Mohnish Pabrai's Lecture at Boston College (Carroll School of Management) on November 3, 2016

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Mohnish: Arvind, it is a pleasure and an honor to address your class one more time, I think. Is this the sixth time you said?

Arvind: Yes, I think it is. We are incredibly grateful to you too for spending so much time with us over the years.

Mohnish: Okay. No, it helps pass the time, so that is great. Anyway, our topic for today at least during the period when I have a monologue going with you guys, is the quest for 10, 200 baggers. That is the subject of the talk and I have a lot of material to cover so I will move this along with a pretty good clip. I think it will go on for at least an hour. It may go a little bit longer, maybe you can mute on your end. I think we might get a little bit better audio without the feedback. For me, the saying that the best way to learn is to teach certainly has held true and one of the big drives for me in doing this talk on this subject is to learn. In fact, I learned quite a bit in putting the talk together and I am hoping it will be helpful certainly to all of you. But I am also hoping it is helpful to me in the future. The reason I chose this topic was because when I first started investing right at the beginning, I heard about Warren Buffett for the first time in 1994. It was about 22 years ago. I happened to have about a million dollars with me at the time, which was just extra money. The first time I had any kind of money of that type in my life. I had sold some assets in my business. The million was sitting there and I had studied about Buffett and compounding and all of that. I said, well, why don't we try to figure out whether I can do this and invest a million using the principles that I had learned from Buffett? Of course, at that time, I only had about part-time, about 12 months of Buffett learning under me, if you will. Very quickly, I decided that I would basically put the million into 10 stocks kind of 10% bets, which was very similar to the way Pabrai Investment Funds operated later. But as part of that group of stocks I wanted to invest in, I was interested at that time, in investing in a few stocks in India because a few of them had caught my attention and they looked quite compelling. But at that time, in 1994 it was quite cumbersome to invest in India, especially as a US citizen and a foreign investor coming into India. It took a few months to do the paperwork, and then I had to physically go to Mumbai and execute these trades. Then the Indian government at the time had set up a deal where they said that if a foreign person, a non-resident Indian came to invest in the equity markets, they could repatriate everything back in dollars, and if the gains were long term, there were no long-term gain taxes. I would only be taxed in the US, which was great. I liked that. But I was very skeptical whether a country with all these exchange controls would ever allow that or execute that in a seamless manner.

I had some skepticism about whether investments in India kind of would be easy to get back to the US and such. Because of those concerns, I limited my investments in India to just $30,000. Out of the million, I only allocated about 3% to India. The $30,000 half of that went into one company, which is Satyam computers. Which I will talk about in a second. I made four investments in India at the time. Satyam was the largest, it was approximately half of the pie. Then the other three, two of them were courier companies, kind of like FedEx and UPS. They were Blue Dart and Skypack courier. Basically, the idea there was that India had terrible postal service. If you needed any kind of reliability in getting packages to your destination, you didn't or couldn't use the postal system. You had to rely on a kind of private company. I thought they would do well as the economy grew and the fourth company was the broker, I was used to do all of this. I was very impressed with them in dealing with them. Goldman Sachs had taken a 20% stake in them. They were just extremely high quality. I felt, again, that their business had some good tailwinds. I made these four investments, but the broker was kind of a last-minute thing. I think I only invested about $1,500 in the broker. About 13,000 odd dollars went into the two courier companies.

One of the courier companies was a company called BlueDart. All these companies, when I made these investments, at that time, India did not have Demat. After I bought these shares, I got physical certificates sent to me in California, and these physical certificates looked beat up, they looked dilapidated, and they looked just terrible. They were like, falling apart. I was very skeptical about my ability to ever get my money back when I looked at these things. But anyway, in 1995, I just decided, okay, this is like, buy and hold forever. I stuck it at the bottom drawer of my desk, and I said we are not going to touch these for a decade or two, just let them ride. Then what happened is that if you can put up the chart for Satyam computers, I think that is one of the first ones. (Let me see what number that is. Give me a second so I can get the same thing going here). Yeah, I think Satyam is the first chart, and these hang on. These charts basically reflect total return. They include all stock splits, and they also include all dividends. They don't basically reflect exactly what I paid, because Satyam for example, had a 10 to one stock split twice, once did a five to one, once did a two to one. But basically, in early 95, I bought the stock for about 40 odd rupees between 40 and 45 rupees a share. I noticed that it had gone up a huge amount because if you can see that in the late 99 and early 2000 period, especially in 2000, it took off. It was around 2000 rupees, down from 45 by the end of 99, about five years. Then in 2000, it took off and I said, I know I want to hold these things, whatever. Satyam was a company that I was very familiar with because I at the time was running an IT services company. I knew the business well, and I obviously was dead centered in my circle of competence. But I decided to take another look at the details with its financials to understand what was going on. When I bought the stock, it was trading below the value of the real estate they had in India. They were growing very rapidly. The business was coming for free. It was very cheap, and a great team and such. When I studied it, it was trading at more than a hundred times earnings. The whole dot com boom was on, at that time. The bubble was in full bloom. Satyam had spun out dot com and when they had spun out that dot com, they didn't spin it out to shareholder, they had listed a company, which they still held a big share. That company got a huge valuation. In return, Satyam stock price reflected at valuation. Anyway, the stock that I had bought for about 45 rupees was trading at about 7,000 rupees. Of course, the exchange rates had moved against me, but it was still more than a hundred x. I mean, the 15,000 was sitting at over 1.5 million. It was sitting at a huge number. Again, I opened my desk drawer, and I saw those dilapidated certificates, which are now theoretically worth a hundred times what I had paid for them. I looked at them with a jaundice eye because I said who knows what these are worth? Who knows if they ever give me my money or if I can sell them, or if the money gets stuck in India, if it gets taxed. I had a lot of variables that I didn't know about. But when I studied Satyam financials in early 2000, I said we are getting out of here. We are not interested here, because this is definitely either fully priced or more likely overpriced. I contacted a broker and said, I am ready to sell all my Satyam shares. I sent the shares back to them, they sold them all. In fact, I sold within 5% or 10% of the absolute peak price. I was amazed at how close I got to the absolute peak.

Then they put the money in my Indian Bank account, which was linked to the brokerage account. I asked the bank to wire the money to the US and the next day, the money was in my US bank account. It went through completely, seamlessly, exactly as the Indian government has promised. I had 1.5 million from the 15,000, which was great, very well done, Mohnish. I felt great. The Buffett thing was working quite well. Of course, I have only told you about 15,000 out of the million. I haven't told you about the 985,000 yet, which we will get to in a second. These other three stocks that I bought in India hadn't done much because none of the other three were what you would call new economy stocks. I mean, one was a broker and two were courier companies, very much kind of brick-and-mortar type businesses.

At that time, many of you maybe were in kindergarten or something, or maybe in first grade, perhaps, but at that time even the day the Nasdaq pre peaked in March 2000 was the same day that Berkshire hit a multi-year low. Literally people were pulling their money out of traditional stocks, which they thought were losers, and they were dumping it into pets.com, and they were buying it all. It was a frenzy. It was quite an intense frenzy. In fact, in my 22 years of investing, I have never seen a bubble like the dot com bubble of ‘98 to 2000, if you will. In fact, I remember at the time I was living in Chicago, and I was taking a cab ride in the city, some Pakistani cab driver says to me in Urdu *“aapka Cisco ke baare me kya khayal hai”*? and just for the small minority people who didn't understand that, what he was saying is, what is your perspective on Cisco? When the Pakistani cab driver who doesn't know, you starts talking to you before even saying hello like, what do you think about Cisco? You know that you are in the ultimate bubble of bubbles. It is time to get out. It is kind of like the shoeshine boy in 1929 outside the New York Stock Exchange, giving you stock tips.

Anyway, the other three stocks hadn't done much. I held them for like another year. It had been like six or seven years. Then I sent them all to India, and I told the broker, sell them all, because I said that, we had our adventure of investing in Indian stocks. The remaining 15,000 was worth somewhere in the 20-25,000 range. It hadn't gone up much but hadn't gone down. One of the stocks was Skypack Courier which is slide number four, you can see that Skypack courier didn't do much. It just basically fizzled out. I lost half the money I had invested in Skypack, but if you go to the previous slide, which is Blue Dart. I sent these stocks to India to sell, and the broker sold them all, and he said they were just a hundred shares of Blue Dart, which they claimed were fake, these were fake shares, I said, well, they are fake shares. I bought them from you, so you have reps and warranties on these fake shares.

They said, no, Indian Law doesn't give us any reps and warranties to you. This is entirely your fault that you didn't check these shares. They sent those hundred shares back to me. But I didn't care much. It was kind of worth like $200 or something. I had cashed out more than 1.5 million and such, so I didn't care much. I just kept those shares. Just very recently, I looked at that stock certificate again, about a year back. I looked at it, I said, this doesn't look fake to me. It looks just like all the other stocks looked. I contacted the broker again, and by now, I had no account or anything with them while I had closed all of that, and a new cast of characters had come in, because it had been so long, and I didn't tell them they were fake. I just have these hundred shares and I like to sell them. They said, yeah, send them to us. We will Demat them. We will basically make them electronic, and we will sell them. I sent it to them, and they said, are the shares genuine, I said, yeah, they are genuine. There are no issues. We sell them. I said, Okay please go ahead and sell them. When I sold those shares, I think there was a stock split and they gave me $11,000 for those shares. It was like the original values of, I think about a hundred dollars. It was up a hundred times. Accidentally, I had held those blue dart shares, even though I didn't intend to for 21 years. I have never held any stock for 21 years. 21 years was truly spectacular, and I decided to look at, well, what would have happened if I had done, Satyam was clearly a bubble, but there was no good reason to sell the other three stocks. I could have followed the game plan I had originally, which is just to leave them alone. If I had done that with these stocks, Blue Dart eventually was a 60 x I think it was $200, 200 went to 10,000, sorry. Blue Dart, if I had held it all the way through, or 60 x Kotak Mahindra Bank ended up being a 50 x and of course, Skypack we lost about half our money.

I was thinking about this. I said, well, the other 15,000 there were some real winners in them. I mean, I had invested $7,700 in Blue Dart and today that would have been worth 465,000 which is not exactly jump change and the Kotak investment, which was the smallest, which was 1500 would be 75,000 today. While I certainly benefited from a bubble, it had a good positive impact on my network to capture. The second part of it is the other 985,000. The other 985,000, one of the stocks I invested in was CMGI, that was a deliberate bet I made where I was in the tech industry, and clearly the internet, you looked like it would be transformational, but, almost everything was trading at ridiculous multiples. But when I found CMGI, it was a kind of incubator, actually. It was based in the suburbs of Boston. It was an incubator and was kind of spawning out or investing in a bunch of dot coms by the dozen, if you will. The stock at that time was still very much benign, just little premium to book. I put 10% of the million into CMGI. I eventually cashed out at about a hundred times what I put into it. The 100,000 that went into CMGI turned into 10 million and of course, we saw that the 30,000 in India turned into one and a half million. The rest of the portfolio, the remaining 900 or 870,000, if you will, at that time, the stock market has gone up into kind of the 20, 25% a year range for that 95 to 2000 period. The rest of it had, doubled or tripled. The overall result of the portfolio was more than acceptable. I mean, it had gone up to 13, 14 million, somewhere around that number.

I said, good job, Mohnish that was fantastic. This is amazing. But the experience with Blue Dart got me thinking that I have always been the kind of investor who buys things hopefully for 50 cents or less on the dollar and attempts to sell them when they get valued at 90% or more, of what they are worth. If something is worth a dollar and it is available for 50 cents, I will be very happy to buy it, and then when it gets to 90 cents or better, I am happy to sell it. I am assuming that most of the time that convergence from 50 cents to 90 cents happens within two or three years. If it happens within two years, you end up with a 30 plus percent return and even in three years, you will end up with a kind of low to mid-twenties type return, which is very acceptable.

That is the modus operandi I followed for more than two decades. One of the reasons for this talk is that I realized that my approach is flawed because while the doubles and all of that certainly work, I think Charlie Munger once time told me that for each of us, there is a limited quota of truly great businesses, which have the ability to generate spectacular returns for us, 10 baggers, 50 baggers, a hundred bagger while holding it for a long time. The important thing for us to do is to recognize when we have something like that in our portfolios and not be in a hurry to act. I thought about the experience at Blue Dart and these companies. I said, well, how many times has it happened in my portfolio that some huge multi-bagger showed up? I was smart enough to buy it but perhaps not smart enough to keep it. I realized it happened a lot because when I went back and looked, I found this happened several times where I made a double or a triple or a four x, and I sold, and the stock went up 10 times after that, for example. I said, well, what can I do in terms of a framework to be better at identifying, because the advantages that you get, I don't need to spend too much time explaining to you guys that hundred bagger are good for your health, not only are they good for your health, you have no taxes for a long time. You have deferred taxes, and a free loan from Uncle Sam for the entire period. You own the stock. It kind of almost becomes like investing in a retirement account because if you can hold something for 10 or 20 years or 30 years and then pay a tax bill one time, well, that is very highly efficient. Not only are the multi-bagger great from just a pure numbers perspective, but they also have a significant upside in terms of taxes then. I live in perhaps one of the highest tax states in the country where while the federal government gives me a break on long-term gains, the state of California doesn't. The marginal tax rate for someone like me in the state of California is north of 12%. While the federal long-term gains maybe 20 or 22%, California is more than half of that.

It is good for your health if you are in California to get a free loan for a long time. I thought about whether there is a framework and is there a pattern to these different stocks? What I realized as I went through it is that, yes, there is a framework I have never seen the framework before presented anywhere. I said, well, since nobody wants to do it, might as well be Mohnish, and it might as well be the good students at BC who get to here and learn about the framework. By the time, it was time for this talk, because Arvind didn't give me too much time, I came up with five different attributes in terms of five different kinds of businesses that can be huge multibagger. They fall into kind of five different categories, and they are, well, maybe more than five categories. If Arvind invites me back next year, and if I have come up with some more, then your successors, I will have them watch this video and I can give them anymore that I come up with. But these five feel like a good framework. I wish I had this framework 21 or 22 years ago, because if I had this framework, I would have taken different decisions. While the journey has been very good for the last two decades, it would probably have been significantly better. Let me go through the framework. There are five different kind of categories of businesses that we should kind of pay attention to because they have the potential to have huge multi-baggers gains in the long run.

The first kind of business is a business which has extremely wide and deep moats. These businesses are so good that idiots can run them. Their core economics are so fantastic that they are almost indestructible. In fact, if you see some of the examples of some of these businesses, in some cases, they have been run by idiots for decades, and they couldn't destroy the business. It was so good. I have hardly ever had the good fortune of having these types of businesses in my portfolio. One of the reasons they don't end up in my portfolio is because I am a cheapskate. Usually, I am going for the bargain bin and trying to find things that are 50 cents off and there is some anomaly and something. These types of businesses, usually they will sometimes get to the bargain bin, but they usually don't get that cheap. What are some examples of these businesses? Well, some examples of these wide moat businesses runnable by idiots are businesses like Coca-Cola, See's Candies, Moody's, Visa, MasterCard, American Express, and so on. Clearly, many of us are familiar with Coca-Cola, for example. Of course, we studied Coke with Arvind's other class, and maybe you can share some of those results with you. But Coke is a business that has basically been growing nonstop for something like one and a quarter century. It's been a long time, and it continues on a nonstop growth path, which will go on for a while. There is a talk I gave to the students at UC Irvine, and some of you may have seen that talk, but it is on YouTube. If you get a chance to see that sometime, you can go to sleep at night or something, you can take a look at that talk and it explains the incredible business model, that is Coca Cola. That will give you a sense. Coke was a business that was, for decades, run by very poor managers and even though they were run by managers that were not so good the business kept going, they couldn't do much to destroy it because the economy was so good. Moody's is another example of a business that is exceptional because let us say some company is issuing some bonds and they need a credit rating on their debt to give investors comfort. Well, there are only two or three places they can go to, usually they must go to Moody's or S&P in the US to get that rating. Moody's and S&P usually charge them an arm and leg. It is probably 10 or 20 or 30 times what it costs Moody's to do the analysis and give the rating. Moody's may have an analyst who they are paying very well, maybe a hundred, 200,000 or something like that. That analyst is probably going to bring in several million dollars in revenue, because he will be rating several companies, which will be issuing debt over time. It is a great business if you pay someone 200,000 and he brings in 5 million of revenue every year. It is a great business when the companies have to keep coming back to you because the number of debt instruments dwarf the number of equity instruments. I mean, if we have 5,000 stocks in the US, we probably have more than 50,000 different types of rated debt instruments. It may even be well beyond that. It may be several hundred thousand. Each one of those instruments is separately rated, and each one of those generates fees for companies like Moody's and Moody's is a company. Same with S&P, which we saw in the financial crisis delivered outright incorrect and blatantly wrong ratings on all these mortgages and everything else where they rated AAA. They probably were just horrible, they were prone to have high defaults, and they did have high defaults even after doing that, that is the only competency they need to have, which is, to rate the quality of debt. Even when they couldn't do that in the financial crisis it still could destroy the company and actually, if we go back and look at the Moody's stock chart in slide number six you can see that in the 2008, 09 and 10 period, the stock came down a lot and in fact, if I hadn't been staring at my belly button, I should have bought some. At that time, there was a very strong effort made by various regulators and Congress and such to punish Moody's and S&P, so it caused an overhang on their stock price. Then they made them pay some fine, but you can also see that none of that affected the business. I mean, the all-time high for Moody's in 2007 was around $60 a share, and now it is approaching twice that so whatever they did in the financial crisis, which were a very critical piece they were not the only piece that they were very critical piece of fueling the fire, if you will, without the Moody's and S&P ratings, you would not have the pervasiveness and extensiveness of damage that happened to the global economy.

Despite being such a critical contributor to such a major crisis here we are with an idiot run company, still doing great. The next time it has a problem, I will not be naval grazing. I will be calling my broker. I have a friend of mine, Guy Spier, some of you might have heard of him. Sometimes in my conversations with Guy, I like to put salt on old wounds just to see how he reacts. Guy has a mental model where he says, Look, if you can identify a great business in the United States, like let us say, if you say Coca-Cola is a great business, or Coca-Cola bottlers are a great business, then you ought to go look for bottlers in other parts of the world, which are also bottling Coca cola, because they probably have very similar economics.

Coke is a great business. Being a Coca Cola Bottler is not as great as being a Coca Cola, but it is still a good business. If you inherited a Coca cola bottling operation or a Pepsi bottling operation, you will never have any financial issues in your life. Trust me. Everything is going to go great because those are great businesses. He said, well we should go look for Coke Bottles in Turkey. We should look for them in Africa. We should look for them in Brazil, in China, in India. We could basically see Guy's model, see what the valuations are in all those different markets, because in other markets, they may or may not have realized that this is a great business. Sometimes what can happen is that, let us say for example, the Brazilian economy is doing poorly. the stock market goes down, everything goes down, including the Coke bottler and sometimes you might be able to pick up a Coke Bottler in Brazil for a lot lower price than the Coke bottler in Tennessee, for example. He has done this quite successfully. He loved Moody's. He did not like the stock price. He said, well, what other credit rating agencies are there in the rest of the world, which are providing this critical function in different countries? They all must have similar economies to Moody's. Which ones are out there? He did a global search. He identified a company in India called CRISIL. Guy invested in CRISIL. In 2001 or 2002, he bought CRISIL at that time, I think he was running 30 or 40 million and it was a small investment. Then it went up, it doubled to something, and then he added some more in 2004 or 2005. He got two or three times his money in a couple of years, and then he exited. All I got to do was sprinkle salt on Guy's wounds. Guy said that "the CRISIL position that you were so smart to buy in 2002 and 2005. Do you know what that is worth today?" He said, "why do you have to bring that up, Mohnish?" I said, "No, no. Have you looked at what it's worth today?" I said, "Maybe you haven't. I have the exact number for you", and on the 2001 purchase that Guy made, it has gone up 200 times since then. On the 2005 purchase that he made; has gone up 43 times. He manages around $160 million. The CRISIL position alone in his portfolio, if he had not touched it, would have been close to $150-$160 million. It would be 50% of the pie instead of 0% of the pie. What was so difficult, especially after I give you this framework about knowing that it is a great business. Now, if you had any doubts about CRISIL, in 1998, McGraw Hill, which was the owner of S&P paid eight and a half million dollars to CRISIL for a test, 10% stake. Just like Kotak Mahindra bank, Goldman Sachs are taking a stake. If you were looking for a strategic investor from the US who had blessed CRISIL as being a high-quality operation, you couldn't get higher quality than S&P taking a stake. What S&P kept doing is, every few years they would buy an additional stake. They would convince the CRISIL people to sell them a little more. Now S&P owns 75% of CRISIL probably. They have taken that stake and they have paid a lot more over the years, the eight and a half million stake in 97 or 98, the market cap of CRISIL was 85 million, the market cap of CRISIL now is $25 billion. I believe when you look at the stock chart of CRISIL and I am talking to you here, I am sure I am going to regret this when I watched this video 10 years from now, it is probably a mistake if I owned it to sell it today, because as far as emerging markets go, and as far as the debt instruments, the size of the instruments and number of instruments, 10 years from now, 20 years from now, 50 years from now in India, will dwarf the number today.

Now if you look at the CRISIL nosebleed price earnings ratio today, you are going to take a pause. But it may be because the quality of the business that nosebleed valuation may not look so nosebleed 5 or 10 years, or 15 years from now. These are the ultimate, these are the businesses that, if ever show up in our portfolio, will never face any event like the 2008. What I have learned from this is, if they have this characteristic of incredible moats, like Moody's, if the 2008 financial crisis could not destroy the moat, nothing is going to destroy the moat. That is the biggest seismic event they could ever face in a hundred years. I don't believe in the next hundred years they will face anything like the event they faced in 2008, because that was getting at the core.

That is almost the equivalent of Coke selling poison product. They were selling poison ratings and they still survived. These are the ones to watch because they have got incredible economics. These businesses, incredible economics will just blow your mind in terms of what they can deliver. The second kind of business, (we have crossed off the first one), the second kind of business is exactly like the first one, except that they cannot be run by idiots. They need competent humans to run them. These are, again, great businesses and great franchises, but they need to be run by great managers. Which one of the businesses that fall in this category, well, they're Amazon, Costco, Geico, Kotak Mahindra Bank, BlueDart, Satyam, Restaurant Brands International, you know, the guys who use, who own Burger King and Tim Hortons, Yum Brands, Domino's Pizza, and so on.

These are businesses that have incredible economies. I mean, if you own Marriott International, which owns all these different hotel brand names, the number of hotels Marriott owns is probably way less than 1% of the number of hotels that they have their brand on. They don't have the investment in the real estate or any of the Capex associated with that hotel. But each time someone checks in a portion of that night stay, the revenue generated comes to Marriot. Marriott International is also a great business, but it does need competent management. These businesses are more prevalent in the marketplace than the first category, the first category is a very unusual category. I mean, you would be looking at beer companies, you would be looking at tobacco companies in the first category. I mean, the human vices would show up in the first category because humans get addicted to these things. Then you would be looking at Coca Cola or the Moody's. The second category is a little broader because you do need management to be competent. The moats are not quite as robust, but they are still solid. I haven't had much in terms of the second category. I mean if I look at my portfolio, I did have three of them Kotak Mahindra, BlueDart and Satyam that were part of my portfolio. I was not smart enough in two or the three of them to keep them around. One of the reasons to do this talk is to just pound that into my head, the best thing to do is take an afternoon nap, not put a call order in and I know Arvind has disappeared towards the side, but Arvind, I had a great nap before this class started, so I am in great shape.

Anyway, going on to the next category, and this category has shown up the most frequently in my in my portfolio. This is the one where I have had the most difficulty, where I have not been able to capture in many cases the significant upside. This third category is a category where I call markets getting confused between risk and uncertainty. I will give you a few examples. The first example is a company called IPSCO. IPSCO is a steel maker, and we can go to the slide on IPSCO. IPSCO sits in the center of the North American continent in Canada, just above the Great Lakes. They make basically plate steel and Tubular steel. The company doesn't exist anymore. They were bought by a Swedish company; I think in 2007. That is when they stopped trading. But when I found the company in 2005, the economics for this IPSCO had a market cap of two and a half billion. They had 900 million in cash on their balance sheet. They had given guidance that, in the next couple of years, with their backlogs and such, that they had approximately 650 million in cash flows coming in terms of net income in the next couple of years. Then there was no visibility beyond the next two years. The markets kind of don't like uncertainty. But my perspective was that who cares what happens after two years? If you take the 900 million plus the $1.3 billion in the next two years, you have got $2.2 billion, and the market cap is $2.5 billion. I said, "Okay, what I am going to do is, I am just going to own this stock for two years, let this cash balance get to $2.2 billion, and then I want to see what the company is trading at". I didn't think it was possible they would trade two and a half billion at the time because you got all the plants and equipment and everything else that they got. Of course, the steel business is very cyclical. But I felt that the upside and downside ratios were out of WACC. A year went by, and you can see in the beginning of 2005, it's in the 40 odd dollar range. Then by the time 2006 arrived, they had visibility into another year of around 650 million. By now, the stock had climbed, it had gotten up to close to close to a hundred dollars a share, and it was bouncing around kind of 80 and a hundred. I said, "well, now we are at a point where we have got close to $2 billion in cash flows, plus the 900 million we are above our cost basis in terms of cash coming in". I said, "let us continue holding the company because we don't know what happens after 2007". Then in early 2007, they got a buyout offer from the Swedish company for $160 a share of thereabouts maybe around 165 or so. The stock went up like 157 or something, and I decided that was enough, and I unloaded. In this case we captured almost all of the upside that was associated. The funny thing about the way the world works is, this Swedish company came in the early part of 2007 to buy the business. They could have shown up two or three years before that, and they could have bought it for one fourth of that, right and clearly, they were people who I hoped or understood valuations of steel companies, but they didn't. That is one of the kinds of crazy things about the way the world works, neither did they show up nor did the market have much respect for companies with volatile earnings. The risk with IPSCO that I saw was very low, but the uncertainty with IPSCO was relatively high. It was extremely uncertain after two years. One of the things I think probably the markets were concerned about is, "could the company lose money?", what would happen if they had a severe downturn and so on? But I felt that the asymmetry of the risk reward was very lopsided. Looking for these types of opportunities is kind of interesting and can be profitable. There is a company in my portfolio right now, which is Fiat Chrysler automobiles another hated industry, high Capex, subject to consumer tastes unionized, all kinds of good stuff.

Fiat Chrysler is a company that has a market cap of less than $10 billion, about $9 billion or so, $9.5 billion and they have said that in 2018, they expect earnings per share to be north of $5.50 a share. Which is about $7 billion or something. Your market capital is less than $10 billion or let me put it in stock price. The stock price is under $7. The 2018 earnings are suggested by the company to be $5.50. If they deliver $5 and 50 cents in earnings in 2018, this would be trading at like, 1.3 times PE 1.3. I am missing my friend Arvind, who has disappeared to the slide. Arvind, you can come back into the scene for a second so I can see you and ask you question, but how many stocks are there in the US that trade for less than 1.5 times earnings? Since you have all these resources Fidelity.

Arvind: I don't imagine that there are many. I would be curious to hear how much debt the company has though.

Mohnish: Yeah, I will get to that, maybe you can mute the microphone. Sorry about that. The company has guided, it is also guided that it will be debt free in 2018. They will have debt, but their cash balance will exceed the debt. In fact, this year, for example, at the end of this year, end of 2016, they have guided that the net debt of the business will be less than $5 billion. Here is the situation. If I pull up value line, which is tracking 1700 companies and I look at the lowest PE companies in value line, usually, there will be one business or maybe two businesses that are less than a PE of two. I think recently when I looked at it, I think there was only one business. businesses less than one or two PE is well under one 10th or 1%. The value line is not tracking the average stocks in the US, it is tracking the better 1700 stocks in the US. If I look at Fiat, for example, and I pull up any brokerage report on Fiat, and the street research, if you will, and I look at their 2018 numbers. The Fiat management says, EBIT (earnings before interest and taxes) will exceed $9 billion euros in 2018. In the brokerage reports, they have 2018 EBIT at $3 billion. There is like a three to one difference between what the street seems to believe and what the company is saying. My analysis suggests that the company is not exactly high on various substances when they are making such a claim and so just like IPSCO my take is set it and forget it, which is okay, we don't need to kind of scratch our heads about is too much. We own the stock. We are not going to do anything with it. We are going to wait till probably the first quarter of 2019 when the 2018 numbers are published and if Arvind invites me back in 2019, I will share with you what happened and see what is going on. I realized when I was preparing this talk that I never correlated the similarity between IPSCO and Fiat Chrysler. When I was preparing this, I said, “Oh my God, this is kind of why I like this, because it brings me back to the very nice memories of the wonderful people at IPSCO”.

Student: Mohnish, just a question on that with IPSCO, it sounds like you had a backlog that gave you comfort with the cash flow. What is the parallel here?

Mohnish: The parallel here is, number one, I have a man crush on the CEO, Sergio Marchionne, if my wife allowed me, I would take him on a date. I don't think she is quite ready for that yet. I don't know whether Sergio would go on a date with me, but it would be a fun date. First, I love Sergio and the second is, I have looked at how they have come up with the numbers and they didn't just come up with a number, they gave a lot of detail. If you go on the Fiat Chrysler website, first, I don't want this to be a stock tip, right? I have not done the class, not about a stock tip. Please, if you take any action, you are a hundred percent responsible for those actions. Just don't come to me because there is no reps and warranties here, because I already told you I have a man crush, which is clouding my vision. Anyway, if you go on that company's website, they have a five-year plan which they gave out. They had investors in 2014 where they laid out their plan from 2014 to 2018, and they have updated the plan a couple of times since then. They did an update in September of this year. They did another update about a year ago. They give you the pieces of how they got to that number. Those pieces are so far, I mean, they have got two years left, basically they have delivered on the first three years of the plan in spades.

They are pretty much exactly where they thought they wanted to be. One of the things that Sergio does, (he is a great manager), is, he sets these stretch targets to push his team. It clearly was a stretch target, but it was a public stretch target, and he intended to deliver on the public stretch target he thought about it, they made some tweaks to the plan as they've progressed. For example, one of the things they've realized since 2014 is that the world loves Jeeps a lot more than they thought they did in 2014. Just to give you an example of one of the things that's happening, in 2009, when Fiat bought Chrysler,

Chrysler produced about a quarter million Jeeps a year. This year, I think they want to produce close to 1.4 million Jeeps. The Jeep production at Fiat Chrysler used to be, it was only produced in the US, it is now produced in the in US, Mexico, Brazil, Italy, and China. They're producing on every continent now. Just the Chinese Jeeps are over a hundred thousand run rate now. They just started making the Jeeps in China and China's projected to be in 2018, half a million Jeeps. I believe they'll get there because the Chinese love their Jeeps. I think that the $5 and 50 cents from the way things are going right now is a low-ball target. I think they'll blow through that. They might be at $6.50, it truly be a PE one.

Arvind: Thanks Mohnish. We don't want you to have any commitment or consistency biases, so don't. Let's move on.

Mohnish: Okay. The next one we want to talk about is Tesoro Petroleum. I made the investment in Tesoro in the middle of 2002. The reason I bought Tesoro was that, the stock price had been cut by 75%. It was $30 a share, it had gone down to 750. One of the reasons it went down to 750 is that, the company had purchased a oil refinery, and they had loaded a lot of debt on their balance sheet to make that purchase. After they had completed that purchase, the crack spread, which is the spread between the price of gasoline or the price of crude oil, if you will, the crack spread had narrowed a lot. Their cash flows were stressed and the markets were very concerned with all the debt and so on. Just to step back a little bit on the oil refining business, in 30 years, the United States has not built a new oil refinery. The reason we haven't built a new oil refinery is because of Nimbi, not in my backyard. Nobody wants nuclear plants in the backyards, and nobody wants oil refineries in the backyard. Getting permitted to open an oil refinery in the US is almost impossible. What happens is that the existing refineries keep tweaking those refineries to get more output out of them. Oil refining, because of this attribute, is not exactly a commodity business. Of course, oil can come in from outside the US, but also what happens in the US is that the formulations that are required for each of the states are usually different from the other states. You cannot just produce gasoline in the US and sell it across the US. California has a set of very stringent requirements. Illinois has ethanol requirements and so on. All the states require different blends. Refineries are kind of optimized creatures. Some can produce, some blends, but they can't produce others. Some can deal with sour crude oil from like Saudi Arabia, others can't, and so on. The inputs and the outputs make each refinery kind of a creature of its own, if you will. Suddenly, for example, if you had a high crack spread on the kind of oil refined gasoline needed in Hawaii, you may or may not be able to supply that from other refineries in the US because they cannot adjust that quickly to that. My take on Tesoro was that they had a bunch of refineries, and I felt that if the debt was an issue, and if there was a real concern there, they could unload assets and they could unload refineries. Refineries are kind of standalone entities. But now, they may be selling at distressed prices, but also, when I looked carefully, their financials and their covenants, and then when the debt was coming to you, I think the market was overreacting to their debt situation. After I bought Tesoro at $750, it proceeded to go down to $1.33 in price. Pabrai Investment Funds put 10% of assets into Tesoro at $750 thinking this is extremely good, Mohnish, you've done your homework, it's great. Then we were down 80% after that. Of course, when we are down 80%, one of the things that I'm very used to is everything I buy goes down, so that's just normal. But that only happens to me. It never happens to Arvind, and it never happens to anyone else. Only happens to me. When it's at $1.33, everything looks fine and such, I say, "Okay, we got to kind of hang in there. We just don't have much choice here. We're not going to sell this thing because we are going to let this thing play out." Then it got back to $750, which felt good, and then it got to $15 which felt even better. I said, "We're out of here". We have got our double; this is a cyclical business. We are out of here. I sold Tesoro and we made a hundred percent return. When I bought Tesoro, they had a $480 million dollar market cap, and I estimated the value of the business was over a billion. That 4 and 80 million market cap went down to $85 million a few months after I bought it. The current market cap is $10 billion. Plus, they did a $6 billion spinoff, which is to Tesoro logistics the next slide. They spun off this brand-new company, Tesoro Logistics that has a $6 billion market cap, and they issued another $700 billion in dividends between 2002. The dividends that they were issued in the last 13 years exceeded the market cap when I bought the business. From the absolute bottom tick that Tesoro hit the dollar 33, it's a 200 x, and even the $500 million price I bought, it's more than a 30 x. What I did not appreciate about Tesoro is, Tesoro is, again, a business just like IPSCO. It's a very cyclical business. But what I did not appreciate is, there was a very gifted manager, Bruce Smith, and I could tell every conference call I listened to Bruce. I wasn't quite in love with him as much as I am in love with Sergio, but I love Bruce. Bruce was an exceptional manager and did a great job. During the financial crisis, for example, he bought up all these pipeline assets and built up the business and so on. He was good about the way he managed the business, managed the cash flows, and managed all the different operations. He was very heavily responsible for that huge home run. Again, a low risk, high uncertainty. Tesoro would've been good to hold for a while. Then going to the next one, which is Frontline. Frontline is a shipping company, at slide number 12 of the presentation. Here is the mistake I made with Frontline. Now, we made money on Frontline. Let me just give you a little bit of an insight on Frontline. Basically, at least at the time I invested in them, I think this was in 2002, they were a leader of a very large crude carrier. The VLCCs at that time, these are the kind of these large ships that transport crude from Saudi Arabia to the US, et cetera. The Global Fleet at that time, a very large crude carrier was 400, and Frontline had about 70 of them. They had 70 out of the 400 Global Fleet. These VLCCs get leased out in two different ways. They either go on time charters where some oil company or company will lease them for several years at a time, or they go out on like kind of daily charters where they're on the spot price. It just depends on what the price is and if they go on daily charters. The price range of the daily rental rates on these VLCCs is extremely volatile. On the low end, it has gone down as low as five or $6,000 a day, which is when they're losing money, they're just covering marginal costs, if you will. It is gone all the way up to 300,000 plus per day. The range of what you would get in terms of the spot price on VLCCs is a hundred to one, almost not unknown, let's say 60 to one, from 5,000 to 300,000. Once the rate is more than 30,000 a day, for example, the company's making a lot of money. Once it goes to 40 or 50,000 a day, it is in super normal profit territory. Once it's making over a hundred thousand a day, they are just drowning in dollars, if you will. It's just huge. One way to value a company like Frontline is to try to estimate the cash flows, which are very hard to do. The second way to value Frontline is to look at liquidation value of the company. These VLCCs get bought and sold all the time. You can track what the pricing is on a VLCC based on age and all these different things. Frontline liquidation value was around $9 a share, and it was $9 a share with the drop that VLCC prices had undergone when these rates had gone to 10 or 12,000 a day. The stock was at about $6. The liquidation values about $9. I thought I'd capture that spread between six and $9. There their debt on these VLCCs was at the ship level. Each individual ship had leverage on that ship, kind of like a mortgage on a particular house. I there are any problems, all that the lender could do is they could repossess the ship, there was nothing else they could do. Most of the debt was at the ship level. I said, "well, if there's an issue with the company, they can just liquidate the fleet, and even if they liquidate at a discount, it would still be over $6 a share". The market didn't like the uncertainty, that collapsed the stock price. One of the things about the VLCC market is that, when these rates collapse, like let's say they go down to five or $10,000 a day, what happens at that time is, ship owners, especially the very old VLCCs that are, let's say 15, 20, or 25 years old, the rust buckets, they prefer to scrap them because when they scrap the ship, they'll get 10 to 20% of the original purchase price of the ship immediately. They're losing money on the ships with having the cruise and all that. They'd rather just get rid of the ships. One of the things about the shipping business, because it's dominated by these flamboyant Greek guys is, they project present circumstances to infinity. In fact, most investors project present circumstances to infinity. When VLCC prices are a hundred thousand dollars per day, they believe it'll always be a hundred thousand dollars a day, when it's $5,000 a day, they are crying in, in their bars and into their beers, and they think it'll always be $5,000 a day. They project present circumstances to infinity. The other thing that happens with the VLCC business is that it takes three or four years to build one. When the shipping rates are at a hundred thousand per day, all the Greek ship owners go to the Korean shipyards and place a huge number of orders for ships because they believe, what could go wrong? You take these ships, it costs you 20,000 a day to run them, idiot Joe is paying you a hundred thousand a day. With the 20,000 per day, you're getting cheap debt, bank financing, and all that. They put up small deposits. Each of these ships cost like 70 million, 80 million or so. They'll put up a $2-million-dollar deposit and the Korean shipyard will put them in a kind of queue to build the ship. Then when they're ready to construct the ship, they'll say, "Okay, now send another $5 million and start making the payments." Of course, by that time those hundred thousand per day prices may not exist. They won't even return the shipyard's call. They'll say, Let the deposit go. We don't want ships. They place a lot of orders when the rates are high, and they place no orders when the rates are low. You have these boom-and-bust cycles because it takes four years to build these ships. All the extra ships show up at the same time. When those extra ships show up, rates collapse, then nobody orders ships for a long time. They scrap the old ships. As the old ships get scrapped, it sets up the conditions for another boom, and then they again, place orders. This continuous boom at bust cycles in the shipping business is a norm. It's just like the class A office buildings in prime US cities, if you will, because of that three- or four-year lag. Because humans are involved in decision making and because humans vastly between fear and greed. Anyway, the bottom line is that, when shipping rates go to 10,000 a day, or 5,000 a day, those rates set up the conditions to spike to a hundred thousand a day. Because what happens is, a lot of ships get taken out and get scrapped, and when the oil demand comes back up, the ships aren't there. They can't manufacture ships that quickly. The only thing that can move is the price. This was an attribute I did not appreciate about Frontline. I just took the in and out. Now, if I had kept Frontline all the way through, and I had sold, including the drop in price, because they had all the dividends, I bought the shares for $6. They issued $56 in dividends, then they spun out a company called Ship Finance, which issued $24 in dividends. Then Ship Finance stock price is $14. The end-to-end is my $5 or $6 purchase price. I would've ended up with $130, almost 25 times if I just, that's including the current collapse in the shipping industry. In fact, one of the things that happened when I was preparing the stock is, I realized that today, the shipping industry is in the Doll drums, just like the wheel VLCCs were in 2002. I said, "well, it means that again, with the risk and uncertainty, there might be some slivers of that market that may be interesting. I recently found one, I'm still studying it, but it has exactly these attributes. This time if I make the investment, I won't be stupid like last time. We are going to ride it beyond liquidation value if you will.

Student: Mohnish, wasn't there also the move from single hall to double hall when you invested, which add a regulatory tailwind?

Mohnish: Yeah, yeah.

Student: After, Exxon Valdez.

Mohnish: Yeah. Just to go back to before any of you were born, this drunk captain on the Exxon Valdez off the coast of Alaska kind of runs the ground and then spilled several million gallons of crude on Prudhoe Bay and destroyed quite a bit of habitat. It was terrible, one of the worst natural disasters. Of course, Exxon is still paying out for that. There were a lot of changes that took place after that. That was a VLCC that leaked those huge number of barrels. I mean, this is way worse. The Exxon disaster was far worse than the Gulf disaster with the broken oil. Well, what is the name of that? The rig on the off Louisiana, I forget the name. But anyway, this,

Student: It is saying horizon Deep.

Mohnish: Deep, Yeah, that's right. It was much worse than the deep horizon. Anyway, one of the rules they came up with at that time is, they mandated that all these wheel ccs must be double hauled. After the Exxon disaster in 92, they mandated that everything must be double hulled. Over time, the single hull fleet was scrapped. But what started happening a few years after the Exxon disaster is, US oil companies did not want the liability risk of bringing in single hull crude carriers to the US. What happened after a few of the double hull ships started coming out is, the single hull ships mostly got used to transport crew to third world countries, Africa, India Asia, and so on. Most of the crew transported to Europe and the US was the double hull. You kind of got a cast system in the crew transport system. But when the shipping rates collapse, when they go, single hull ships are always rented for 5,000 a day, less, or 7,000 a day, less than the double hulls. But when the rate is down to 7,000, then the single hulls stop getting rented at all because there's no reason to rent them, because you can get a double hull for 7,000. The single hull goes through very aggressive scrapping. That accelerates the scrapping. One of the things about the attribute of the business was that, at that time, because of the collapse and rates, the amount of scrapping of ships was on a turbo path. That set up the conditions for the subsequent massive pop in price if you will. Anyway, going on to the next one, which is Teck Cominco. We'll go to what is called Teck Resources slide 15. At the time it was called Teck Cominco. This was what I missed because the same thing happened earlier this year. But during the financial crisis, or just before the financial crisis like in the mid-2008, Teck Cominco had completed a large acquisition of a metallurgical call mining operation. They had taken on a huge amount of debt to complete that acquisition. They took the debt on as a bridge loan to get the deal done. Then they were planning in one year to kind of refinance everything and get the balance sheet back on track. Of course, what happened is that, right after they closed a deal, the world went to hell and Lehman Brothers happened and all of that. Teck Cominco is kind of like the IBM of mining companies. It's a blue-chip company, well run. They've got some of the lowest cost mines around the world. They've got a lot of iron ore, metallurgical calls, zinc mines, and so on. The stock price for Teck Resources went from $45 a share to $4 a share in a very short period, like 10 or 12 weeks, it collapsed because this was a stock that was usually a safe kind of widows kind of stock, if you will. It didn't have a natural constituency of people who wanted to own it, because of this huge overhang. When I looked at Teck, it was very similar to Tesoro where I said that, no they do have stress on their balance sheet, and they do have cash flow issues, but they also had these ultra-low cost mines, and they had some hedges. My thinking was that the banks that had all this bridge loan debt would not want to run a mining company and would not want to liquidate this company. What they would probably do is, they would extend and pretend, which is, they would extract a pound of flesh and push out their loans. My sense was, Teck could sell some assets and they could get out of the fix they were in, and that's what they did. I invested at about, less than $5 a share. Just so at that time, there was a lot of commodity stocks available. This was part of a basket. I made a 2% bet on Teck Cominco, and I made 2% bets on several of these commodity plays because they're all Collapsing price. In fact, we had no losers amongst all of them. All of them did very well. I think just two months after we bought it, a strategic Chinese investor came in and bought a stake in Teck Cominco and gave them cash, which took away some of the risk. Then they renegotiate with the banks. They sold some assets, and then commodity prices started to come back up. Eventually it went to around $35 a share. We had a seven x in a year and we sold, and then it went to $55 a share. At least, in this case, we captured most of it, but very recently, it went down at the beginning of this year because commodity prices again, collapsed so much to less than $5 share. I wasn't paying attention and I saw it taking place, but I was looking at other things at the time. That was a glaring mistake or omission, because I'm sure that, if I had studied the business and the balance sheet and all of that, I could have gotten a better handle of what was the dynamics at this point. It's again, driven by fear and greed, where humans just don't like the uncertainty. But when you get this kind of risk and uncertainty things going on at the same time, you can get kind of wide distortions. That's the third kind, which is a high risk, low uncertainty. The next one is what I call these bankruptcies, reorganizations, public LBOs special situations, kind of a catchall. Many of you may be familiar with Sam Zell. Can you raise your hand if you've heard of Sam Zell? Okay, a few of you heard of Sam Zell. Maybe you can Google him after the class and Arvind, there's no downside to sending Sam an email asking him to speak to your class, because all that can happen is, he can say no. But Sam is also known as the grave dancer because he loves to dance on the grave of companies left for dead and he's done well. I mean he's set up equity office properties, equity residential properties. He sold a lot of these assets pretty much at 11:55 PM before the music stopped. He has done well. But anyway, there are some investors in the US who have been truly exceptional at the US Tax Code. For example, Warren Buffett, in my opinion, knows the US tax code almost better than anyone else. The Pritzker's, Jay Pritzker, who's passed away knew the US tax code well. I would say Sam Zell and the Leucadia guys I don't think they ever sent a check to the IRS. The Leucadia guys knew the US tax code well. Sam Zell is a master of the US tax code, he's smart about the taxes. You'll notice that there's a conspicuous person I left out of the list of people who know the tax code so well. I don't put the Donald in the category of knowing the tax code. Well, he may know a lot of other things so well, but I don't think he's that great on the tax code. I think he's okay. Anyway, Sam is an expert on the tax code. In 1990, there was an insurance company that went bankrupt, Mission Insurance, and when they bankrupt, the Shell Company was left, and the Shell company had six, 650 million in NOLs, which are quite valuable. If you could marry those NOLs with a profitable business you could shield the profits of the business for a while. Sam was able to buy the NOLs for 30 million. He went in and bought the bankrupt Mission Insurance and renamed it Danielson Holdings, and then Marty Whitman bought a stake in that too. Danielson Holdings was an interesting business because it had Marty Whitman as the chairman for a while, and Sam was a large shareholder. Then they went hunting to find a profitable business that they could marry to this NOL-rich company. They found a barge company in Mississippi. This barge company was a profitable company, kind of transporting goods up and down the Mississippi. They bought the barge company with the idea that the earnings on the barge company would now be tax free for a while. Right after they bought the barge company, the barge shipping rates collapsed, and the barge company went bankrupt. Now they had bankruptcy to the power of bankruptcy, you will learn many things from Arvind, but he'll never explain to you how to calculate bankruptcy to the power bankruptcy. All I can tell you is, it's bad. Okay? The 650 million NOLs were now at 850 millions of NOLs. They were in a deeper hole than when they had started. Now, they went hunting for another business that would be profitable, and they could again do this. They were hunting around. This time, they found an unusual business. It was a waste of energy business. This is a company whose assets were $2 billion. They had debt worth $2 billion. And what they did was they had a bunch of plants where you put garbage in on one end, and you got electricity in on the other end. It was a German process where they ran furnaces at very high temperatures. Because your garbage has all kinds of things that have energy value when you burn it, you create energy. They converted that energy to electricity, and then they sold that electricity. In some cases, they had long-term contracts to sell the electricity. They had some stability of cash flows, and they had variants on tipping fees, which is what they had to pay to get the garbage or what they got paid to take the garbage in some cases. They bought this company, and this time they hit it correctly. By the that time, the stock was at a dollar, by the time I found out about and I think Covanta, they named Danielson Holding Covanta. You can see that, in 2002 and 2003, the thing is trading at like a dollar a share. By the time I got to know that, there was Marty Whitman, Sam Zell and all that doing this, and they were planning through a couple of rights issues and so on, the stock was at about $9 a share. It was still cheap because of all the leverage and the NOLs and all that. They did two rights offerings, which I participated in, and eventually, I sold in about 18 months with about 90% gain. If I had kept it throughout, I think I would've had a four x game, if you will. These bankruptcy and reorganizations can have some unusual dynamics worth paying attention to. The final category is the upside without downside type businesses. A good example of this is Silicon Valley Bank. That is slide 17, the last slide. When I was starting for Pabrai Investment funds in 99, the internet bubble was on, and all these stocks were climbing pets.com and all of that. I was trying to find a way I could play the bubble without any risk, because I knew some of the companies might do well but a lot of them may not do well. I was trying to figure out a way to play it. I had figured it out my personal portfolio a while back with CMGI which was a hundred x. But by the time Pabrai Investment Fund started CMGI, I had already climbed to some ridiculous number. That wasn't an option, but I found this bank in Silicon Valley, Silicon Valley Bank. What Silicon Valley Bank did was, they primarily had banking relationships with venture bank start-ups. They knew all these venture capitalists and the venture capitalists when they funded companies, they would tell their founders, “set up the account at Silicon Valley Bank”, and they used to make kind of asset back loans and different things to these banks. Any time they did any kind of credit facilities or anything for them, they would take warrants. Silicon Valley is a place where, if you're a landscaper for Google, you get warrants. If you are a chef for Google, you get warrants. If you are a waiter at a restaurant just in Palo Alto, you'll get warrants for servings. When venture capitalist warrants and stock options in Silicon Valley is like breathing, they hand them out to anyone who has a pulse. The bank, when they said, Okay, when we do our loans, we want warrants the companies didn't care, they said, "fine, we'll give you, besides the loan terms, they give you some warrants. Each time they did a deal, they would have these warrants, and they had no disclosure on the warrant. They just disclosed that they had the practice of taking warrants. I had a sense of the companies that they had in their portfolio because you could see some disclosure of some of the businesses, they were doing business ways and all of that. It talked about some of these businesses. I said, Okay, the bank is trading at a modest premium to book value. It's a well run bank. It's been a well run bank throughout, and we've got this unknown moon shot (possible moon shot) in the warrants. I said, "this is something where I've got a floor because I'm not paying for those warrants, but the warrants could be valuable”. As the bubble took off and these companies started going public, the bank realized they were sitting on huge numbers in terms of values of these warrants, and they started selling the warrants because they wanted to monetize them. Those now started showing up on the income statement, and then they were talking a bit about them, and the market finally understood. Eventually, it became a four x from what I was buying, I was buying in the 10, $12 range. I captured about a two and a half X and moved on in about, not that long a period. I think about two and a half years. But I could have held on for longer and done even better. That's the fifth one. CMGI, which we talked about at the beginning was similar, in the sense that, those businesses had that attribute. Of course, I think it's not the most elegant way to make money, and probably in hindsight, I probably should have sold CMGI sooner and probably should have sold even Satyam computers sooner. But I should have sold many of these other ones much later. We win some and lose some. That's pretty much the framework. I think, Arvind, we've taken up, we've got about 45, 50 minutes or so?

Arvind: Right. We have about an hour. Yeah. slightly under an hour left, about 50 minutes for Q and A. That would be fantastic, Mohnish. Thank you.

Mohnish: Yeah. I should thank you, because, like I said, I found the one shipping company because I was doing this, and who knows what else I'll find.

Arvind: Yes. I'm excited. I don't know who wants to ask the first question, but please feel free. Maybe I'll start in the interim, Mohnish, you talk a lot about cloning in terms of 13 Fs and the like, how do you go about cloning international investments, given that there are no 13 Fs for some of the areas that you traffic in?

Mohnish: Yeah, the international investments, you can get a little bit of that through Bloomberg. It's not for Joe Public, because Joe Public will have a little harder time, but not even Bloomberg. The thing is that, if you go to a website in India, like money control, like Google Finance, if you will, India requires the brokers to disclose anyone who owns more than 1% of a public company. The companies don't have to make a disclosure till they own 5% or something, but the brokers do. If you look at a specific company, you can see who the shareholders are. I think I subscribe to one, I think it's called Alpha Ideas in India, which basically figures out who owns more than 1% of these different companies, and they update that once a quarter. I can see some of that in Bloomberg, for example if I look at a Korean company in Bloomberg, it'll show me the shareholders. Again it's not as easy as a 13 F in the US. But I think you can get some of it that way. But it's not the easiest thing in the world. I have found investments in places like Korea which are owned by some investors I admire a lot, and in China and such, through that process. It does work.

Student: Yeah. Thank you very much for sharing time with us today. This is a fantastic opportunity, appreciate it. Wanted to touch on Tesoro that you were talking about. You mentioned how they have kind of a moat on their supply in terms of refineries and also how you want to hold them for a long period of time. I'm somewhat familiar with the industry, and people are saying that in the long run there's going to be declining demand for crude oil. When thinking about the moat on the demand side, if you will, how do you incorporate that into your analysis?

Mohnish: Yeah, that's a good question. The Tesoro investment at the time I had made it, I mean, this is a long time ago. I think that this was an investment in 2002. Elon was still busy with other things at the time. We didn't have any concerns on decline in crude consumption, if you will, as we do today. Clearly, if I were looking at the business today as opposed to 2002 you'd have to weigh that factor. The funny thing is that, (this is something that I actually, I've, I've questioned is that) whenever I listen to kind of oil analysts and different people in the oil industry, they don't seem to see the supposedly huge decline that may come in crude consumption from the switch to electrified cars, if you will. I think the movement towards electrified cars is a real movement. I mean, it's going to be a mix of hybrids and pure electrics and everything in between. But clearly, that trend is happening. It's also going to take some time because the economics are still not completely there. We have some economics in the US on electric cars, but in other parts of the world, especially when you don't have garages and don't have your own private parking spot and all those sorts of things, charging becomes a real issue. In many parts of the world, including in dense urban areas in the US, that's a real issue. I haven't had any investments where I've had to figure out, what exactly is a trajectory of oil consumption? But, I would say that, yes you would have to factor that in. But if you got to extreme distress, I mean, if you take a period from 2016 to 2025, let's say you take that 10 year period, it is not obvious to me that in 2025, human crude oil consumption is less than 2016. That is not an obvious statement to me. It's also not obvious to me that, that will grow over that period. But whether it will shrink over that period is questionable. One of the reasons it's questionable is, because large parts of the world, humans just don't have good transport options. Those are improving. Actually, if you think about the kind of the Ubers and lifts of the world, in all the different ways you get into mobility and shared economy and all of that miles travelled in motorized transport per human are on a significant upward trajectory. Whether people own their cars or they lease their cars, or they rent them by the day or the hour, or by the ride or whatever else to do, a shared rides the miles travelled is going up. There are some places that are obvious. For example, it is obvious to me that, tire consumption is going to increase. If you ask me about total volume of tires produced in 2016 and total volumes of tires produced in 2025, there is no question in my mind that in 2025, that number may be 20, 30, 40% higher than it is today. I cannot make the same statement about crude oil. It may flat line, it may go down a little bit, it may even go up a little bit. We don't know. But the good news about this business is that, we don't need to know everything about everything. We can say no to a lot of things. Anytime you encounter something which is giving you trouble, Warren Buffett has a real, people have an inbox and outbox on their desk, on his desk, he's got a real too hard pile box. It's a box that says too hard. One time I was visiting his office and he was giving me a tour of his private office, and I saw that, there was a real too hard box there, and it was empty. I told Warren, I said, “Warren, you always say that like 98% of the stuff that shows up on your desk is in the two hard pile, but the two hard pile is empty, what's going on?” He said, “Oh, let me fix that right now, Mohnish”. He immediately took a whole bunch of paper and he dumped it into the two hard pile. He said, “Does it look like most of it is rejected now?” I said, “Yeah. It looks great now”. He said, “Okay, good”. Then we took a picture with the filled up two heart pile box. Bottom line is that, we don't need to have an opinion or a position about anything. What we want to do is, we want to have opinions on high probability events, what we perceive as high probability events, where we think that we've got the odds in our favor. Like for me, when some analyst says Fiat Chrysler is going to produce $3 billion in e-bet, and my man crush, Sergio, says, we're going to produce $9 billion, I go with my man crush, we just go with high probability bets.

Student: Yeah. To go to one of the specific examples you mentioned, your thesis with Frontline was that, you thought there was a liquidation value to go like around $9 a share, and that you sold when you got to around there. In mentioning that you should have waited longer, was your process wrong? Because you sold what you thought was intrinsic value to a certain degree. You mentioned humans sort of vastly between fear and creed. How do you avoid that in your own decision making?

Mohnish: Yeah, I think that's a good question. Because this is happening right now in real time. There is Frontline 2.0, another company that just showed up on the radar, which shall go unnamed, so you guys don't drive up the price. But Frontline 2.0 is basically a situation where it's trading currently. I'm still doing the research, I'm hoping this weekend to get my teeth into it. It seems to be trading at half of the liquidation value, very similar to Frontline, all the debt is at the individual ship level and such. It's trading at less than half the rates and the utilizations have kind of gone down, which is what the market's concerned with. The price has gone down like 70, 80% in the last year or two. Clearly, if after I do my analysis, I get comfort that something, let's say for arguments sake, is trading at $20 a share, and let's say it's worth 40, the liquidation value is 40. Clearly, I don't need to make a decision today about when I would sell. I know that I'm going to sell at 40 or above, right? I don't need to make that decision today. I've got time. I might have a year or two to figure that out and do more work to figure that out, which is good. But what I will not do, which I did with Frontline, is, I will not sell at 90% of 40. With Frontline, I was very clear 90% of liquidation value was out of there. I didn't want anything more to do with it because I think I had a juvenile understanding of the huge swings in human nature and all of that. Now that the benevolent guards of investing are giving me another crack at the Apple, I'll try not to disappoint them this time. I'll figure out a few things. I could do something like, cut my position in half, they'd have the money off the table, for example, I could do that, which is, I would've gotten all my principle out, if you will, if I invested 20 million and it's gone to 40 million, I could pull 20 million out and then say, Okay, now, let's let humanity do whatever it wants. We can't lose money, because that's one way I could skin it all. Another way I could skin it is to let it go a little further, which is, look at what's going on with the business at the time and try to understand some more about the dynamics and see whether it's a high probability that this can go to one and a half times liquidation value or something, or not. We don't need to make that decision today. I think if you put a gun to my head and said, make the decision today, I would probably take the approach of something along what I said, which is, take the principle out, leave the rest, but leave the rest again with a taper, in the sense that, the next double take another half off and the next, because we know this is not Coke, we know this is not Moody's. We know it's going to crash and burn one day. We know that. It may take five years before it crash and burns, but we don't want to be there for four and a half years thinking you'll go for five years. If we get our double, we might do it that way.

Student: Yeah. let's say you do have a stock that you believe, is that like a Coke or a Moody's? At what point is that worth selling, if it's a hundred x 150 x, like when do you feel comfortable and how?

Mohnish: That is a good question. The reason it's a good question is because, I think in the past, I've not been good about that. I think the thing is that, there is an asymmetry. There is an asymmetry that I've had a hard time understanding and someone like Tom Russo understands this well. Someone like Tom Gainer understands this well, even someone like Charlie Munger and Warren Buffett understands this well. But I think, for example, Tom is always buying companies that are either number one or number two on our list. Either they can be run by idiots, or they have great moat that need non idiots. I've never seen things in his portfolio, which go to number three, four or five. They're always number one or number two, right? He's always playing in the number one, number two space, which is a great place to play. The only critique I would have if I would critique something about Tom is that, there hasn't been, in my opinion, the level of price discipline in buying as perhaps might be better to have. There's this story about the difference between Ben Graham and Charlie Munger. Ben Graham will go into a grocery store and he look for what item is discounted the most, and he'll buy that item and come out, and Charlie Munger will go into a grocery store and look for items that he truly loves, and then he'll keep going back every day till it goes on sale. Then when it's on sale, he'll buy that and come out. Clearly the Charlie Munger approach, in my opinion, is a better approach. Sometimes, some people have taken the approach of just going in the grocery store and buying what they love, regardless of price or without too much attention being paid to price where even a nearly fully priced as, okay. That can work out fine. I mean, you could have bought Crystal at a full price 20 years ago and still done well. Clearly, with some of these incredible boats, you can do well, even at full price. I have a hard time with that. I think that is something I'm probably never have been. That's a bridge I'll probably never be able to cross. But what I believe I can cross is, I can identify these assets. I mean, I have a company in my portfolio today which is like Coke. I never thought it would happen, but I have a company like Coke. This is a company that can be run by idiots. I never thought it would happen. I have a business that can be run by idiots. Awesome. It's number one, it's like one of those absolute number one companies, almost impossible to destroy the business, almost impossible to destroy the moat. I believe that moat will be around a hundred years from now. It may be around 300 years from now. It is super powerful in terms of the quality of the moat. I have decided that, for that one business, I'm just never selling that. Because I've never had the good fortune of such things happening. I'll leave that run alone and I'll play my Mickey Mouse games with the shipping companies and all this other stuff and deal with it that way and leave that run alone. To answer your question, I would just say that, if you are able to get a Coke for 14 times earnings, my 2 cents to you is, Warren says that he made a mistake in hindsight of not selling Coke in 99 or 2000. In 99, 2000, Coke was selling at 40 times earnings, and then that multiple dropped very significantly to less than half of that. They never did it . He said, it was probably a mistake not to sell. But the reality is, the action that he took was not to sell. I don't believe Coke is going to be sold by Berkshire in either of their lifetimes. I don't believe Coke will be sold by their successors for maybe a decade or more after they've gone. Berkshire may be holding Coke for at least, let's say two or three more decades or even beyond that. Quite frankly, that may be a wise decision, because how many businesses can you identify that are like that? I mean, Coke is not even about sugared water. If you look at their portfolio of a hundred plus brands they have and how many of those brands have anything to do with sugar? I mean, that's numbers going down. Actually, when people think of Coke, they think of the Sugared water product. They have a zillion other products, and they have the distribution engine and all the different economics that make it such a great business. My 2 cents to you is that, if you are able to buy these types of one business at a modest multiple, probably good things will happen to you. Let me put it this way. I think the business that I bought, I would say that, if I got to a 50 x on it, which may or may not happen in my lifetime, I don't think I'm selling at 10 x.

Arvind: Other questions. Yeah.

Student: In watching your previous videos, you talked a lot about your circle of competence, and I realized that I didn't know what my circle of competence was. How would you recommend we either discover that or develop that?

Mohnish: You know, I'll just give you Charlie Munger's answer to that question, which is, to ask the question, is to answer it. If you are wondering if something is near your circle of competence, it is not in your circle of competence. So it's as simple as that.

Arvind: Other questions say.

Student: Kind of piggybacking off with one of the companies or two of the companies that you mentioned you missed on, Apple and Amazon you mentioned were out of your circle of competence as well. I was wondering what exactly about those companies made you uncertain about your understanding of them? Because it seems that you're pretty well knowledge in tech in general.

Mohnish: Yeah, I think I have a very good friend of mine who's a venture capitalist in Silicon Valley. Right after the first iPhone came out, he called me and we had a long conversation. He's an investor in my fund, and he told me that I needed to buy Apple in Pabrai Investment funds. This was, I think in 2007. He told me and tried to explain to me the app store and what that meant and kind of where this was going with the app store and the ecosystem. He also tried to explain to me, actually, it was one of the most eloquent discussions I had with anyone about why to invest in Apple. He highlighted the moat, but he also highlighted the fact that one of the things put a pretty powerful computer in each of our palms. He thought that was a very significant game changer. This was in 2007, it was well before Uber came out, it was well before a lot of other companies came out. A lot of these companies could not exist if the iPhone did not exist. I mean, you just wouldn't have Uber if you didn't have an iPhone. It's just not possible to do it without a smartphone. It basically became the infrastructure on which everything got built. But, I'm one of these stupid people that, when people hit me with a two by four in my head with a great idea, I'm still not able to see it. Somehow, we still limp along and do okay, and Arvind still wants me to talk to you guys. I looked at Apple at the time. It wasn't at a single digit PE, and the moment something's not a single digit PE, I'm gone. You already lost me. The moment you get to something at 11 times earnings or something, I'm gone. I did not appreciate it, I mean, I understood what he was saying, but I didn't want to pay up. I wanted a lot cheaper price to get a business like that. But even then, I've always been skeptical. Even today, if you look at Apple today, forget 2007, let's look at 2016. Apple trades are a pretty modest multiple. If you look at their earning stream versus the market cap, it's very different from Amazon and Facebook. I mean, it produces massive earnings, and it's trading at less than, after you take out the cash. I think less than 12 or 13 times earnings. I think Arvind may have the exact number, and that's not a high multiple for a business like that. But, I also play back in my head, the graveyard of companies and technology like Blackberry and Nokia and all these other ones that have had huge runs and disappeared. Apple has something more than those companies have because they have the app store and they have habits. The important thing, this is what my friend in 2007 was saying, Mohnish, human habits are changing with the iPhone, and you have to understand when the habits change. That is very enduring. It was a great talk. I wish I'd recorded that talk, because if I could play it for you, it'd be better than me babbling here. He was telling me about the habit economy and all these habits were very important. I didn't appreciate that. Today we have a situation where Apple's unit sales are dropping but their earnings are still rising. Because the ecosystem just gets larger, there's over a billion devices which have apps on them, and every quarter, the number of devices that have apps on them increases, even if they're a quarter sales decline. Of course they got to free tailwind from the woos of Samsung, if you will. But my take is that, this is one of those things where you want absolute no-brainers. Anytime in the investing world, you have doubts in your head, then you're better off just not going there. For example, for me, drilling into the shipping company, half off it is a lot more tangible to get comfort than I could get with Apple at 12 times earnings today. That may be a mistake, but it's just the way I'm wired. Someone else can hopefully figure that out and do better with it. Of course, since that time I went with my friend, sprinkle salt on wounds and reminds me what his Apple position is worth versus what his Pabrai Investment fund's position is worth.

Student: You explain how you evolve and how you tailor your insight. Then you also shared with us that, there are some of the thoughts that you experienced the rules, and in coming of the 22 years, what contributed most in developing your general insight and your character in bearing those rules?

Arvind: The question, Mohnish, was, over the past 22 years, how did you develop your insights and the character to survive the valleys of the holds? Is that right?

Mohnish: Okay. It's about overcoming adversity, is that what the question's about?

Arvind: As well as how you develop the insights to build your circle of competence and to make those big bets that led to your success?

Mohnish: Yeah, I think the thing is that the first question to ask yourself is, "what are you passionate about?" If you are willing to work at something where the amount you get paid is irrelevant and you truly enjoy that work then you're getting close to answering the question correctly. If you are pursuing a career as an investment manager and investment analyst, and you would do this job if it paid the same as a school teacher, for example, then you are picking the right calling, because you should not be picking this calling because it pays well, you should be picking this calling because it is what you believe you're wired for and what you love doing. The first question to ask yourself is, what do you love doing? In my case, I think I've asked myself this question repeatedly. In fact, one of the things that I had gone through in the 99 timeframe was, I'm part of this group called YPO. We had done kind of an exercise where we had a couple of industrial psychologists who spent some time doing a 360 analysis, they called and interviewed our spouses, our friends in my case, people who work for me, if the kids were old enough, they talk to the kids. They conducted a bunch of tests on us, then they interviewed us. Then what they gave us at the end of all that, was a blueprint of who we were. What happens with most humans is that, we have a map kind of, this is what we are on the inside, and then we kind of act this way on the outside, because we believe the world expects us to act this way. But our internal wiring is that, this is who we are, and we act this way. If you get an incongruence between who you are internally and who you are acting like externally, you will not go far in life. What you have to do is, you have to get things in perfect alignment like this, where your internal wiring is exactly the way you are externally. At the time I had gone through this testing. I was just about to start for Pabrai Investment funds, and I was running a company which had about 170 people IT company that I had founded. The psychologists basically said that they couldn't even understand how I was able to run that company because it was so far away from what my preferences and competence and wiring was, if you will. Then they looked at Pabrai Investment funds, and they looked at kind of the way it would be and the size where there would be no people and all that. They said, this is perfect for what your internal wiring is. Their belief system was that, between our genetics and the experiences we have in the first five years of life, who we are as people is hard coded. That is not going to change for the rest of your life. Whatever wiring and kind of inside map you have is fixed. The problem is that, most humans don't know what that map is, because we don't come with the owner's manual. But at the age of 34, I received an owner's manual, a 20-page document. For the first time, someone gave me an owner's manual. It was invaluable, one of the best $2,000 I ever spent. One of these two psychologists when Pabrai Investment Funds was starting, he wasn't a very wealthy man but he was one of the original investors who invested. I asked him, "why do you want to invest in this?" He said, "Mohnish, I cracked your brain open. I know exactly what's in there. This is the right place to put the money. I know this bet won't fail." Of course, we did quite well with that. The first question is, if investing puts you in an alignment like this, which is not an easy thing to figure out, you can understand what some of these kinds of things are in your owner's manual with how you feel after doing certain tasks. If you feel energized and excited about doing something then you're in the right place. Like, the shipping this weekend, if my wife told me we have to go to some party, I would prefer looking at the shipping company to go into the party. It would just be more fun. You can answer that question with kind of your likes and dislikes. That's the first thing. You have to make sure that you are playing in centre court off what you are wired to do. Figuring out what you're wired to do is not the easiest thing in the world. But it can be done, and Miles Briggs might help you. That's a poor man's version. But I think going to industrial psychologists, like the one I went to, and they have tools to figure this out for you. I think it should be required for every human. I think every human should have an owner's manual. It would help a lot. The second part about the adversity and the valleys, there have been a few valleys and the thing is that, there's a movie that came out a while back. I think it was a Best Picture of the year. Life is beautiful. Did you guys see that movie? Raise your hand if you've seen that movie. A couple of souls have seen the movie and a couple of souls think they may have seen it. Well, it might be useful to see it. It's in some parts funny, but I think it's got some great life lessons. There are two movies, books are so boring, but movies are more fun to see. I'd like to recommend a couple of movies to you. The first one is Jiro Dreams of Sushi. How many of you have seen that movie, Jiro Dreams of Sushi? Oh, we've got a few people who have seen that. That's great. Jiro who is my hero is exactly like this. He's didn't go to industrial psychologists, but he's dead on doing what he loves to do. It's a great movie. In fact, I have my first trip to Japan coming up next March, and it's a restaurant where they serve sushi. I think you've got to make a reservation a month in advance. I'm looking forward to meeting Jiro and eating his sushi in a few months, it'll be great. That's a great movie. The second one is, Life is Beautiful which is also a good movie to see. But the thing is that, anytime you feel that you are in a valley or life is useless put on that movie. It'll give you some perspective and such. I saw my parents go through multiple bankruptcies in my childhood. My parents were very poor financial planner. They were kind of like these Greek ship owners when times were going well, we lived well. When times were rough we didn't have money for groceries. We didn't have money for rent. It was absolute drop bottom. My dad was a kind of serial entrepreneur, so when the businesses went bankrupt and every few years, it's some regularity, they would go bankrupt. It would have a direct personal impact because just the basics were gone. But through each of those bankruptcies, I never saw my parents ever get depressed. In fact, with my mother, I never ever saw that. One of the greatest things I learned from my mom was just the way she looked at life, just how resilient she was and how the resilient she still is, which is great. My dad would sometimes get down because there was just so much he was dealing with. But one time, just to give you a quick story. I know Arvind thinks I'm taking up so much time with my stories, but just a quick story. One time, my dad was bankrupt. There was nothing going on. There was hardly any money. Every Sunday he had this priest, this Hindu priest show up at our house. This Hindu priest claimed to be an astrologer who could predict the future, and he would look at all these signs of when my father was born and Mars was in this position and all this other stuff, and say what was going to happen. Then my dad would pay him. He'd come back the next week again, and he's got all these markings on his head, he's got the saffron ropes. My dad was an engineer, and he wasn't a religious guy. So after I was like, about 11 years old and got some courage, I told him, you got to know that this guy is full of shit. Not in quite these many words, but in more diplomatic language. I wouldn't get slapped or something. I said, "why do you have this guy?" He know he's taking money when money is very scarce. We don't have any money. My dad says to me, "I know he's full of shit, but I try not to think about that". He says that, "I'm at the bottom of a well, and I need a rope to climb out of the well, and he is my rope, because when I pay him and he gives me the future, he knows if he presents a bleak future, he won't be called back the next week. Because he's going to give me a somewhat positive forecast about the future, I get some energy to kind of start climbing up that rope and try to get up and get out of the well". My dad said, "I'm paying him because he's my rope". My dad figured out a way to find a rope, right? I would say there are different ways and different kinds of rope that you could use. It is given that part of the human condition is that we are going to have great times, we are going to have lousy times, we are going to be down and out at times, we'll be riding various waves at times, and that's just going to happen to all of us. The key is to understand that, when you're down and out, just like the shipping rates that have collapsed, it's a temporary condition. The second thing to realize is, and this is, I'm not religious, but there's a Hindu philosophy that there is no suffering in this world. It's a Buddhist philosophy. There's no suffering in this world. There is a reaction to events that humans have, which causes suffering. Even if a person has cancer, and even if it's terminal, and let's say they're going to die in a month at the moment that you ask them, let's say they get a shot of morphine, they feel pretty good. Are they suffering at that moment? No, they're not suffering. Five minutes later, are they suffering? No, they're not suffering. Now, if they think about the end terminal result, they will start suffering. We have control over whether we suffer or not. The event does not cause suffering. It is our reaction to the event that's going to lead to suffering. If you can control the reaction and that's why, like, if you see the movie, Life is Beautiful, he's controlling the reaction. We have the power within us to control the reaction. Once you can understand how to control the reaction, then suffering becomes quite irrelevant. The highs and lows, yes, we've had a few lows while I've been running Pabrai Investment funds. Then there's another saying, if wealth is lost, nothing is lost. If health is lost, something is lost. If character is lost, everything is lost. Anything happening with Pabrai Investment funds is only related to wealth. Basically that is irrelevant. It doesn't mean much. So far in life I thankfully have not had any health or character issues that are meaningful. That's good. I hope that continues. Sorry for the long discourse and getting away from value investing Arvind, but you made me do it.

Arvind: Mohnish, that was great. Other questions?

Student: Going back to the auto industry, like, you've seen companies like GM, Ford, and, I don't know, but they've had record profits, but the multiple keeps contracting. Do you have a catalyst in mind, or is this more of one of those bets where it's all upside and downside, you're not going to lose anything?

Mohnish: I missed the first part of the question. Can you just repeat it?

Arvind: The question was, looking at businesses like GM and Ford earnings have increased, but the multiple has compressed, and the question was, do you have a catalyst in mind when investing in those types of businesses? Is that fair? Or is it upside, downside focused where you feel you can't lose any money and you can double or triple your money and you don't have a clear catalyst?

Mohnish: Yeah. I didn't want to make this talk about stock tips and portfolio positions and such, but I'll try to answer your question in the context of just trying to be helpful. But the stock market is not there to instruct us. It is there to serve us, where we can buy at times when it's offering a bargain, and we can sell at times when it's euphoric. That's the purpose of the stock market. I never look at the GM or any other company stock price to instruct me on what the business is worth, what the business is worth is independent of that stock price. I have never done catalyst investing. Value is its own catalyst. With GM, it's quite simple. Recently, I looked at the John Deere website, they have a investor presentation, and I think slide 49, if my memory serves me right, is a slide that shows 25 years history of their earnings over the last 25 years,27 years. They have the earnings in two pieces. One piece of their earnings is the earnings from their finance business, and the other piece of their earnings is the rest of the business. A company like John Deere basically makes tractors and farm equipment, and they offer financing and leasing to their customers off that farm equipment. One of the mental models that I came to, quite by accident, and I came to this mentor model in 92. It's been 24 years ago, even before Pabrai Investment funds. I won't go into the reasons why I came to that because we want to keep to some type of schedule. But the captive finance businesses of companies like John Deere. In 25 years, that business had seen a lot of cyclicality going up and down, and the profits had gone up and down, but their finance business had no cyclicality, the finance business of John Deere has made money every single year since 92, including the financial prices, 2007, 2008, 2009, 2010. Even recently, when demand for farm equipment has collapsed, and not only has it stayed profitable, but it's also almost stayed profitable in a straight line up, which means that, almost always this year's earnings from finance are greater than last year's earnings from finance. This is the case with almost all the captives. If you look at Ford Credit and GM's captive finance arm, et cetera, these are very stable businesses, and they are most stable. For example, banks during the financial crisis saw their earnings get whacked and a lot of losses and all of that, even during the financial crisis, the captive finance arms had no issues. Why is that? I'll get to the why is that later if Arvind permits me, let's just take it to be the gospel truth that the finance arms of these captors go one way. First, GM used to have a captive finance arm called GMAC. What GMAC did is, before the financial prices increase, just financing cars, they started financing homes, and they started financing all kinds of things unrelated to cars or General Motors. After the company came out of bankruptcy, they started a new finance arm. They bought a subprime lender, and now about one third of the North American business. When they sell a new car, about one third of the time, if it's financed maybe, it's close to 40%. It's financed by General Motors Financial GM Finance. As they grew, the earnings from that finance arm were going to keep going up. Just to give you sense, Ford Motor Company used to make something like $5 billion a year on their finance arm, GM today makes about a billion a year on their finance arm. They have guided that. In a few years, it'll be $2 billion. If you understand the long history of how these finance arms go, if you take a very distant view of maybe 10 years, it may be three, four, $5 billion, because they're still building out in other parts of the world, et cetera. That finance arm is incredibly valuable, but let's say we just go with the $2 billion, which the company expects to get to in their finance business in two or three years. If you have a business, in which the cash flows are not like the shipping business, if the 2017 or 2018 cash flows in the finance business are $2 billion, and in ‘22 or ‘23, they're $2.5 or $3 billion, and they keep going, what is that business worth today? Well, that business in the low-interest rate environment we are in today is, on a bad day, worth at least 15 times today's earnings. It's a very good business. If we think that in two or three years, GM's finance business, which is at a billion today, is at $2 billion, that business is worth $30 billion in three years. GM also has a business in China. They are the largest company that sells cars in China, and they sell it through a joint venture. They sell more cars in China than they sell in the US. They own half of those operations. The Chinese operations, like clockwork produce about $2 billion a year. They produce $2 billion a year for a while, and they continue to produce. If anything, that number's going to go up. It probably goes up to two and a half or $3 billion at some point, but let's keep it at $2 billion. What is that business worth? It's in an emerging market. The Chinese are going to buy cars for a long time. There's a long runway ahead of the billion four or whatever the population is with cars being bought. It's four times the US population. Even with the lower GDP, it's still going to have a huge runway in terms of cars being sold. We have these two businesses. They collectively, let's say in three years are producing $4 billion. $4 billion in these two businesses, in my opinion is worth at least $60 billion. It should be worth at least 15 times cash flow. Now the truck business in the US and Cadillac, and they've sold $10 million cars. I'm ignoring seven out of those $10 million cars because I'm only accounted for Chinese car sales and the finance business. I'm ignoring parts sales, which is also very high margin and such. I don't see how GM, as a company, is fairly valued at less than $50 billion with $20 billion of cash on the balance sheet when they have these two businesses. I believe the truck business is worth something, and I believe Cadillac is worth something. I believe at some point they'll make money in Europe, and at some point, they'll make money in Latin America and so on. That's why we invested in GM.

Arvind: Mohnish, you've been so generous with your time today. I'm curious if you have any parting thoughts for the class as we kind of reach the last few minutes?

Mohnish: Well, this was a lot of fun. It went by a lot faster than I thought. I think my analysis of the five points took a little longer, so I'm sorry about that. But it was always a pleasure. You always have great students. I love Boston College. I wish you all the best and I hope you get something out of it.