

Mohnish Pabrai's Session on The Ten Commandments of Investment Management with Prof. Arvind Navaratnam's Class on October 10, 2018

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Arvind: Thank you so much for speaking to what I think is the seventh or eighth year of my classes where we're incredibly grateful.

Mohnish: Well Arvind, it's always a pleasure and an honor. Despite all my past issues and bloopers, you keep calling me back, which is great. The other thing is you and your class are willing to serve as Guinea pigs, which is also good. This time I have a brand-new talk that I have never given before. It's the first time I'm giving this, which is exciting for me. But hopefully, it'll go over okay on your end. And everyone will like it as well. Is the audio good?

Arvind: It's flawless.

Mohnish: All right, perfect. Anyway, a few thousand years ago, we were told about Moses going to the top of the mountain and then coming back with the Ten Commandments. That story is slightly off. I have a lot of conversations with God, and in one of my conversations, he said, "Mohnish, when Moses was coming down the mountain, he dropped the tablets and they shattered into many different pieces. My commandments were lost. But he felt bad, and humanity was expecting these commandments, so he made them up". We've never had the real commandments. He gave me the real commandments to usher onto the world through Arvind's class. That's what I'm going to try to do.

God also said that he really wanted to focus the commandments on investment managers, and not humanity. Unfortunately, Moses kind of broadened the scope of the task he had been given. These are the commandments for investment managers. Moses was right. They're exactly ten commandments. He got that part correct.

Anyway, the first commandment. I don't know how long these are going to take to go through. I'll try to speed them along so that we have enough time for Q and A and such. And certainly, if the flock is looking for more clarity on one or more commandments, we can certainly do that during the Q and A.

The first commandment is, "Thou Shall Not Skim Off the Top." What the Lord means by that is, one of the things with all these commandments is that the

reason they're being presented is that most participants in the investment management business violate them and they are sinners. We are trying to kind of improve the lot if you will. Skimming off the top basically is setting up an investment operation where you're taking some percentage of fees, as a fixed fee. In the case of hedge funds, they're usually taking one or two percent off the top, and they're adding performance fees on top. Two of the original practitioners, Warren Buffett and Charlie Munger, practiced the art with no fees off the top.

Buffett had, I think, 0.625 once he merged all his partnerships, I think in 1962, where he took no fees off the top. Charlie had a third, above zero is my belief. I think that's what he did. But of course, he was a kind of specialist operation, a little different operation that he was running, and very little capital. But the bottom line is that both, Buffett and Munger, have said that if you are in the investment management business what should have already happened before you set up your own show or started managing other people's money is practice the art on your own, with your own limited assets. If you did well with those assets, then the power of compounding is such that even a small amount of money becomes quite significant after a few years.

I mean, if you're compounding at anything north of 15, 20, 25%, which you should be able to do on small amounts of capital, I mean, your money will be doubling every kind of four to seven years type deal. Even a small amount becomes large in a few years, which gives you the ability to in effect live off that base while the assets are growing. Anyway, that's the first commandment.

The second commandment, "Thou Should Not Have an Investment Team." Again, investment management is not a team sport. It's really designed to be an individual pursuit. An investing team is in many ways an oxymoron. One of the many reasons why it's an oxymoron, but one of the basic reasons is that any two humans are going to have differing circles of competence.

If I were to have, for example, an analyst on my team, and that analyst was very bright, and he or she came up with some investment ideas, I may reject them simply because I have a different circle of competence which is really not doing justice to the analyst, if you will. The second is that we don't need that many stocks in our portfolio. In a year, we have plenty of time to research many stocks and to find two, three, or four of them that kind of fit the bill, if you will. They shouldn't. The other thing is the investment analysis process is really the fun part of the job. You really don't want to be delegating the fun part because I wouldn't know what you'd be doing then if you weren't kind of analyzing investments. That's the most fun part.

Then, the third commandment, "Thou Shall Accept That Thou Shall Be Wrong At Least 1/3 Of the Time." Some of these commandments leaked out from God over the years. This comes from John Templeton. Basically, the investment process is one where we are extrapolating, or we are trying to extrapolate

future of a business or the future of many businesses. By definition, that is a very inexact science. There are a multitude of factors that are going to affect every business into the future, especially when we are trying to forecast or figure out what happens to a business five years from now, or ten years from now. It is an exercise fraught with difficulties and fraught with a high error rate.

Basically, if I were to pick, let's say my current portfolio, if ten stocks made up most of the portfolio, there are probably at least four of them that will not behave in the future in the way I expected them to behave when I made the investment. It doesn't mean that 40% of the time I will lose money. What will happen is that at least 40% of the time, I will either not make as much money as I thought, or I might lose money on some investments, or they might flat line, or they might even do far better than I thought, all of the above. This is an exercise in humility in terms of managing investments. One has to always accept the fact that the future trajectory of businesses is and predicting that trajectory is, at best an inexact science.

We have to be kind of humble enough to accept the fact that even our highest conviction ideas may or may not get to where we expect to get them to.

Then we get to commandment number four, "Thou Shall Look for Hidden P/E Of 1 Stocks." Here's the way the world works. Maybe they're around, let's say, 50,000 publicly traded companies globally. Let's say I set up a screen which said, I want to look at all companies that traded 40 times earnings or less. The odds are I'd have kind of tens of thousands of businesses that would fit that screen. If then I change that to a P/E of 30, I'd still have several thousand businesses, P/E of 20, still several thousand, P/E of 10, still maybe, north of thousand, maybe below or above that. As I keep tightening that news, to P/E of five, P/E of three, P/E of one, there will still be some businesses that'll slip through. Now, those are the non-hidden PE of ones. But what we want to look for is the hidden P/E of ones, which means they are a P/E of one. But they don't show up as such on a screen. For example, they can be a P/E of one based on future earnings. They may not be a P/E of one on today's earnings. I mean, in 2012, when I invested in Fiat Chrysler, it was trading at less than \$5 a share. The company had forecasted that in a few years, actually 2018, that they would make about \$5 a share.

Actually, as we are coming into 2018, they spun off Ferrari. But if I include the whole pie including Ferrari, they exceeded that number. What we paid in 2012 P/E of one materialized in 2018. I mean, the end result is that investment went up seven or eight times in that period. Generally speaking, when you do P/E of ones, in general, good things happen to you.

Another stock I think I mentioned in your class, Arvind, a few years back, was IPSCO. It was a steel company. At the time, I was investing in IPSCO, I think it was 2004 or there about 2004, 2005. IPSCO was trading at three times earnings. One third of the market cap was in cash. If you kind of adjusted for the cash,

because they were trading at two times earnings. The earnings in the next two years with the company's own guidance and such was what the company expected to make in cash flow in the next two years. Basically, you had a third in cash in the next two years earnings coming out. There was absolutely no visibility beyond the two years. This was a very cyclical business. It was possible that after two years, earnings would just fall off a cliff. But my thinking then was that if we held the stock for two years, we got all our money back.

At that point, I just wanted to see what the stock would trade at and it had to trade for something because it had all these huge plants and infrastructure and everything else. What happened in that case was a year after I bought the stock, the company announced they had one more year of visibility and earnings were going to continue the way they had been happening, which means now we had in effect, three years of visibility. We were in the black. Then as we were getting close to two years, someone came and bought the company. We ended up with about four times return on the initial purchase in less than two years. Anyway, the P/E of ones, what I noticed is that in the last 19 years or so that I've been running Pabrai Investment Fund, it's happened at least six or seven times that we found P/E of ones, like Fiat Chrysler, or like IPSCO.

Very early on, I had invested in Stewart Enterprises, which was in the funeral services business. That actually was sitting at a P/E of two in Value Line. I opened up Value Line, as I do every week, I always look for the P/E of ones in Value Line. Usually, they're not there. But you can find P/E of twos quite commonly. Usually those are businesses that are good to avoid. But every once in a while, there is a gem that shows up.

So, for example the reason I was interested in Stewart Enterprises when it showed up is that they're in the business of bearing dead people and they're in the funeral services business. And one thing I had read a long time ago about the funeral services business is that out of all the business SIC codes, industry categorizations, funeral homes have the lowest rate of business failure.

If you look across industries, the lowest rate of business failure is funeral homes. The reason for that actually becomes obvious if you think about it. First of all, no one in this classroom, all of you are gifted people, is planning to go into the funeral services business. I can almost bet on that. There are no 22-year-olds I know of who say, I think I'm going to go into the funeral services business because it has the lowest rate of failure. It's such an awesome business, that is what I want to do. This doesn't happen.

So, first of all, the people entering the business are few and far between. Then the second is that when your aunt or uncle whom you love so much passes away, you don't go about seeking the low bid to have their last rights done. You might add, that most reach out to typically the place that ideally your family has been using for many generations, and hopefully get it done that way. But even if, that's not the case, you'll try to reach out to some neighborhood funeral

services operation and whatever they tell you, you're not going to start negotiating on the phone. You're probably not even making five calls to get the lowest bid. This is not a business where you're going to seek out a low bid unless you hated that particular relative. Of course, you've got all the upsells with air-conditioned coffins and everything else in between to make you feel really good.

Anyway, so basically the hidden P/E of one is really good for your health and your financial health. Looking for them is a great exercise and in fact, I just got back from Istanbul last night. I think it was only P/E of ones that I visited; I was swimming in P/E of ones. It was quite the orgasmic experience. Anyway, that's commandment number four to go hunting for P/E of one.

Then commandment five, "Thou Shall Never Use Excel." This actually goes hand in hand with commandment four. Even it goes hand in hand with not having an investment team. But basically, you should figure it out in your head. The investment processes are really quite simple. If a company, let's say has a market cap of a billion dollars, and let's say it's trading at 20 times earnings, trailing earnings are 50 million, for example. Let's assume those are owner earnings that you can withdraw as dividends and such to keep it simple. The billion-dollar market cap whether that is undervalued or overvalued or fairly valued can only make a judgment of that. If one can figure out the cash flows that are coming out of the business over the next, it's from now to judgment day, but you can approximate that to be between now and the next 10 or 20 years. After that, it really doesn't matter. The terminal values become too small.

If this business is trading at 20 times earnings, and if earnings are expected to grow at let's say 10 or 15% a year, then what can you do? You have a very high degree of conviction that 10 or 15% rate of earnings growth is sustainable for a very long period of time, maybe 15 or 20 years then you can actually, run the math.

You can say, okay, year one, the earnings are 50 million. Year two, the earnings are 60 million. Year three, the earnings are growing at 20%. But if you're going at 10%, 50, 55, 60.5, 66 and change, and just keep going from there, then you have to discount each of those by your expected rate of return. For example, if I want a 20% rate of return on this investment, I have to start discounting those future cash flows at that 20% rate. If I'm getting 55 million a year, now my cost of capital is 20 million. That 55 million is really worth like 44 million because I'm not getting it today. As I discount all those future cash flows and run those numbers, it'll be very hard to get to 1 billion because the earnings are growing at 10%. But your expectation is 20. It'll be a kind of a declining future stream. Every year will be less than 50 million in effect and in present value. The math just doesn't work.

Now, if you reduce your return expectations to something like 8%, it may work. If you said, I only want a 7 or 8% return, that may work. But even then, there are

some heroic assumptions. We already saw what Templeton said, that you're going to be wrong one third of the time and capitalism is brutal. Unless this is a fast-growing funeral services operation, it's not going to be there clocking 20% or 10% a year for 15 years. It's just difficult in business to have that much of a runway without people coming in to take your motorway.

The thing is, how do we get around that? Well, the way we get around that is by making the math really simple. The way we make the math really simple is we go back to P/E of one. When we go back to P/E of one, all the math becomes really easy. If I want to make 25% a year, well, I get my money back in two or three years. I still have the business who's still producing cash and you'll find that it'll deliver that return. It might deliver that return at a P/E of two as well, or three as well. But once you start getting to high single digits or double digits, generally speaking, the math doesn't work so well. It's a lot harder to make it work.

For example, if we were to look at a simple case, if we look at the business-like Apple. Let's take a simple case that Apple is worth exactly a trillion dollars. I haven't been tracking it. I think it's a little bit above that, but let's say it's exactly a trillion dollars. Let's say I want, I'm an unreasonable guy, and I want a 25 annual return on my capital. For example, Arvind knows my license plate says compound 26. If I want a 25 or 26% return on my money, the first year that business has to produce 260 billion in owner earnings. I don't think that's what Apple is producing right now. I'm not quite sure. Maybe someone in the class knows or maybe you can look it up Arvind.

Arvind, what is a trailing P/E of Apple approximately? Is it like 10 times or something?

Arvind: I think it is higher than that, but I can get it for you.

Mohnish: Yeah. Let's be generous. Let's say it's trading at 10 times earnings. What it's saying is that Apple's making a hundred billion a year. I need 260 billion for my 26% or 25%. Its making lets say a 100 billion. Then a year from now, let's say it's 115 billion. They've got a rocking market position, earnings grow by 15%, it goes to 115 billion. Let's say for the next 10 years, it's compounding at 15%, even with a 100 billion in earnings, it's compounding at 15% for 10 years. Which means that in the 10th year, it'll be 400 billion. Because in five years, it'll double to 200 billion. And 10 years, it'll double again to 400 billion. That 10th year, 400 billion is not worth 260 billion today. When I discount that at the 26% rate, it'll go down below a 100 because it just, needs to be doubling every three years and such.

Anyway, the bottom line is that if your return expectations are something like 7% a year and Apple is growing at, 7% a year or something it may work. One of the things that you can do with just playing with these two, three numbers, which is market cap, current earnings, and what you expect earnings to grow at, and of course, I think a lot of people would have difficulty getting to assumptions that Apple will grow 15% a year bottom line for 10 or 15 years

without any hiccups that may happen. It's a very dominant company in a dominant position. But we've seen a lot of past dominant companies have problems in these areas. The thing is that when I look at something like Apple, it doesn't even take a second to take a pass. Now, if we had Apple at something like three times earnings, like trillion dollar market cap making 350 billion a year, growing at whatever, 15% of something, even someone like me might get interested. The thing is that a P/E of three on Apple might get me excited and a P/E of 10 not quite as exciting.

Arvind: Mohnish, student A is saying that it is closer to 20 times, so you're going to be a lot less excited.

Mohnish: That's so hard. The thing is that if you run this same math starting at 50 billion, which is where trading earnings are and even if you take heroic assumptions of 20% growth unabated, I still can't get to the promise land. With the commandments I've been to the promise land, but I can't get to the promise land with it. That was the fifth commandment, "Thou shall never use Excel."

As you saw with all the math we did, we didn't even need a calculator. Forget Excel. We just did it in our heads. There is no need for Excel. If you find yourself reaching for Excel, what that means is that you take a pass. It's an automatic pass. If you need Excel, it means you need to take a pass. If you can't do the math on the fingers, in one hand, you need to take a pass. If you're going to two hands, there's a problem. You need to be doing the math with one hand, no calculator, and what's between your ears. That's it. Like I said, these are all things that Arvind will never talk to you about. It's only me and you that can talk about such things.

Then commandment number six, "Thou Shall Always Have a Rope to Climb Out Of The Deepest Well." In case some of you didn't understand that fully, let me try to decipher what the good Lord meant by commandment number six. When I was growing up, my dad was an entrepreneur, and he was really good at starting a number of businesses with nothing, no capital. He was good at getting them to some scale. I mean some of these would get up to north of 100 employees and such. They would move pretty quickly, but he was always very aggressive with his growth plans and leverage. He was overly optimistic and invariably these businesses will blow up. He went through a number of bankruptcies.

When I was growing up, my parents were very bad kind of financial planners or favors. As the business did good, so did our household fortunes, if you will. When the business was doing well, things were loose and going well at home. When the business blew up, we didn't have money for rent. We didn't have money for groceries. We were asking relatives to help us out, asking friends. It was a tough situation.

One time, I think when I was like, maybe nine or ten years old, my father had gone bankrupt. He had this guy who was an astrologer show up to our

apartment every Sunday. This astrologer would have all these orange robes, with a bunch of marks on his forehead, with a bald head, and all that. He would have all these different charts and he would tell my father about the future. Then my father would pay him. The guy would come the following week. This was kind of weekly thing going on. I told my dad after observing this for a few weeks, because my dad was an engineer, he was a very rational guy. I said, you have to know that this person is just talking utter nonsense. My dad said to me, I am at the bottom of a well and I need a rope to climb out of the well. This orange roped guy is my rope, because when I pay him, he makes sure that he tells me that the future is great. He knows if he says that the future is not great, he's not coming back the following week. Every week when I have my session with him, he is telling me about these future businesses I'm going to start and all this prosperity that's going to come. I need something to climb out of the well that I'm in.

One of the things that surprised me repeatedly about my dad was his ability to bounce back. I mean, I noticed as he got older, that his bounce back was harder than it used to be when he was younger. I think it was just harder going through it over and over. But I was always very surprised at the quickness he had put one business, the last semblance of it going under, he was already kind of thinking about the next one and such.

In the investment business, we are going to have gyrations, we are going to have periods when performance is great and we're going to have periods when performance is not so great. So, for example, in the financial crisis, of 2008 or 2009, Pabrai Investment Funds dropped between 65 and 70% from the peak in June 2007 to the bottom in March of 2009. It's a huge drop.

I told you about commandment number one, "Thou Shall Not Skim Off the Top." If my fund were worth, let's say \$600 million or thereabouts, let's say in June of 2007, basically by June of 2008 to collect a fee it needed to be at least 636 million, 6% return. Then, I get paid. Instead, the funds were below 200 million, so 600 million goes to 200 million. The base level required to earn a fee is 636 million. I am in a very deep well. I thought back to the guy in the orange robes, and unfortunately, I didn't have his email address. I don't even know if he was alive then. He may have passed away probably. I was looking for the guy in the orange robe, but he was nowhere to be found. I'm at the bottom of the well and I need a rope. I need a rope to pull me out.

What I did was I violate commandment number five. I first sought the forgiveness of the Lord and said, to follow commandment number six, I need to temporarily get a pass on commandment number five. After many years, I fired up Excel. I took my portfolio and I put in prices for all the stocks that were in my portfolio at the end of 2010 and 2011. I put my best guess as to what these companies would be trading at the end of 2010 and then in 2011. Of course, things had collapsed. There were a lot of bargains at that time meaning anything I was investing in went up several times after that.

When I looked at the numbers of the aggregate portfolio at the end of 2010, and the end of 2011, it was well north of 600 million. Partially because I had control over what went into those cells. Just like the astrologer had control over what he was going to say the future was going to do.

We hear about Steve Jobs' distorted reality field. We need distorted reality to climb out of wells. What I did is, instead of focusing on the 200 million number, in my mind, I focused on the 2010 or 2011 number when I was going to be in fear-earning territory. Life would be great. Happy days will be here again. That actually worked. I still have the spreadsheet. Every once in a while, if I feel that we are in a well and we need to climb out, I'll always go back to that.

I don't use Excel for doing investment analysis. I do use Excel to climb out of wells. It works pretty well. You always need, not only in investing but in life, a rope to climb out of deep wells. It is a guarantee, that both in investing and in life, you will find yourself in deep wells. Life would be quite boring if that didn't happen. That's commandment number six.

And commandment number seven, "Thou Shall Be Singularly Focused Like Arjuna." Of course, no one knows Arjuna better than Arjuna. A few years back, Arvind sent me a nice painting. The painting showed a guy with a bow firing at a target, and I think the guy was Arjuna in the painting.

Anyway, there's an Indian epic, which was written a few thousand years ago called the Mahabharata. In the Mahabharata, one of the heroes is this great warrior and archer, called Arjuna. And when Arjuna was being trained as an archer, his teacher one day told all his students that he was going to have a practical test for them. He set up a long pole and at the end of the pole, he put a fish, kind of a sculpture of a fish. The fish had a couple of blue eyes and small blue eyes. He put this pole in a kind of pool of water, a tub of water. He told his students that he wanted them to look at the water to see the reflection of the fish, the eye of the fish, and to shoot the eye out.

These were all kinds of nobility, princes of different kingdoms. The first prince steps up to take his test and before he fires his ball, Dronacharya asked him, what do you see? He says I see the water, the pole, the fish. The guy says, okay, sit down. You're not ready for the test. Then the second prince stands up, and again, the teacher asked him, what do you see? He said, I can see the pole, I can see the fish, I can see the eye of the fish. The guy tells him, you're not ready to shoot, sit down. One by one, the different princes stand up, tell their teacher what they see, and they're not allowed to shoot the bow. Finally, our hero Arjuna stands up and he's asked what he sees. He says I can only see the center of the eye of the fish. Dronacharya tells him to fire at it. Of course, he takes the eye out.

One of the lessons we need to learn from Arjuna is that we need to be focused like him. Anytime we are looking at, and especially when we are looking at these P/E of one business, usually there's more than one cloud hanging on top

of the business. There are many clouds. Also, there are always a lot of macro clouds. Even if there are no macro clouds, there are macro concerns. What we need to do, is we need to be like Arjuna. We need to focus on the business and only the business. To figure out the future of an economy is really hard.

For me, to figure out the future, even the state of California is very hard, or even the county I live in a kind of knows what is going to happen. Those are really difficult questions. We have to simplify the world. One of the ways to simplify it is to be like Arjuna. You focus on the business, and you don't focus on the noise. One of the things, I noticed when I was in Istanbul the last few days, there was a lot of noise. If one can get past the noise, focus on the business, and just consider the nuances of the business, things can become quite clear and obvious. I did find a few things that I think we will pull the trigger on, but if I were to look at those, the macro situation, the country, or even the headwinds that the businesses are facing, there are significant headwinds. If I'm buying at 20% of liquidation value or at such a small fraction of future earnings, like I said, these are fantastic assets. Focusing on the center of the eye of the fish is the name of the game. That's what we need to do. Do not get distracted by looking at all kinds of macro things. I think you're best at ignoring all of them because you can't predict them.

Commandment number eight is, "Thou Shall Never Short A Stock." I don't think we need to spend much time here. But that's pretty obvious. We don't need to figure out what's going to happen to Tesla. We don't need to go long, and we don't need to go short. That just falls in the too-hard pile. Like Tesla, for me the car is there for pure entertainment purposes, just to watch from the front row seats as opposed to being in the arena. We just don't need to figure out exactly what's going to happen, and we don't need to go.

First of all, you know, commandment number three is you're going to be wrong one-third of the time. I think with shorting; you're going to be wrong 80% of the time. Both Buffett and Munger say that they've always been right on the stocks, but always wrong on the timing. The timing can get very painful. Also, the math is against you because the maximum you can make if you're right in a short position is a double. We are not going for doubles. The maximum you can lose is bankruptcy. There's no point in making bets where the highest upside is a double, and the highest downside is that you are out of the game. I shall go to my grave without ever having shorted a stock and I think you should do the same.

And then commandment number nine comes from Polonius. Even though Polonius came long after Moses did, he was the character in Hamlet. Polonius said to his son, "neither a lender nor a borrower be". I think Buffett's tweak on Polonius is "neither a long-term lender nor a short-term borrower be". Basically, you don't want to introduce leverage into your life. I think that to finish first, you have to first finish. We want to make sure that we get to play the game and that we get to play the game for a long time. The key is to spend less than we

earn and put that difference in a compounding engine. If you're spending more than you are earning, then it's not a good thing.

I have a blog. Some of you might have visited the blog. But I'll put an ad in for my blog here. My blog is Chai with Pabrai. If you ever feel like having a cup of tea with me, you can go to my blog. One of the first posts I made one of the impetuses to setting up the blog was a guy named Mr. Money Mustache. Maybe you can raise your hands, how many of you have heard of Mr. Money Mustache? Just raise your hand if you ever heard of him. We have a few enlightened humans in the room, which is great. Mr. Money Mustache is a good person that you should get familiar with. I always expect that I'm going to hear that Mr. Money Mustache got divorced because his wife can't deal with him. But I think he married Mrs. Money Mustache, and so I think she's even more gung-ho about his methods than he is.

But anyway, Mr. Money Mustache, I think he's in his early 30s now but at 22, he was a software engineer. He decided that he was going to be retired at the age of 30 not because he got some exit from some company, but because he would retire at 30 being a software engineer having just made a normal software engineer salary for eight years. He ran his life for eight years. For example, Mr. Money Mustache would not be caught dead in a Starbucks. Paying four bucks for a coffee is not happening. He's more like 5 cents for a coffee. I think he had like 60% or 70% savings rate. He has a car, but I think he consumed about two gallons of gas a year in that car. His bike gets a lot of mileage. He bikes everywhere.

And he is a carpenter. I think he built most of his own house somewhere in the woods of Colorado. Anyway, I think it's worth going to his blog. You might have some difficulty with some of his methods, but if you even follow one-third of what he does, you'll be on a great path. He carefully looked at every expense we humans have and decided that the way the economy is set up. We take a bunch of loans when we get jobs to buy a fancy car, have a loan and buy a fancy house, or have high rent, and all that. That was all for the birds. He wasn't doing that. He took no debt. He drove a beater and, he just looked at every line item that he had expenses with, and nothing was going to be spent.

Of course, now the funny thing is Mr. Money Mustache through his blog makes several hundred thousand dollars a year because his blog is so popular. He's a little disappointed about that. He's kind of sad about it because he didn't want to be making all this money. He wanted to prove that he can live the way he does. He claims, at least, that all that money is going to charity. Maybe it is, which is great. But he's a great example to follow and the first story on my blog amongst many other good stories.

Finally, commandment number 10 is, "Thou Shall Be a Shameless Cloner." Cloning is very good for your health. There are many smart people who are great investors. In many cases, their portfolios are visible to us because it's

required by law and it's a great shortcut to look at what are the highest conviction ideas of some very smart people. We have websites like Dataroma, for example in the US, which is tracking a bunch of investors and telling you what the highest conviction bets are. Cloning can be really good for your health. That's the 10th and final commandment.

And with that Arvind, we will open up for questions. Thank you.

Arvind: All right, Mohnish, that was great. Thank you. We'll jump into questions, so please have yours ready to go. The students have prepared after seeing as much as they could online about you and the videos and the books and reading. They've prepared many questions. A common theme was just how you are sourcing ideas across India, China, Korea, Japan, and Turkey. How are you finding ideas? If you're looking at the equivalent of 13 apps, or Turkish entrepreneur investors or how are you finding these one P/E ideas or three P/E?

Mohnish: This is Ocean's 12, maybe with Ocean's 13, the movie. I forget which Ocean it was. I think when Clooney is talking to Andy Garcia that was in Ocean's 13 or maybe Ocean's 12. But anyway, Clooney's trying to get his wife back, who's now with Andy Garcia. He and Andy are having a talk. Andy has some serious problems and Clooney tells him, I know a guy. Then Andy tells him, like in disbelief, I have all these serious problems and you know a guy? And he says, yeah, I know a guy. As far as Istanbul goes, I know a guy, and who shall go nameless for now.

I think the thing is that we would not be able to survive, I would not be able to survive if it weren't for commandment number 10. Cloning is really good for your health. I think in India, in the last two years I have met with about a hundred, visited about 180 or more businesses that are listed and met with a lot of CEOs and teams. I have visited a number of plants and headquarters and all of that. It's just been a great, great education.

There was cloning in some cases, actually doing the work, God forbid. But basically, we only need like two or three ideas in a year. We don't need too many. I think if one is cloning, it is a good shortcut. One of the commandments that didn't make the top 10, but almost made it, was when Buffett was asked the same question. How do you find rate stocks and all that? His answer was, start with the A's. Buffett wasn't being facetious. In the 50s, he went through the Moody's manual, and he went through it twice. There were 20,000 companies in there and he looked at every single one of them.

I bought the Moody's manual a few years back from eBay just to look at it, the 50s Moody's manual. They've got like three or four companies, they've got the basic financial information on those companies, and you can very quickly get to see kind of what is going on in terms of cash, cash flows, and all of that. In many cases, he was buying well below cash, forget the earnings engine. He was just buying below cash and such. He had to go through thousands of pages to

get to them. But that was fine. He had the time to do it. I think that this is a treasure hunt, if you enjoy treasure hunts, you'll enjoy being an investor. There are shortcuts in the treasure hunt, like being a cloner. But it works.

Generally speaking, when I've gone to geographies like South Korea or now Turkey or China, I've definitely employed cloning to get some cover. Though that has worked well, and in the case of India, it's been a lot of kind of looking at things directly. But many times, we find in India, we find parallels that have very strong histories in the US or Europe. Then when we look at them, the same type of business exists in these countries, and it's been existing for longer. You can kind of look at the trajectory that some of these businesses have followed and then take it from there.

Arvind: Who wants to ask the question? Yeah, please.

Student 1: Mohnish, thank you for having us. I hope you can hear me. I want to go back to one of the questions that I had regarding temperament during the financial crisis. You really talked about having a rope to get out of the well. How did you remain calm and confident so that you really host that stronger face for your investors?

Mohnish: I think one of the things that my wife told me, is after the financial crisis she never realized the degree to which our wealth had dropped and the degree to which I was underwater and such. She said that she didn't really notice much change in my demeanor. I think the thing is that there's a quote, "That if wealth is lost, nothing is lost. If health is lost, something is lost. And if character is lost, everything is lost." We are only talking about wealth, which for the quote is, means nothing.

Quite frankly, I think one needs to put things in perspective in terms of what is important in life. Another thing to keep in mind is that, if you look at the United States, what is a percentage of people who are unable to make ends meet after having a good education in the sense that they are not able to pay rent, pay for groceries, and those sorts of things. It's a number that approaches zero. The bottom line is that we live in a country which has tremendous safety nets of a number of different kinds. The bottom line is, even if things don't work out, the odds are extremely high that you will be able to get back on track. You may have some period where you have to readjust, you may have to take a job instead of being on your own, that sort of thing. But the bottom line is that you will definitely be able to bounce back. It's always good to keep things in perspective about what is important in life.

When I was going through the financial crisis, clearly the rope helped, looking at Excel helped, but my take is that partially it maybe that I had seen a lot of up and downs in childhood. That probably was somewhat helpful just because I'd seen far more extremes than I was going through. I think temperament is important. If you find yourself on that end of things, there is a form of meditation called Vipassana. You can Google that and you can do a 10-day

retreat in India, where for the most part you are silent and have an austere life. That's worked for many people. I have a bunch of people who keep telling me that I have to do it. I tell them, if you're already in Detroit, you don't need a bus to get there. There are a number of different ways and techniques of getting there, some are prewired. It might be temperament. A tendency is not destiny. A tendency does not need to be destiny. We all as humans have tendencies, but we definitely also have free will and can get past those tendencies. We can look at a number of different tools. Bottom line is that you have to figure out what rope works for you.

Arvind: Mohnish on that subject you talked about the rope, the well, and excel on the professional front. You mentioned the personal front too. Do you have a rope in that scenario?

Mohnish: I don't know. Maybe it's just the way I'm wired. I didn't need much more than Excel. Bottom line is, when I was going through the financial crisis, one of the things that was really exciting was just the sheer number of investment opportunities. While your portfolio's crashing and burning on the other end, you're seeing all these mouthwatering investment ideas and such. For example, I felt the whole commodities space just collapse. I was finding so many ideas of investing in commodities, they were really, really simple ideas that I think every single one looked like at least five times. They didn't have a lot of time to study them, so I made a basket with a bunch of them. Not a single one was a loser. Almost every single one of them went up at least four or five times.

One investment, I made with Teck Cominco, which I sold after five times went up to 10 times. One of the things that were very attractive about that time was that there were a lot of investment ideas. I was selling cheap stocks to buy cheaper stocks. That's one of the things I did. I tried to widen as much as I could, to discount, to intrinsic value by doing that.

But on the personal side, at the bottom of the financial crisis my net worth I think was down to 18 million. There are worst problems in life than having a net worth of 18 million. I didn't have too many issues with that. Of course, if I looked at peak to bottom, it was a huge drop. I think peak, I had paid tax and all, but somewhere around the north of 80 million. I looked at it from peak to bottom, it was a significant drop. My take was that things look really cheap. I liked what we owned. I didn't have any leverage. I'd see my dad, right? Basically, you keep your senses, keep chopping wood, and move ahead. That's an important thing to do.

Arvind: I didn't want to cut you off, but that wasn't exactly the question I was asking. I was asking outside of investing, when you need a rope and you're in a well, in your personal life?

Mohnish: I think the exact same thing applies. You just need a different rope.

Arvind: Right.

Mohnish: I think we have to understand that present circumstances never last. If you are having a really good time in life, that's probably not going to last.

Arvind: Right.

Mohnish: If you're having a really bad time in life, that's also not going to last. So, one is you have to have confidence that when you're at the absolute bottom in life that it is going to get better. It's just the nature of life, it's going to get better. Once you have that basic confidence that life changes - I mean, we have this number of people kill themselves, right? We have suicide where people just take their lives and such. I was reading somewhere that, I don't know if I've got the numbers right, but they've been like more than a thousand people who've jumped off the Golden Gate Bridge. I think there is something like 30 of them who survived, who didn't die. Those 30, 100% regret their decision to jump. Basically, if we have a sample size of 30 out, we can't talk to the people who jumped and actually died, but we do have these few people who came back from the dead if you will. And if 100% of people who came back from the dead are saying it was a big mistake to do it, probably the odds are that if you could talk to all thousand plus of them, the overwhelming number would say, we made a mistake.

Why do they jump? Well, I think they jumped because, at that point, they were at the bottom of a well without a rope, right? That's a very sad situation. But they, for whatever reason, did not have the confidence. This is why a certain percentage of humans; a large number of humans attempt suicide. A relatively small number are successful, thankfully. That's one thing good about that, not a large number are successful. I think people get to the bottom and don't know how to get out of the bottom, right? The only thing I can say is that one has to have faith that tomorrow will be better than today and that whatever circumstances we are facing are not permanent.

Once we have, it could be finding Buddhism. It could be finding a friend. It could be finding a loved one to talk to. It could be that there are a hundred different kinds of ropes one can have. In the case of a large number of people, their spouses are going to be the rope. Many times, when I have issues that I'm just kind of concerned about or whatever else, I'll just talk to my wife about it. Almost always I'm feeling a lot better after that talk. We can always find the people around us. I think definitely if you reach out to friends and family when you are at the bottom of the well, it is only going to help you

Arvind: That was a helpful perspective. Other questions, please? Yeah, go.

Student 2: Thank you, Mohnish. I was wondering back to the invest if you could talk about the stake that you took in Google a few years ago, kind of through the prism of what you told us today. What brought you to it and then why you pulled out from these?

Mohnish: Yeah, Google is a very interesting company. Because Google is a company that can make its revenues and its cash flows, whatever it wants it to be. Very few companies are in that circumstance. The overwhelming majority of the products and services that Google provides to us, it provides to us at no cost. It doesn't even monetize those products. It just provides it without monetization. They can turn monetization engines on, on a variety of products at will, I think. In fact, the history of the company is really interesting. This is a company that when it was founded, the founders had no revenue model. They had no idea how Google would ever make money. Surprisingly, the investors who invested also didn't understand how this thing would make money and they still invested in the company.

Eventually, the revenue model was not even figured out by the founders. It was figured out by one of the guys they had hired. This guy was not hired to figure out the revenue model. He was told, after I think a few months or maybe a year or so on the job, by the way, can you figure out how we can make money? He went off to figure it out and came back with AdWords. They were off to the races.

AdWords, which is responsible for a portion of Google's revenues today was not understood as a way to monetize by the founders when they found the company or even after that. Similarly, I mean, if you look at like when they bought ways the Israeli company that lot of us use there were no revenue model ways. It was just providing directions without it when Google bought it. Even for a while, they ran it for free. It was actually a loss because they had no monetization. Now, of course, you see all the ads and they've figured it out. Google is a very interesting company because I think they can have a lot of flexibility in terms of what engines to turn on, how to monetize, and what to monetize and so on. They've got a lot of brain power to do it. I really like the business and I bought it.

When I bought it, it was relatively modest in multiple. The forward earnings were in the teens. But even I got past that, and it worked. In about three years, we had more than doubled our money.

I had actually intended that this is such a great business that I'll just keep it. I just keep it forever. But then I had this P/E of ones show up and I needed cash. As hard as it was, Google was history. I mean, once you have P/E of ones, a lot of things are going to be history. I think Google will continue to do well. I hope they don't prove me wrong in terms of like, the P/E of ones will be what Google does over the next several years. It's a great company and I think it has a great future.

Student 3: Awesome. Thank you for speaking with us. When you think about investing in India, like you started talking to management. How do you judge whether the management is good, or whether they're close, or incompetent?

Mohnish: Yeah, that's a good question. Historically, I never met management, for most of my career as an investor. Probably, if you take the last 24 years, including the time when I just managed my own money, probably at least 22 of those years, I never met managements. Things worked out fine.

I didn't think I could do that in India. Because that is one of the things I can almost bet on. A typical US company I might look at, if I lose money, it won't be because of fraud. I can lose money because of my stupidity, but not because of fraud. The outright fraud cases in the US in public markets are few and far between. They're not, at least in my quarter century of investing, I've never lost money anywhere because of fraud. I've lost money many times because of stupidity, but not because of fraud.

In India, there's a much higher risk of fraud than there is in the US. I needed to be able to kick the tyres. So far, I don't think we've invested in anything that is fraudulent, the filter has worked. We will find out over time. I think generally speaking, one can make plenty of judgments when one meet management. I have been in the room with frauds in India. That's kind of fun. In fact, I think it's been a great learning to be in the room with frauds. Because you can try to understand how they work. But the other thing is, you can follow the cash, one of the best ways to avoid fraud. There's a great book which I think a new edition just came out called, *Financial Shenanigans*. Schilit is the guy's name. I've been in touch with the author now. I'm supposed to have a call with him in the next few weeks. I am looking forward to that. Howard Schilit is his name. Anyway, that's a great book. I think it does a really good job of explaining how companies can mess with you with their accounting and financial statements. In India, one of the things I look for is to follow the cash. If you follow the cash, even in the US, like MCI WorldCom, which was a fraud, it was easy to spot if you focused on that. Basically, they were converting expenses into capex. They were taking ordinary expenses were being capitalized and thus profits were being increased.

If you looked for the cash, what are the business producing at the end of the year after all expenses, you would just see that, it was a widely different number from net income for WorldCom, for example. The *Financial Shenanigan* book, the guy is really good. You can tell a lot with just the numbers and whether the cash is there or not.

In some cases, we have fraud in India. Satyam is a good example where the guy doctored the bank statements. Deloitte was the auditor in that case. You wouldn't have caught it because the cash was a fiction. What they were showing us, cash on the balance sheet, didn't exist. That's a very rare case. But generally, you'll find that the fraudulent guy is basically one way or another playing with debt. You can get to it if you just sift through the financials.

Student 3: You have talked in your previous video about Fiat Chrysler being one of the candidates in your list that is the company run. It's a good business run by a

good CEO. But the CEO passed away, like not too long ago. Should you cross it off the list?

Mohnish: Yeah. It was very sad that Sergio Marchionne passed away. He was a great guy. In fact, I just went to his memorial service in Detroit last week. I would say that Sergio was probably, in my opinion, amongst the top 20 business leaders to come along in the last hundred years amongst public companies globally. We will see some books, and such come out about him in the next few years. He was an extremely unusual leader. Fiat Chrysler in 2000, Chrysler in 2009, was going to be liquidated. It was very close to being liquidated. The decision by the US government not to liquidate was like one by a three to two vote by the Auto Task Force. It barely avoided liquidation because they pretty much had given up on the business. They didn't think the business could be resurrected.

Without Sergio on the scene, I'm not sure it would make it. I'm not sure Chrysler would've made it. The thing that has happened with Fiat Chrysler since then is not only have they proven that they should not have been liquidated, they are now outperforming the other two rivals. Fiat Chrysler has now got Western class margins higher than GM and higher than Ford coming from a distant third getting to basically number one. If you look at a leader like Sergio, I knew Sergio was a very good leader in 2012 before we invested, but I went through about four different recalibrations of Sergio. Each time when I recalibrated him, it was at a much higher level than the last time. I thought he was great and then he was even greater. He just kept going. The last recalibration that happened to him for me happened after his death.

Sergio knew, a year ago, in July 2017 that he was in serious problems with his health, and it was possibly terminal. He knew that a year before he died. He never told anyone, just his family, the immediate family knew. This is the guy who had a net worth of several hundred million, 15 Ferraris or something. He decided he was going to spend the last year of his life running Fiat Chrysler full out to hit the 2018 plan. That's what he did. He basically ran a million miles an hour in his last 12 months to push the company to where it needed to be.

One of the things he did before he passed away was that he set the plan for 2022. Fiat has published guidance and numbers for 2022 on June 1st, 2018. About four weeks before he left the scene at Fiat, about seven weeks before he passed away, he published the Blueprint. I found it strange when he published that because he was publishing it a year before he was actually going to leave the company, a year before the next guy was going to be named. If he was going to retire and so on in 2019, Fiat Chrysler would still execute and make the 2022 numbers. He didn't leave the scene and he didn't just pass away, he actually muttered himself and the management team. He had about 35 direct reports. They used to spend weekends together because they didn't want to spend weekday time on meetings architecting the future of the company.

I met some of these people in Detroit, Michael Manley, who's now the CEO. Michael Manley is not running the company for financial benefit personally or whatever, he is on a crusade. He's on a crusade to keep Sergio's legacy alive. He cannot screw it up. The 20 to 30 other people around him can't screw it up. Before I went to Detroit, I saw GM and Ford just don't have anything like this. These are people on an intense mission, and they are going to execute a mission. Nothing's going to stop them. They published their 2022 numbers, sitting at a P/E of two on these numbers, just letting it ride.

In fact, I think the P/E of two is understated. It's probably closer to P/E of 1.5 or 1.3 or something because it's heavily sandbagged. Anyway, the company is in a very different shape than it was in 2009 when Sergio came in. It's not a commodity company. They have got ridden of almost every commodity product. Jeep is about 2 million units a year, a very unique positioning. They pretty much killed every single car or product they made. That was a Me-Too product. They have no Me-Too products in their lineup.

Arvind: Any questions? Please go ahead.

Student 4: You mentioned about your recent investments in Turkey. I was wondering about your thoughts on currency appreciation.

Mohnish: Arvind, maybe you can repeat that. I couldn't tell.

Arvind: Sure. You talk a lot about investing in Turkey and in other foreign economies, non-US economies. What do you think about US currency?

Mohnish: I'm sorry, how do I think about what?

Arvind: Currency in the US.

Mohnish: It's irrelevant. Basically, the bottom line is that if you are right about the business, the currency is not going to matter. My first investment in India, which I made personally in 1994, went up 150 times in five or six years. The currency moved 30 or 40% against me in that period, it is irrelevant. Even now when we are investing at these P/E of one type situations, the currency is well. In some cases, we are actually investing in assets that actually have an international value. I'm not really concerned.

I'll give you an example. I probably won't make an investment in this company, but one of the things that I found unusual about Turkey was as I visited a cement company. Cement is an industry where you are very tied in geographically. Transportation cost of cement is very high relative to production cost. Basically, a cement plant typically starts to get non-competitive once you are getting to be a 100 or 200 kilometers or miles away from the plant. It tends to be very geographically constrained. Once you're about 200 miles away, another plant is going to typically have some advantage over you because the transport cost starts eating in. Most cement plants are

geographically constrained. They can only supply within a region and be competitive.

When I visited this company, I noticed that they had a small percentage of exports. I'd never seen a cement company exporting cement. I was kind of confused by that. One of the things about this industry is that all knowledge is cumulative. I have met with at least 10 cement companies in India and one of the 10 CFOs I met who I like a lot told me this is a shit business, don't invest in it. Let me explain why you don't want to invest in it. He instantly became my friend. He ran through the numbers and explained why I should never invest in the business.

Anyway, I had already gotten to similar conclusions, but not with his precision. Before I even went into these meetings with this cement company, I tried to cancel the meeting. I said, listen, this was going to be a waste of time. I'm just never going to invest in cement. But the meeting was already set. It turned out to be like an incredible hour. Every time I'm always wrong when I'm thinking that this is a useless business, whatever else, there's no point, it ends up being a great hour of business school. This was another great hour of business school.

I'm talking to the company, I say, listen, I'm noticing you got this relatively small percentage. 8, 9% of your volumes are being exported. You can't transport cement very far. Can you explain what's going on here? How can you get to actually exporting? The CFO says that our plants are sitting on the coast, and we have a dedicated port. I didn't realize, but in Turkey they have an incredible advantage in production of cement. I think it must be because, and I should have figured this all out, three big ingredients are limestone, cheap coal, and cheap energy. Those are the three things you need to make cheap cement. All three of these are cheap. I have to research the limestone, but definitely the coal deposit. Turkey has no petroleum. But Turkey has a lot of coal. The power rates are very low. The cost of production of cement is very low in Turkey. They're able to take that cement, put it on a ship, and get it to the East Coast of the US and get it on the west coast of Africa. And in both cases, they're very competitive. Of course, when they get to the East coast, they can't go very far. But just the way geography is in the US, we have high population density on the East coast. Once you're at the port, you don't need to transport very far to get to humans who need cement. Basically, when he explained the economics, I told him, listen, the devaluation makes you even more competitive. The CFO explained their domestic cement business. He said, listen, don't look at our numbers in the past. I'm just telling you they're going to be terrible in the future. The brunt of the financial crisis has not shown up in our numbers yet.

I said I'm so grateful for that candor, thank you so much. He said, look, what's going to happen is that by 10% or 9% of the volume that's being shipped, it'll take me some time, but I will get to 50% being shipped, being exported because I was competitive before. But I am way more competitive now because of the exchange rate. This is an interesting business in the sense that it's almost as if

the currency doesn't matter so much because if the currency drops further, he'll go to 70% exports eventually.

The other thing is the currency goes the other way; it probably is because the economy is getting better. His domestic volume starts increasing. I just found it interesting that the only other company that I know like this is, POSCO in South Korea.

It used to always be that you couldn't really have a steel industry unless you had iron ore in the country. Both Japan and South Korea proved that you could just bring it in and ship it out. POSCO, if you look at it in South Korea, their port infrastructure is one of the most advanced in the world. It is a second IU where the ships drop off the ore and the same ships pick up the finished product. It's just a U-turn, very efficient logistics. POSCO was able to bring all the resources in they needed to make steel, ship them all out, and still be super competitive. All of this works very well because ocean shipping has become super cheap over the years.

There's a great book you guys might enjoy. It's called *The Box*, Marc Levinson is the name of the author. The book talks about the whole incredible transformation we saw because of the container. We don't pay attention to containers, but container shipping transformed shipping. Then I'm reading another book, which is even funnier in the same way. It's called *Ninety Percent of Everything*. This lady goes on these container ships, this journalist, is explaining the industry while being a passenger. She has a lot of funny experiences on these ships and her writing style is quite funny. That's another great book, which is kind of a mix of entertainment and education.

But anyway, one of the things to understand about ocean shipping is for practical purposes, ocean shipping is nearly free. I can get from Turkey to the US cheaper than I can get 150 miles in land into Turkey. It's the perk of ocean shipping. I hope that answers the question.

Student 5: Yeah. Mohnish, thank you for taking the time out. In your book, you discussed distressed businesses and distressed industries. Can you talk about what sets up for good turnaround story?

Mohnish: I'm sorry, I didn't get the second part of the question.

Student 5: Last part was, what groundwork is required for a good turnaround story in a great company?

Mohnish: Generally speaking, you don't want to bet on turnarounds. Most turnarounds don't work. Turnarounds don't turn around if you will. Generally, those are not good bets. For example, when I invested in the auto industry at Fiat Chrysler, the industry was distressed. There had been structural changes to the industry which made the recovery almost for sure. You don't want to be investing where you are making heroic assumptions about the magic that management's going

to do. That's not a good idea. You can make investments where basically you can see the trademarks to where this is going and where it's going to end up.

Industries do get distressed, and even countries get distressed, like Turkey. For example, if I looked at this cement business, I could see how they've got flexibility. Actually, what's happening in Turkey is the exporters are doing great. The other thing I noticed is that the local prices have not adjusted as much. What has adjusted immediately has been the imports. Those have adjusted. But things that are produced locally, they haven't fully adjusted yet. The exports are going to have a stronger advantage with a weaker currency. You want to see obvious things when you're going into these areas. You don't want to make heroic assumptions about what management is going to do or what's going to change. It should already be in place, but it's just that the market is missing it.

Student 6: Have you ever invested in a business that have the competitive moats, which turn out to be illusional? What have you learned from this?

Mohnish: I didn't fully get that. Competitors who have what?

Student 6: Competitive moats that turn out to be illusional.

Arvind: Competitive moats that turn out, where the moats turn out to be an illusion.

Mohnish: I'm sorry, the moats turn out to be what?

Arvind: An illusion.

Mohnish: Well, that is very common. You know, we are mostly dealing with illusions as far as moats go. The nature of capitalism is that capitalism is creative destruction. They used to be only one company that was in the due about 90 years ago, that was GE. The one company is gone now, and like what I just saw in the paper is their new CEO has unceremoniously been removed. GE was a pretty formidable company and I think still in aircraft engines, etc., they have a pretty formidable moat. Even a company like GE, basically is having a lot of difficulties. I think moats get filled in far more frequently and quickly than most of us would think they should get filled in.

Your defense against that is the P/E of ones. That's the only way to protect yourself. The P/E of ones are good for your health because you take your cash out after the first year or maybe after a couple of years, and then you don't particularly care. One of the things I've been doing for the last few months is I set up this waterproof Bluetooth speaker in my shower. I listen to the Buffett and Munger annual meeting videos because they posted all the videos from 1994 till last year on the CNBC website, buffett.cnbc.com. I think now I'm at year 2001. I get through about half an hour a day, which is great. It's the most productive half hour of the day, I find. But one of the things Buffett was mentioning, I think in the late 90s, he was saying that when the dot com bubble was peaking, if you looked for companies that are making more than 200

million after tax in the United States, let's say in the year 2000, there's like 400 of them. 400 companies in the US in around 2000 were making over 200 million after tax a year. And he said that the US at the time had been around for like 224 years. And in those 224 years of open capitalism with millions of companies, you ended up with just 400 companies that got to enough success to make 200 million a year. I recently ran that number for today. Let's change the 200 to like 500 because in all these years of inflation and expenses, the number of companies today making more than 500 million in the US is less than 500. The thing is, between 2000 and 2018, a huge number of businesses got formed, and there were a lot of businesses that were emerging at that time as well. One of the reasons Buffett made to that point was that he said, these companies making 200 million, if they were going to continue making that money, probably deserve a market cap over 3 billion. If you'd give it a 15 multiple or something. But the number of companies making over three at that time, with the market cap over 3 billion was many times that number was in the thousands. Part of it was at the time of the dot com and the bubble was going on. He wanted to prove the point that a huge number of these companies are going to disappoint because they are not going to end up with those. They are never going to produce the 200 million to justify the three billion.

Even today, 18 more years have passed, and we've had all this tech and everything else that's happened in the cloud, and the numbers haven't changed that much. The bottom line is that if you are investing, betting on the future of these companies growing a lot, you have to look at the other side and not many make it over the fence. The mortality rate is pretty high.

There are two or three lessons from that. One is to stick with the small and nano caps, okay? Because a lot of companies are basically in capitalism, never going to get to 200 million or 400 million or 500 million. They're just never going to get there. They have a higher chance of getting to 10 million, 15 million, 20 million, or something that's a lot easier than 200 or 400 million. The second is to take care of commandment number four, focusing on the P/E of ones. I think you have to approach moats with a jaundiced eye. If I go back to this company in Turkey, the cement company, one of the issues that come up in cement, and one of the reasons why it's such a terrible business in India are there are limited barriers to entry. There are some barriers in the sense that in India, the limestone deposits are only in certain parts of the country.

Access to coal is another. It's not a given that you may have access to cheap coal or cheap power. A lot of people can get past those three variables, and they'll get past those three variables if you're making a lot of money. Even in Turkey, this company, I mean, the thing I have to think about is if they get into great times. I mean, today, I think the thing is the replacement cost at which I question the CFO on the replacement cost makes it prohibitive for them to put up new capacity. But at some point, if the numbers change then, I'm not sure how strong those barriers are. They may be enduring for a while, or they may not. I just don't know right now.

I think the thing is that you have to recognize that people are constantly looking at just the nature of capitalism to destroy your moat. They just constantly looking to destroy your moat. What you really want to look for and there are very few enduring moats. You have to really look far and wide.

One of the interesting things about these enduring moats is many times the market doesn't price them any higher than the non-enduring moats. Sometimes a market can't distinguish between enduring and non-enduring. If you can identify an enduring moat, which is very few, then life can be really good. But I think the P/E of ones is your protection against the illusional moats if you will.

Student 7: In your book, we talk about the Kelly formula. I understand Kelly's formula required expected value and odds. How do you approach with your estimated odds?

Mohnish: I didn't get it. I didn't get that fully. Maybe Arvind, can you repeat that?

Arvind: In your book, you talk about the Kelly formula and those mandates having a view on the odds of the outcome. How do you get to the odds?

Mohnish: Yeah. The Kelly formula discussion in my book was a mistake. If I had to rewrite it or come out with another edition, I would just skip that entirely. I would not mention Kelly. The reason I wouldn't mention Kelly is that the mistake I made was that Kelly only works if you get to make the same bet a thousand times. We don't get to make the same bet a thousand times at the stock market. If you had heads, 51% odd, and tails were 49%. You get to bet a thousand times and you bet heads every time, the payoff is two to one. You want to make that bet as heads every time and over time you do well. But if you only get that chance twice, and it's 51 to 49, it doesn't make that much sense. The outcomes could be all over the place. I think Kelly is not useful for what we try to do.

Student 8: Yeah. Thank you, Mohnish. Apologies for asking a question in a different direction. But we all agree that we should invest in something that we understand. You went one step ahead once and quoted that you don't understand 99% of the businesses. Combining that with the P/E of ones, looking into that action specifically, I find these things are really interesting in how you look at them. Is that one of the reasons why you look globally, trying to find misplaced opportunities in more specific businesses? And do you find some challenges in that approach? And how are you going about learning about all and doing well in this?

Mohnish: I think I got most of that, Arvind. Can you just repeat, just for clarity?

Arvind: Yeah, I can struggle to a certain extent. I think part of it is how do you increase your circle of competence while looking globally while looking for P/E of ones?

Mohnish: First of all, the circle of competence was not in the commandments. The first filter has to be a circle of competence. If something is not in your circle of competence, it should immediately withdraw from consideration regardless of the price. We have to stick to our circle of competence. I think once we find that something is within our circle of competence, then we can look at the P/E of one's and all of that and take it from there. Sometimes the P/E of one makes it easy to get something into the circle of competence. I mean, if I go back to the IPSCO example, the next two years' earnings will, plus the cash will equal the market cap. Basically what I needed to do was to handicap the odds of that actually being true, just that statement. I didn't really need to understand the business much beyond that because there was no debt. And if this was true, then any fool could see that I still have the plants, I still have the management, I still have all the other pieces and the odds are high. It probably will make some money in the future. In that case, I didn't need to really get into the weeds of figuring out exactly how strong or weak their moat was and whatever else. I needed to spend a lot of energy on the resilience of the two-year cash flows more than anything else.

I think if you get to these very low-priced stocks, it can make your life a lot easier. I mean, I looked at some companies in Turkey where I can look at like a sliver of their assets and the sliver of the assets exceeds the market cap and there's a lot more assets. The thing is, I didn't really need to have a view on everything that they own. I just needed to have a view that they own enough that there is a lot of downside protection. The first filter is a circle of competence, and then after that you get into all these low-price P/E of ones. I agree with you that when you start applying all these filters, there's not much left. And Munger's response to that is, why should it be easy to get rich?

Student 9: Speaking of shameless cloning, I guess, are there any kind of companies that you're particularly excited about right now? I guess, would you be willing to share any? And walk us through kind of how you think about that.

Mohnish: Did I hear a call for stock tips? Is that right, Arvind?

Arvind: I think so.

Mohnish: Well, we are going to duck that question. I would just say this, you can look at my holdings on Dataroma. The only one that shows up now is Fiat Chrysler because it's the only US listed company that we own. But that should be enough to get you to be quite rich.

Student 10: You previously described you perform on structure as a competitive moat. Are you finding that as the rise in index investing has driven other asset managers' fees downwards? Do you feel like that moat is being reversed somewhat?

Mohnish: Yeah, no. That moat is as close to a permanent moat as you can get. The thing is that what I have done, is clearly the 0625-fee structure is a fee structure that is very favorable for investors. It's favorable to investors for a couple of reasons.

One is that it takes away any incentives for me to be just an asset-gathering machine because I don't get paid more if I have more assets. I get paid if I perform. The second thing is that I just went through a tenure-year period. I told you that in 2009, I was at the bottom of a very deep well, and we were down 70%. Then every year, the bar was moving by 6%, and we finally crossed the high-water mark, including the 6% in 2017. I went from 2007 to 2017, living in fresh air and water. I survived on fresh air and water. It is a very healthy feeling. Happy days are here again. But the thing is that some of my investors when they came to me, they came to me because they were enlightened about this fee structure is important. But what I do once they've become investors is I start brainwashing them. And over the years they become completely brainwashed. After a few years of my brainwashing, they are not interested in putting money with managers who don't have this fee structure. They'll come to me and say, Mohnish, I'm very happy having you as a manager. I have some more money I want to put this with another manager. But they need to have this fee structure. Can you recommend someone? And I tell, [inaudible 2:01:12], I'm so sorry, but there's no one else. But keep looking. Maybe I don't know, and you can find them.

What ends up happening is that there are a lot of them, even if they put money with other managers, they are not happy about the fee structure, and they're reluctant to put the money. I think that from a Pabrai Investment Fund's perspective, that motive is as relevant today as it is ever because for a sliver of humans, and I think an increasing sliver of humans, that fee structure is very important. What I find very instructive is that I can't tell you how many people, young, smart investment analysts who become managers set up their own funds. I always tell them all, to listen, and go with a zero fee. Okay, don't mess with that. Almost a hundred percent of them violated commandment number one.

I met a manager recently and he's got like 6 or 7 million under management, he just started. I said, I told you to go zero fees and you didn't go zero fees. He says, yeah, but Mohnish, I need the money. I said, the money is 70,000 pretax and you have some savings. Otherwise, if you haven't done well in the investment business, you shouldn't be in the investment business managing other people's money when you haven't done well for yourself. He says, yeah, I have a few years of runway if I don't get fees, but I want to increase the buffer. I said, well, that's not good. You take the fee away and you focus on your 6 million, 7 million. You should be banging out 50% a year or 40% a year. There's a huge universe of opportunities you have that I don't have. I said, 40% a year, you don't even need other people's money. Just with your own money, you'll get rich. But all of these sermons fall on deaf ears. Hence, I have decided to put them in commandment form and I'm hoping there is a behavior change. My history tells me there won't be a behavior change.

Arvind: Any question? Perfect. Go ahead

Student 11: When you're sourcing investments, do you look at final goods and then go up the value chain? Define, invest, and define companies that might have like all power within that certain sector of the value chain.

Mohnish: It's always very good. Capitalism is brutal. You really want protected moats. I have what you would call a Barbell portfolio. About 55% of the portfolio, which is all time high is these P/E of ones. Then there's about 10% cash. Then about another 45% is what I call these enduring moats. In some cases, I paid up a lot more than P/E of one because the moat was so strong. But it has to be a really strong moat to pay up.

For example, India has pre-credit rating agencies. The next business that probably is extremely resilient, is the funeral business. But it's very hard to develop the mode with credit rating agencies. But if you look at the US with Moody's and S&P, the financial crisis is a very instructive thing to look at. These guys, one can argue caused the financial crisis without their AAA ratings, you wouldn't have had nearly as much damage as we had. They precipitated and compounded the bubble and the damage, and they were called to task. There were hearings. There were all kinds of demands for heads to roll. Both Moody's and S&P paid very modest fines. Nobody went to prison and life goes on. Even after nearly bringing Western civilization to its knees, they continue to endure and thrive, what a beautiful business. The other thing about the business is it has no capex. In the funeral business, you actually got to buy land and hold it and all this stuff here. You hire an MBA, give him a desk and a computer, and maybe your all-in cost is 200,000 or something. That person may generate fees, maybe several million dollars a year. Like in India, these rating agencies, they collect about 10 basis points typically. Sometimes they collect less on the instruments they rate, and then they collect surveillance fees. The revenue and costs have no correlation with each other, the 60% plus margin business. There's no history of these enduring guys going out of business even after they screw up really badly. I mean, the one thing they paid for is to give accurate ratings. One of the three rating agencies in India, we now own 10%, which is the maximum I can own, I paid more than a P/E of one, but they've got good growth engines and we just keep it for a long time.

Student 12: Kind of on that, I'm curious, what does your normal decision calculus look like when you decide whether to sell an investment that you've held other than opportunity cost for switching into new investments? Like for the one you just described, then what price would it have to go to for you to say, I'm out of this even if I don't have an alternative to put the money in?

Mohnish: Yeah, I mean, let me give you an example of why buy and hold is not such a good idea. From 1988 to 2000, the Berkshire investment in Coca-Cola, which both Arvind and I enjoy, cheers Arvind. and basically, they put about a billion dollars into Coke. I'm going to exclude dividends to keep it simple, but the billion in 12 years went to 12 billion approximately. Berkshire got about 12 times

the return from 1988 to 2000 on the Coke investment, kind of mid-20s per year return. Very nice.

Then from 2000 to 2018, it went up from a billion, I mean from 12 billion to about 18 billion. In 18 years, it went up 50%, about 2.3% a year. They made about 25% a year in the first 12 years. They made less than about, including dividend, they made three and a half percent a year, clearly. There are almost no moats. In fact, I would say there probably is no moat that is more resilient than the Coke moat. It is kind of like the ultimate moat. Here you have two guys who are smart, the smartest guys in investing, and they identified a great asset. They identified it at a great price, they had a great run, but it hasn't been a great run for 18 years. Warren at one point said, I think in the early 2000s, it was probably a mistake not to sell Coke. Of course, today it doesn't make much sense for them because they have so much cash. They just end up going to cash and at least they're getting a few percentage points. There is a new CEO, and it might change. He looks pretty good after a few decades of idiots running the company. We're back to having an intelligent life.

Basically, if you look at a business, like let's say, we look at MasterCard. MasterCard has had an incredible run since it went public, I don't know the numbers, but I think it might be more than 50 times in the last 10 years or so that it's been public. It's been a huge home run. A lot of smart investors own MasterCard. If you go on Dataroma, you'll find who are the investors, from probably Todd Combs at Berkshire.

I can pull it up if you give me a minute. Let me just pull up the August list of MasterCard investors. Give me a second, Arvind, because it's quite an interesting list.

Arvind: Sure.

Mohnish: People who own it in descending order of percentage of the portfolio. Chuck Akre, Tom Russo, and Sequoia owns it. It's about 7.6%. My good friend Guy Spier, Bill Nygren, Wally Weitz, Tweedy Browne, Tom Gainer has a very small part of the portfolio though, and of course Warren Buffett, which I think is one of the two managers and such. And so on. It's an August list of people, like Tom Russo, like 12.5% of the portfolio. For Chuck Akre, I think it's 13%. If you ask me what's going to happen to MasterCard from let's say 2018 to 2030, I wouldn't be surprised if the numbers are something like Coke. It would be if you run the math, I mean, it's at 50 times trailing earnings if you run the math using the market cap versus the current earnings, which is 2% of the market cap. Then you start discounting that and look at what kind of return you want. If I want a 25% return or something, you just can't get there. The thing is, it's not about buying great assets and holding them forever, in my opinion. Probably the best thing to do is some middle ground where if it's a tremendous asset like MasterCard, probably not a bad idea to let it run past 40- or 45-times earnings.

But I would say at present prices, I would be a seller. I would take my money and move on.

Student 13: Quick question. You're an active learner, an active reader. I'm just wondering how many hours, maybe a week or a day, you spent reading and researching? Also, what are some of your personal traits that you believe had contributed most to your success?

Mohnish: Okay, Yeah, that's a good question. Well, I don't really have a set schedule. What I try to do is try to run an empty calendar. The only thing I put on my calendar once a year is the Arvind talk, and then I just keep the rest of the calendar empty. But, I mean, like this week, for example, Arvind is the only guy on my schedule. I had Turkey earlier this week, but I can't think of anything on my schedule next week, or the week after, or the week after. I don't enjoy meetings very much. I do enjoy the company visits a lot. You have great professors, better than any professor at any business school other than Arvind. You got tremendous faculty, and you are paying nothing. These guys are teaching you all kinds of things, which is great.

I love the cement lessons I got from the CFO in Turkey. It was a blast. I think the first thing I learned from Buffett and Munger is that you run an empty calendar as much as possible. Don't clutter the schedule. And beyond that, I'm a gentleman of leisure. It depends on what shows up on the radar. I mean, if I am hot and heavy looking at some business or something, then I'll drop all the other reading and just go into that. If I don't have enough of that, I will go back to general reading and so on. It just goes back and forth.

I think that the traits that have helped me are to be very excited about life and be passionate about your day ahead or your week ahead.

I'll give you an example. Let's say, I rarely do this, but let's say I go have lunch with someone and all of us are different, but usually when I have these lunches, I come back most of the time, I'm not that excited about the way the time was spent. Sometimes I am. Most of the time, I am not. What I did over the years as I made those types of events very rare. You kind of try on different gloves and you just see what fits. Then, based on what fits, you increase what you enjoy in your life and decrease what you don't enjoy. Part of this you can get to with a psych test, Miles Briggs, and maybe with some industrial psychologists and such to really understand who you are and the closer you are to acting out your inner traits. Two things are going to happen. One is you're going to accomplish more and the second is you're going to be more satisfied. I think it's very important. Arvind, are they mostly part-time or full-time?

Arvind: Mostly full-time.

Mohnish: I think in most of your cases, unfortunately, at this point in your lives, you don't have much choice about your schedule. You've got a busy schedule, a lot of classes, and a lot of things you're learning, but hopefully, it's fun. I think it should

be quite a bit of fun because you have some choice in what classes you're taking. But once you get out into taking jobs or in the real world and so on, I think t you want to be really careful about making sure that on a daily basis you are very excited about life. If you go to work for people, don't take the highest offer, take the person or group or company that you're most passionate or excited about. Also, Buffett says that I'll do x and then I'll do y and then I'll do z and after working for someone, I'll do something else. He says that's like saving sex for old age. I think you want to get to what your goals are relatively quickly in a straight path rather than a circle. Those are the important things. I constantly look at how I spend my day and I'm trying to always tweak it in a way that makes me energized and excited. I would say that one of the things that are happening that I noticed now is hard for me to find enough companies in India to meet when I'm going to India now. I have met so many of them now that the travel is getting more intense to the smaller cities and so on. Probably won't be as much fun. I mean, it was a lot of fun when I was meeting seven or eight companies a day in one city that will probably drop to two a day or something, with more flights and such. That is not much fun. But better than zero. Just try to get to a lifestyle where the glove fits well and tweak it too constantly. Ask yourself, are you energized and excited? I think if you're passionate and excited about what you're doing, by definition, you do it very well,

Arvind: Mohnish, I think that's a great place to stop. So, thank you so much. This has been fantastic. And that's just a great note to end on, to focus on what energizes you. That's fantastic.

Mohnish: All right. Well, Arvind, it was another great session. I very much enjoyed it. Thank you and wish you all the best. Thank you.

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