look alike: one has the prices are locked in, the other does not.

CHAMBERS: That's correct.

TITMAN: Will you get rid of one of the hedges, does it matter?

CHAMBERS: We'll look at monetizing a hedge, depending on what happens with oil and gas prices. There are many vehicles available to monetize oil and gas: swaps, collars, three-ways, four-ways, buy puts, sell calls... we look at all of those. We don't take one specific way, and in fact, we started using collars just to protect the downside without giving away some of the upside. Our perspective is that we want to be exposed to oil price, because we have a long-term view that oil is a scarce commodity which is becoming much more expensive to find and deliver.

TITMAN: Now you've got a lot of gas in British Columbia. But that's the same situation, you don't want to develop that until you can lock in a deal at a price --

CHAMBERS: Here's the deal on LNG. An LNG train costs between \$5 and \$10 billion, depending on the size, and typically you need to build at least two to realize economies of scale. It takes five years to build and we have to

lock in the economics in order to invest. We negotiate the off-take agreements with buyers to ensure the prices support the economics of the plant. If they don't, the plant doesn't get built.

TITMAN: OK. Let's switch to hedging inputs rather than outputs. Steven, at Celanese you buy coal and natural gas, and make ethanol. Do you lock in your input prices?

STERIN: For Celanese, methane and ethylene are the key feed stocks in quantity for our business. We don't hedge directly or through financial instruments, and instead we try to create natural hedges in our portfolio. We'll set up sales arrangements that have price formula mechanisms built in which allow us to pass through raw material positions to our customers. If we can't do that, we will backwards integrate and take an investment in a methanol facility. For example, we've got a joint venture in Saudi Arabia on methanol so when methanol costs rises, we make more money on our joint venture. It's a natural hedge. We like to have businesses that are counter-cyclical to other ones in our portfolio.

TITMAN: U.S. chemical companies are doing very well when natural gas is cheapest - is that true for Celanese as well?

STERIN: Yes, natural gas is the key feedstock for the whole petro-chemical industry. With the shale gas today, our costs are lower, which is good. However, there are about \$80 billion of chemical projects and upstream ethylene projects announced in the U.S. over the last couple years, much of which is on the Texas Gulf Coast. Many companies are trying to acquire EPA permits and it'll be interesting to see how many of these projects get approved, as the greatest job growth and GDP creation comes from the new projects versus just having a lower-cost input.

### **Impact of Pension Plans**

TITMAN: I think we will move to that discussion in a little bit when we talk about prices. Before we do that, let's keep on the finance. I'll go back to Paul, who mentioned that when we think about capital structure of these large companies, we have to think carefully about the pension liabilities. Now at Boeing, how big is your defined benefit pension plan?

KINSCHERFF: Well, defined pension benefit about \$60 billion. Market cap of Boeing is about the same.

TITMAN: So these pension liabilities are of the same order as the market cap of the company. When we're thinking about valuing Boeing, this is not something that we can ignore. Now, are defined benefit plans kind of old-fashioned? Are we seeing them go away?

KINSCHERFF: The birth of new defined benefits plans across almost all industries has basically stopped over the last 20 years. For Boeing, we go back many years with a very large unionized labor force: we have 170,000 employees today and nearly 500,000 ex-employees, our retirees. You can see the imbalance. Pretty much the only thing that could bring the company down would be the pensions if we mismanaged them. We've taken action where we can to move away from a defined benefit plans for employees. If you are a new employee of Boeing in a non-represented unit, you will get on the defined contribution plan.

TITMAN: In 2008, 2009 how much did the pension assets get hurt by the financial crisis?

KINSCHERFF: Quite a bit, but not as bad as you would've thought, because in 2006, we went to liability directed investing. We moved pretty heavy into fixed income, so when the interest rates began to collapse in 2007, 2008, 2009, the value of our assets actually went up along with the discounted value of the liabilities. So while we were fully funded in 2008 when I left as Treasurer, we are probably now \$10 billion under-funded depending now how you calculate it. We probably held on to \$9 billion of funding just by changing the investment strategies.

TITMAN: One of the concerns I had at the time was, the stock market crashes, and we've got all these defined benefit pension funds that are basically way under water because our portfolio's gone down. That causes everyone to have to fund their pensions, so they report very low earnings, which will cause the stock market to go down further, which will basically create a snowball effect.

KINSCHERFF: We beat earnings four quarters in a row, with a fascinating last quarter where we announced that we beat again on the operations side, yet I would say three-quarters of the call with investors was about our pensions. The way the accounting works, we're taking major EPS hits because of the pension expense.

TITMAN: It's something the analysts are really focused on.

KINSCHERFF: Now they are, absolutely, and we're not the only ones.

TITMAN: The rest of you please chime in. Celanese is a new company - you're mainly defined contributions?

STERIN: We are now, but Celanese has been around for a long time and those pension liabilities don't go away through changes in ownership and structure. We've got 24,000 retirees, and only about 2,000 actives. Our market cap is about five billion and we have \$4 billion in gross pension liabilities globally, and about \$2.5 billion in assets. So we're \$1.5 billion under-funded. It is a significant issue. I think one of past mistakes is that when you are close to near-funded and had a lot of cash, companies should've topped off these plans and put them to bed instead of buying back stock. During the 2006, 2007 period, there were record stock buybacks and minimal plan contributions. From a capital structure perspective, I think most large companies with pension liabilities learned some lessons over the last five years.

### **International Issues / China**

TITMAN: Let's talk about international issues. I know all your companies are international, and you have done business in China, so we'll focus there. Steven, how important is China to your business?

STERIN: Asia, China's the largest, is about 45% of our business. We've been in China with joint ventures for 35 years. We're also one of the first chemical companies to be on the ground with wholly-owned facilities in 2005, and now we have seven wholly owned facilities within China in addition to the JVs. China is critical. I have three quick points to make about China. The first is that it's difficult to make money in China. You need to have a technological advantage or unique product, because the competition is very fierce and the view of return on capital is different than most multi-nationals. Second, the Chinese companies are the ones that make a lot of

money. If you examine the real flows of funds, it's Chinese companies doing business with Chinese. Third, which is an emerging topic, is everybody has always thought that China needs to grow at about 6%-8% GDP to maintain employment levels and avoid civil unrest. Now people think the number is closer to 4% growth. For global economy, if China drops to 4% growth, that could have a significant impact on many industries.

TITMAN: Now when you do business in China, you are bringing new technology to the table. Are you concerned that they will not protect your intellectual property and they will compete with you?

STERIN: You can manage it to some extent but it is a reality. Although China is beginning to protect intellectual property, most of the suits brought to court in China are between two Chinese companies over IP. Case law and common law are starting to be established, but I still think that we're a long ways away from having meaningful enforcement. In our wholly owned facilities, we take many steps... everything from no U.S.B drives in computers to no photographs of the plants, to biometrics... but it is a risk even if you do everything you possibly can to protect it.

TITMAN: Now Paul, Boeing's selling quite a few airplanes to Chinese airlines. Are you doing any manufacturing in China?

KINSCHERFF: We have a pretty big supply base in China, with 6,000 people working for suppliers. Just one quick stat, the commercial market outlook over the next 20 years globally for all companies is 34,000 new airplanes to be sold. China is 5,000 of the 34,000 and AsiaPac is much larger than that.

TITMAN: So China is a big percentage of the business. They also make their own airplanes, don't they?

KINSCHERFF: They have just started making their own airplanes. And Airbus is manufacturing finished product in China for the Chinese market using Airbus safety.

TITMAN: Are there Chinese companies who will be making planes that could be competitive to Boeing?

KINSCHERFF: There's a company called Comac and we see them as a major competitor in the next ten-to-12 years.

TITMAN: So ten years from now we'll see Chinese planes?

KINSCHERFF: Yes, although the question will be how quickly others outside of China will buy those planes for their markets, versus the western built planes. This is similar to what the Russians are experiencing. Russian-built planes are principally used in Russia and it is hard for them to export the planes. We think China will get there.

TITMAN: So Chinese demand for airplanes is growing rapidly, and they will start supplying them, but for the next few years, the growth in China is probably good for you.

KINSCHERFF: Growth in China is good for everybody. They're building airports too. Another stat: they are going to have 230 new airports by 2014, 2015. It's easier to build airports than roads, and they need the airports and airplanes for their economic growth. The value of the market for the next 20 years just for China is \$670 billion.

TITMAN: I know BP is in China quite a bit. Niloy, how important is China for your business?

SHAH: China is very important in numerous ways, including being the largest energy consumer in the world. BP has been successful in China with a lucrative downstream business, and we also have an upstream business. It's a fantastic place to do business, but you do have to bring technology. BP, well, it was actually Arco, had an exploration program, discovered some resources, and developed the field. At the point when you recover the

cost of the development, the asset has to be turned over for operatorship to the Chinese, because they want to create the IP and gain knowledge. The fiscal terms are fantastic - from a production sharing contract standpoint, you get full cost recovery, and there is no royalty, whereas in the U.S. it can be 12.5% to 18.75%. The tax rate in China is 25%, and here we'll see tax rates of 35%. However, in China, you cannot hold more than 51% equity, compared to other parts of the world where you can hold more than 51% equity. And finally, you have this issue where you have to hand over operatorship to the Chinese once you recover your costs.

TITMAN: Just to clarify, you can own 51% of the equity of your businesses within China?

SHAH: No, a state-owned company has to own at least 51% equity. There are three big state-owned companies and they divide it up: CNOOC does the offshore and Sinopec and PetroChina/CNPC cover onshore. Everything has to be owned by one of those three companies. So the big challenge is that the Chinese control access and won't give that up easily. The other thing that's happening is the shale gas industry is uncertain. We've been in a couple of tight gas projects in China and the rocks have not been as productive as we would like, however, there might be technology improvements to make it work.

TITMAN: Now Tom, is Apache doing any projects in China right now?

CHAMBERS: Not right now. We actually had a development – it took us ten years to develop an offshore block in the Bohai Bay, but one of the reasons we got out was knowledge transfer. The Chinese want intellectual knowledge transfer at every step of the game. It took us ten years to develop the block, and then we had it on for about three years and we were going to get into payout where we had to turn over operations to them. We kept talking to them about giving us another block, but it never happened. They control the flow of the intellectual knowledge and they also control the access. So we have not gone back into China.

STERIN: One of the recent developments we see in China is the focus on environmental protection. They started with shutting down plants that were very inefficient from a use of coal perspective, over CO<sub>2</sub>. And now the U.S. Embassy in Beijing started monitoring PM 2.5 - the particulate matter that causes respiratory illness and ground level air pollution. So that's a big issue in China, and about half of it is a result of low quality gasoline. They need to improve the quality of gasoline. They're importing four million barrels a day, which will grow to ten-to-12 million barrels a day by 2020, even at modest assumptions. So the Chinese are trying to find ways to become more energy independent, use more technology and use more natural gas even though it's going to probably be more expensive.

### **Relationship between Oil and Natural Gas Prices**

TITMAN: OK, so my last question, natural gas, at least in the United States is very cheap relative to oil on a heat basis. The question is, is that sustainable? Will Celanese and the chemical industry do enough to correct this disconnect? You're making ethanol out of natural gas. Ethanol can be used to run a car, so in some sense that's substitute for oil. You are making ethylene and other chemicals for things like polyester to be made from

oil, but it can be made from natural gas. Will the new chemical plants be sufficient to suck up a lot of this excess natural gas?

STERIN: I think there are two forces at play, and I don't think anybody knows the outcome. The first is the growing demand with \$80 billion of chemical projects announced. The second is that as long as oil prices continue to be high and gas liquids are still coming out of the wells, then dry gas is going to probably have an alternative value that's much lower than the gas liquids that will pay for the investments.

TITMAN: So the chemical business isn't going to suck out that much natural gas.

STERIN: The chemical business alone can't do it. I also don't think converting from coal to gas in utilities is large enough to do it. The transportation industry certainly could if there's a strong push, but I think it's unlikely.

TITMAN: Niloy and Tom, our oil industry experts here, do you think the price disconnect between gas and oil is a long term thing?

CHAMBERS: It's a long-term thing. The advent of shale gas in this country changed the equation. We went from having 15 or 20 years of supply to having 200 years of supply. The problem right now is lack of demand. We still see high storage volumes and high production because everybody is drilling wet natural gas with high NGL content. Our petrochemical friends are reaping the benefits of that, given the fact that they're primarily ethane and propane based. Apache's capital budget this year was around \$10 billion. We didn't drill one dry gas well but we do drill lots of wet, high liquids content wells.

TITMAN: Just to clarify for those of you who aren't in the business, a wet gas well is where you're going to drill and get natural gas plus liquids. The liquids are worth a lot of money. So they can make a lot of money on the liquids and the natural gas is sort of gravy, and they keep drilling those wells even as natural gas prices go down.

CHAMBERS: Last year the rig count flipped around from having 1,800 rigs drilling for gas to having 1,800 rigs drilling for oil. We don't have the demand to soak up that supply of gas, so prices are low. Once they rise a little bit, many companies will want to drill shale gas wells. We've basically put ourselves in a box with a ceiling on the price of natural gas. I don't know what that price is, but it's not \$12, it's not \$8, it's somewhere below \$7.

TITMAN: Could be \$5?

CHAMBERS: Could be \$5, which is why the majors and Cheniere talk about exporting natural gas as LNG. The Asian buyers want to take advantage of this, so instead of indexing LNG to oil prices, they can index it to Henry Hub gas prices.

TITMAN: Do you see that happening?

CHAMBERS: Right now you can only export natural gas to signed free trade agreement partners. You cannot export it to China, Japan or a non-free trade partner. But something has to change on the demand side for the usage of natural gas to go up.

TITMAN: Well the demand side is LNG.

CHAMBERS: Well it's LNG. It's natural gas vehicles. If we want to have a serious discussion on climate change and coal use, it becomes very political. The original cap-and-trade bill came out and said we're not going to use

natural gas because it's too much of a scarce resource. Now the coal companies have a buy on all the cap-and-trade. There's a place for natural gas in the U.S., but the demand side has to change before the price changes.

TITMAN: OK, and Niloy, do you agree with that?

SHAH: Yes, I'd largely agree with that. A regulatory change is needed to take supply off the market. I think you're always going to have this disconnect, because people are drilling for oil and they get a gas byproduct. The economics of the investment works because of the high prices in oil, and we don't see that changing. I don't think mobility with natural gas will be that big in the near term... it is more of a 20-year deal.

TITMAN: But Celanese can take our natural gas, turn it into ethanol, and we can drive our cars with ethanol, which is a lot easier than driving our cars with natural gas.

SHAH: Yes, some of it you can.

STERIN: You can go up to E85 for \$200 a car, with very little or no infrastructure change in distribution. I think the challenges with doing anything beyond liquids are the inconvenience, and the investment required at the distribution side is so large that it almost precludes natural gas from being used, even at today's gas prices.

TITMAN: In Brazil, don't they drive cars that are purely driven on ethanol?

STERIN: Yes, the car is easy to do. Ethanol is a very viable option as an alternative fuel.

TITMAN: With your process, using \$5 natural gas, how much per gallon is my ethanol going to be?

STERIN: Quite a bit less than you'd pay today at the pump.

TITMAN: So why aren't we going to see that?

STERIN: You have to open up the use of natural gas to make ethanol. Today the renewable fuel standard basically mandates that corn be used.

TITMAN: So it's a political problem not economic problem.

STERIN: It is. Now ethanol has a third less energy content than gasoline, so you have to be at least a third cheaper than gasoline.

SHAH: And there's a conversion.

TITMAN: But at today's natural gas prices, you can probably make ethanol for 2.50 a gallon.

CHAMBERS: But you can fuel a natural gas vehicle for under \$2 a gallon equivalent, today.

TITMAN: But that's less convenient or -

CHAMBERS: Well it's less convenient because the distribution infrastructure doesn't exist. It is a chicken and the egg issue: do we continue to develop the industry, or do we develop the infrastructure? You have to do a little bit of both, and again that becomes a political discussion. There's a real education process that needs to take place. There are companies like ours that have converted all of our trucks in Oklahoma to natural gas: it's cleaner, it's more efficient, and we actually put stations in, and the City of Tulsa is fueling their buses. Natural gas makes sense for large fleets that use a central location and don't require the infrastructure on the interstate highway.