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client letter

FARNAM STREET
Investments

Liquor Store Math

"Investment is most intelligent when it is most businesslike."

- Benjamin Graham

We taught at UC Davis's MBA program for a number of years. We liked to pose a deceptively simple question to our rather clever students.

"How much would you pay for the liquor store down the street?"

Seems easy enough, right? The conversation would typically go something like this:

Clever Students: "We can add up the price of all of the bottles on the shelves. If we can buy it for that cheap, then we know we'll be able to at least get our money back by selling off the booze."

Jake & Lonnie: *That's a great start for a minimum value! But what about the ongoing business? If it's profitable, isn't that worth something? The store made $20,000 in pre-tax earnings last year. What's that worth? What about the mindshare the store has? It's been there for years. When people in the area need a bottle, this place pops into their mind.*

"Hmm, good point. I guess if there's money still coming in the door, that's worth something. And if the store has a brand and people know it, that's valuable. Let's say adding those two things together, we'd be willing to pay 10x the yearly profit. That'd be a $200k purchase price."

That's a reasonable metric. Public companies have historically sold for about 10x pre-tax earnings. So we're in the ballpark. Let's say the store owner agrees to your $200k price tag. You shake hands on the deal. What did you just buy for your money?

"The whole store. The bottles and shelves. The relationship with employees, customers, and vendors. The mindshare and brand. The lease. We own the whole thing."

That's true, but you're missing a few things on that list. But before we get to those, what does owning the whole thing actually mean?

"It means we own the equity of the business. We get to keep all of the money that comes out. From now until it closes or its sold. Our equity gives us a claim to ownership. We get what's left over after paying all of the bills. We're at the end of the line, but anything left is all ours."

FARNAM STREET INVESTMENTS
1847 Iron Point Rd, Suite 180 Folsom, CA 95630
916.542.2008
www.farnam-street.com

Very good! Equity is a claim on the future cash flow out of the business. You're at the end of the line, so there's more potential risk, but also more potential reward. We have good news and bad news for you. Which do you want first?

"The good news."

The good news is, you forgot about the cash register. It comes with the business too. So you're now richer by the amount of money that was in the till. There was $20,000 in the register! (Yes, it was all legally obtained.) You could take it out right now and put it in your pocket. So you actually paid less than you thought. More like $180k. Now for the bad news.

"Oh, no. What is it?"

You didn't ask if the liquor store has any outstanding debt. They do. The amount is $220k. It's true that you get what's left over after paying all of the bills. But one of the bills is paying back what the store borrowed. You're on the hook for that $220k before you can get paid. Whoops.

"So our real purchase price is the $200k to buy equity ownership, plus the $220k in debt owed, minus the $20k in the register that's ours. Is that the right math?"

That's correct.

"We actually paid $400k for this liquor store. That's 20x the $20,000 annual profit. We got ripped off!"

Caveat emptor. You have to do <u>all</u> of your homework before you buy.

There's a moral to this story. A rational business person has to look at the whole equation to figure out what the real price is. Then they have to figure out what they're actually getting for their money.

This helpful idea of the true price goes by the finance term "Enterprise Value." It's what an acquirer would have to pay to take over the entire business. It's the most logical way to evaluate a business transaction. Only looking at what the equity portion costs is a mistake, as we hope our liquor store example illustrates.

The simple exercise basically sums up what Farnam Street is doing every day as we search the world for good deals. How much are we paying vs. what are we getting in return? When it seems like a blindingly good deal, we pull the trigger. Otherwise, we don't do anything. It's a logical, business-like approach to investing. Nothing else makes sense to us.

A Real World Example: Verizon

"Shares are not mere pieces of paper. They represent part-ownership of a business. So, when contemplating an investment, think like a prospective owner."
- Warren Buffett

Every company has an enterprise value, not just the liquor store down the street. Let's look at a company everyone has likely heard of, Verizon Communications Inc. (VZ).

What would it cost if we wanted to buy Verizon, just like we bought the liquor store down the street?

We had to pay $200k for the 100% ownership stake of the liquor store. With a publicly traded company like Verizon, that ownership stake is broken up into equal pieces, called "shares." Think of it like slices of a pizza. The individual shares are then bought and sold every day in an open market.

The price of shares moves around depending on the mood of the buyers and sellers. Some days they love the company's prospects. Others they're not as enthused. That's literally all that the stock market is; the daily pricing of those shares. It's easy to forget with all the chaos and noise. There's less happening on Wall Street than you imagine.

The ownership for Verizon is split up into 4.1b equal slices of pie. To get one of those slices at the time of this writing costs about $46. If they were all available for that price, we could get 100% ownership for $188b ($46/share * 4.1b shares = $188b). That's the theoretical price of the equity ownership of all of Verizon.

It's possible there are a lot of owners who love Verizon and would only be willing to sell at a price much higher than $46. That's why the $188b is a hypothetical price for full ownership. We don't know the exact value it'd take to buy every single share out there. That's OK that we don't know; we just need to be approximately right. This is also a good reminder that the quoted share price is just one day's worth of opinions.

That's what we'd have to pay. What would we get? Verizon had about $25b in pre-tax earnings over the last year. $188b / $25b = 7.5x valuation. Sounds reasonable. We were OK with paying 10x for the liquor store.

But don't forget, we get the money in the cash register and then have to pay off debt to get the true price.

Based on their last filings, Verizon has $5b of cash in the register. That's good news.

Now the bad. They have also borrowed $117b. That's money we'd have to pay back to truly own the company.

Net those two together (-$117b in debt + $5b in cash), we get a bill of $112b that must be added on to our purchase price.

Factoring that in, the enterprise value is more like $300b ($188b + $117b - $5b). That's the true purchase price and what it would cost to buy the entire Verizon liquor store. With $25b in pre-tax earnings, we'd be paying about 12x pre-tax earnings. A steep price historically. Quite a bit different than the first-blush $188b quoted price that appeared to be at 7.5x pre-tax earnings.

As our liquor store and Verizon examples illustrate, debt can really impact the true purchase price.

The $3 Trillion Dollar Shuffle

There's something interesting that's been happening on the bigger macro level. Since 2009, public companies have in aggregate taken $3 *trillion* out of the cash register and bought out some of the partners of their businesses. They've shrunk the number of shares through buying in the open market.

At the same time, these companies have borrowed a similar amount of money, issuing $3 trillion in debt. Coincidence?

They've effectively traded equity out for debt. Some may argue that's a good reason for the recent run up in stock prices. After all, there are less shares now available, so they should be worth more, right?

But is that logic? Has the value of ownership really gone up if they also borrowed money? Is there more money available to us as owners at the end of the day?

We don't think so.

Let's make it more concrete. Does putting a big purchase on a credit card make you more wealthy?

Corporate America has really just bought out a partner who was standing in line with us as a fellow equity holder. They've replaced that partner with a lender who's now in front of us in line as a debt holder. How does that make us any richer as owners? Will there be more left over for us at the end of the day?

Everyone dances to the music when interest rates are low, money is freely available, and the companies can meet their debt obligations. But what happens when the music stops and the companies get hard up? This isn't a hypothetical. It happened as recently as 2008.

Everything now works in reverse. The company may have to raise new money to meet their debt obligations. Where does that new money come from?

They can borrow more. But good luck doing that in a downturn when everyone is fearful and money is tight.

More likely, they'll have to bring in outside investors who inject money into the business for part ownership. As an owner, you just got squeezed and now own less of the company. This outside bailout rarely happens on favorable terms for existing shareholders.

There's another even worse scenario. The company declares bankruptcy. The equity holders get wiped out completely to zero and the debt holders get the company. Like the bank foreclosing on a house and evicting the residents. Every dollar of debt added to the corporate balance sheet slightly increases the odds that one of your investments could become a zero.

There were 300 bankruptcies in the retail space alone in the first 6 months of 2017, with some bigger names like Toys'R'Us, Payless, and RadioShack unable to meet their debt obligations.

Using a business person's logic of enterprise value, the market for share of public ownership has never been more expensive. It shouldn't be a big surprise that we continue to report that we can't find many deals when you factor in the increased debt that's been added.

In fact, as the chart below shows, the market recently broke a record set during the dot com bubble. Today is the most expensive US market ever when measured by enterprise value-to-gross value added (a close proxy for our liquor store example).

[Hat tip to Jesse Felder for the above chart.]

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We realize we sound like a broken record, but we repeat: this won't end well. We don't know how long it will last or how crazy it can get. It's hard to invest at these prices and feel like we'll get much in return. As Warren Buffett has said, "We try to *price*, rather than *time*, purchases."

We believe today's market prices are being dominated by short term traders feeding into the upward momentum. Eventually Wily E. Coyote never fails to look down and see there's no ground below him.

This time will not be different.

Who's on the Other Side of the Trade?

"Being a true long-term investor is one of the biggest edges you can have when investing."

- Jim O'Shaughnessy

In the stock market, the people doing the buying and selling are often long term investors like us. Others are traders looking to make a quick buck. Sometimes it's a computer algorithm on the other end executing whatever their programming says. Or it's an index fund that has to own a certain percentage of that company's shares by mandate. You really don't know who is on the other end of a trade.

The mindsets of these buyers and sellers are a wide spectrum. Some buy because they think it's underpriced and they like the company and want to hold it for a long time. Some buy it at any price because they have to by mandate or programming. Some hold it for just milliseconds and look to sell it for a fraction of a penny higher to someone else. Each have different goals and time horizons. This naturally leads to a lot of noise.

Tuning out that noise is one of the keys to being a successful long-term investor.

Due to all of this turbulence, you should look at the share price of any stock you own with several grains of salt. You don't know the moods, timelines, or motivations of the people who just bought and sold. They are determining the quoted price that you're using as a measuring stick in the short run. You don't even know if they're biological or synthetic. If you aren't selling today, who cares what they think the price is right now. Take advantage when they are being foolish. Otherwise ignore them.

The stock market exists to serve you, not to guide you.

To base how you feel about your entire net worth on a single data point in time is illogical and a recipe for heartburn. With smartphones, people are checking their stock prices on an hourly, even minute-by-minute basis. We'd suggest

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monthly as a more appropriate update schedule. Maybe even less if you're a truly a long-term investor. Granted, the price does matter in the long run when you eventually need to sell. But the path it takes to get there can be winding and vomit-inducing. Don't make it harder on yourself than it has to be by checking prices every two minutes and watching financial TV. You won't enjoy the ride.

If you're a long term investor, don't take your cues from short term traders. You're playing completely different games. Their scoreboard is final daily. Yours is updated at most yearly, even better if it's closer to every 5-7 years. Checking their scoreboard multiple times per day doesn't make sense if you have a longer timeline.

A recent study by Merrill Lynch showed that valuation levels determine 80 percent of the future investment performance. That means you have the best odds when you buy when businesses are on sale. Low prices lead to high returns. High prices lead to lower returns.

Seems easy, but here's the catch.

The study also found that the strategy of buying inexpensive stocks can take up to a full decade to pay off in portfolio returns. That's why being patient is such an under-exploited advantage. It's anything but easy. If it were, we'd all be Warren Buffett. Therein lies the opportunity.

"Patience is not about waiting, but how we act when things take longer than we expect."

- Paulo Coelho

We're looking forward to seeing everyone on October 7th for the FSI Annual Bash!

As always, we're thankful to have such great partners in this wealth creation journey.

Jake & Lonnie

It should not be assumed that recommendations made in the future will be profitable or will equal the performance of the securities discussed. Fund results may differ significantly from separately managed accounts. Individual SMA results may differ due to timing of, account size, and portfolio strategies.