Private Equity - The Crown Jewel of Alternatives

On January 17, 2018 Meb Faber interviewed Dan Rasmussen: http://mebfaber.com/2018/01/17/episode-90-dan-rasmussen-crown-jewel-alternative-universe-private-equity/ The following portion has been edited for clarity:

"So I went to Harvard (where he won their top undergrad honor). I graduated in 2009. I studied the history and literature of the American South. And if you or your listeners are looking for a sleep aid, I highly recommend my book, "American Uprising," which came out in 2011 and was briefly on the New York Times bestseller list, as you referenced. But my dad is a lawyer. And when I was thinking about what I wanted to do for a career, he strongly counseled against writing or law under the theory that he was at the top of his class in law school, and all the people that could barely pass their classes went into business, and they all retired 10 years before him and made 5 times as much money. ... So I interned for Bridgewater Associates, Ray Dalio's fund, which was a wonderful, fascinating experience. And then after college, I worked for Bain Capital Private Equity for four years, and then went to Stanford Business School, worked with Charles Lee, who's a great finance academic at Stanford, and launched this fund, Verdad, and refocused on leveraged small-value equities, which we think is a superior alternative to investing in private equity. (Last year he was named to the Forbes 30 Under 30 list.)

... when I'm talking about private equity, I'm talking about the leveraged buyout industry, the Bain Capital, Carlyle, Apollo, Blackstone, the RJR Nabisco, "Barbarians at the Gates," that world. ... I think the history of finance resonates with one great lesson, which is that when everybody agrees on something and when they're borrowing money to bet on it, beware. And I think what you're seeing now is this massive herding of really smart investors, David Swensen (Yale Model) among them, he's one of the leading promoters of this, shifting a lot of assets into "alternatives." The most important of which, the crown jewel of the alternative universe, is private equity. And every endowment, every foundation, every large institution is saying, "Well, I've got to have a 20% asset allocation to private equity," and they've been flooding the private equity market with capital.

... in a recent survey of these institutions, they asked, "Do you think private equity will outperform the public equity markets by 4% or more, 2% to 4%, less than 2%?" They didn't bother to ask whether it would underperform, because that's such an outlandish idea. And fascinating, 49% of institutional investors believe that private equity will outperform the public equity market by 4% per year or more. Another 45% believe it'll outperform by 2% to 4% per year. So, 90% of institutional investors plus believe that private equity is basically God's gift to investing.

…big returns are great, but what everyone wants is great returns, low risk. And if you look at historical private equity data, private equity looks to have about two-thirds of the S&P 500's volatility. In the downturn in '08, public equity in the S&P 500 was down 50%, junk bonds down 50%, private equity was down about 30%. If you look in 2012 to 2015 oil prices fell about 50%, public equity energy stocks dropped 50%, 60%, junk bonds exposed to energy dropped 50% or 60%, and ... oil and gas private equity was marked at 1. They didn't lose any money. And so you say, "Gee, this is amazing." They're getting these great returns. They have very limited drawdowns, very limited volatility. How could this be? Every time they plug them into their little Excel models, private equity just looks like the holy grail of investing. ... private equity is highly levered micro-caps, okay? Median market cap of $200 million, median leverage levels of 65%, these are small, really levered companies. And most private equity funds are non-diversified. They've maybe 15, 20 holdings at a maximum.

So tiny portfolios of highly levered micro-caps are being bought by institutions through the private equity structure. And because private equity firms make up their own valuations quarter to quarter, they say, "What's this company worth?" "About one times about what we paid for it." "What's it worth this quarter?" "Maybe a

little more than we paid for it." If something really bad happens, like the price of oil drops 50%, and they're an energy company, and their business is collapsing, they might say, "Maybe it's marked to 0.8, maybe 0.9." … And nobody is incented to challenge that, because the guy who's sitting at the institution says, "Well, it's great that it's not marked down. I don't have to explain to my boss or my investment committee why I made that stupid decision, because actually it doesn't look stupid." And they might call and say, "Oh, how is it that oil prices are down 50% and your portfolio is marked at one", and they'll say, "We're looking through the cycle. We're basing it on longer-term multiples." And, of course, Meb, if you and I could do that on our public equity portfolios, we'd be thrilled. But, unfortunately, my mother doesn't have time to mark my portfolios every quarter, so I'm stuck with using the public equity markets.

... going back to my time at Bain Capital, we did a big study where we looked at every private equity deal done by our top 25 competitors, and we basically ... did the Fama and French of private equity, right? We had all the underlying financials for every deal. And we said, "Okay, what are the quantitative predictors of success? What can we learn from studying 25 years of private equity history?"

... because private equity from 1980 to 2010 beat the public equity markets by 6% net of fees per year. And at 2 and 20 fees, that's a 12% per year out performance for the average manager, right? So this is totally different from public equity where the vast majority of active managers lose to the market, right? Somehow, the average Joe that hangs out a shingle is beating the market by 12% a year. So this is just shocking, right?

... So private equity historically, it's different from the public equity market in three ways. ... first of all, these are micro-caps. Average market cap of a private equity deal is $200 million versus $33 billion for the S&P 500 or over $2 billion for the Russell 2000. The second is leverage levels. So the average private equity deals levered about 60% to 65% on a net debt to enterprise value basis versus, the Russell 2000 or the S&P 500, they're generally levered about 15%, if at all. So 4x more debt, right? It's the leveraged buyout industry. ...

And then the third and final thing is…and what's really interesting is that in the '80s, when Mitt Romney and a few others really started this, they were buying businesses for about four to six times EBIT, three to five times EBITDA. And they were able to do that really until the mid-'90s when other people started to get into the game and multiples started to get pushed up. I found this wonderful old letter from Mitt Romney saying that…it was in '92 or '93, "We're seeing prices above six times EBIT, and that's really worrying us." And that was at a time when the public equity market was probably trading at twice that. So the first private equity guys, ... really even the first 20 years of the asset class, they were buying businesses for half to a third of what was the equivalent public equity comparable company although, obviously, the public companies were much bigger. ...

And they were buying it, they were levering it up 65% or so, they were using the cash flow to pay down debt, and then they were selling, often IPOing into the public equity markets or selling to public companies that could make creative acquisitions at much higher multiples. And so it's perhaps not at all surprising that over that period, tremendous returns were generated for investors. And you've gotta credit David Swensen, and Jim Bailey at Cambridge Associates, and others for having the vision to say, "Gee we should go into this asset class," in the '70s, and '80s, and early '90s. I mean, it was brilliant. But what happened is that, really starting in '06 and '07, institutional investors woke up ... to what the smart few had been doing and started to pour money into private equity. And that accelerated after the financial crisis .... Everyone's looking to beat the market. No one wants to deal with mark-to-market volatility right after '08, and so private equity looks like the holy grail of investing. And so they start putting about $200 billion to $300 billion per year of new private equity commitments, which is probably close to triple the pre-crisis average.

And, as that happens, there's only a limited supply of private companies that go up for sale every year. ... Right now you go into the private equity market, and you've got, like, a lawn care business in Des Moines with $15 million of EBITDA, right? You're gonna get probably ... 400 private equity firms interested, maybe take 50 letters of intent, take 12 to the second round, and then end up in a horse race between 2 final round bidders to sell the darn thing for 15 times EBITDA. Because one of those people is gonna be desperate enough to put their dry powder to work that they'll overpay.

You know, all these private equity guys have these amazing pedigrees, they went to the best business schools, the best undergrads, and they're just falling over themselves to create more optimistic Excel models to justify these big purchase prices. And so you just see this sort of speculative mania driven by fund flows, because all the asset allocators say, "Private equity works. So let's buy private equity." ...

... if you take a five times EBITDA private equity deal with three turns of debt, three times EBITDA of debt, … that deal would generate probably 25% free cash flow yield. Now, you double the purchase price, and you go up to 10 times EBITDA, and you put 6 times EBITDA of debt, that company is probably generating about a 3% or 4% free cash flow yield, because as you've increased the purchase price and increased the debt levels, you increase the interest payments. ... And so what we observed at Bain Capital when we looked at this is that roughly 50% of deals done at greater than 10 times EBITDA basically, at least from the '80s till 2010, had 0 net returns to investors net of fees.

Essentially all the expensive private equity deals just hadn't made any money for anybody in aggregate, and about 60% of the industry's profits had come from below 7 times EBITDA. And you look at where prices were and are, if they were at 3 to 5 times in the '80s or early '90s, 6 to 8 times in the late '90s or early 2000s, they've been above 10 times on average since 2014, 2015, right? So you're talking about a market where the average purchase is now at a place where, at least according to every piece of work I've done, no money can be made, or no money in aggregate is gonna be made. ... If you look at the public equity markets of companies that are leveraged six times EBITDA, I'll show you a basket of companies that are on a path to bankruptcy.

... I look at investing, and I'm very influenced by Daniel Kahneman (who shared the 2002 Nobel Prize in economics for his role in developing the field of behavioral economics), and Amos Tversky, and Philip Tetlock, and others who say, ... "Okay, what are the statistically significant factors that describe this investment?" ... And that's my view of how to make good investment decisions.

And if you look at the investment world that way, you'd say doing deals at above 10 times EBITDA is nuts, because it's never worked. It just doesn't make any sense. However, the private equity world is very qualitative. A typical investment at Bain Capital would be six months of work, a team of six, four of whom had MBAs from Harvard. We'd probably have a $1 million diligence budget. We'd get a McKinsey team in there. You know, we'd do surveys. We'd unpack everything about the company. And I think that people that come from that world or from that approach don't think about forecasting or investment decisions. They think that analyze it on a case-by-case basis, understand the company, its competitors, its trajectory, its future, its products, and then develop an operating plan to drive value improvements.

And when you're thinking that way, the purchase price is an afterthought to some extent, right? I mean, obviously, it's important to the Excel model, and it's gonna determine whether it makes sense or not, but it doesn't take on the sort of looming significance it does to those of us who are informed by the more Kahneman, Tversky, Tetlock-type world, where we're saying, "Quantitative factors are more predictive of the future than, expert judgment."

... I think that public equity has a lot of advantages, right? Taxes being one of them, liquidity being another huge one. ... a lot of the stuff that private equity guys think is the source of their returns, like operational improvements, or their long-term view, or their deep due diligence in their potential investments, is in reality sort of the bells and whistles on an engine which historically was leveraged small value."

Subsequent to the above interview Rasmussen published the following article in American Affairs:

Private Equity: Overvalued and Overrated?

by Daniel Rasmussen

America is in the grips of a speculative frenzy. Investment bankers, private investment firms, and even a few dozen recently graduated MBAs labeling themselves "searchers" are calling, emailing, wining, and dining small business owners. Their goal is to translate prosaic small businesses into the poetry of private equity.

The great postcrisis private equity gold rush is on, fueled by cheap debt and enthusiastic investors. A lawn care chain might get half a dozen calls and emails a week from business brokers and "searchers." A regional bank auctioning off a business with $15 million in profits might pitch two hundred prospects, receive fifty letters of intent, and take twelve separate private equity firms to management meetings, ending in a sale price which the majority of bidders considers crazy. And the greatest prize of all—a software company—could sell for many multiples of revenue, regardless of profitability.

As with the mortgage-backed securities bubble, experts are the promoters and pioneers of an "asset class" that they claim will offer high returns with low risk, guided by the sage wisdom of elite managers. The legendary leader of Yale University's endowment, David Swensen, has gone so far as to call private equity a "superior form of capitalism."

The experts agree with Swensen. A recent survey of institutional investors found that 49 percent expect private equity (PE) to outperform the public equity market by a whopping 4 percent per year or more. Another 45 percent believe PE will outperform by 2–4 percent per year. Only 6 percent think returns will be comparable. The survey did not even bother to ask if investors thought PE might underperform. This is particularly shocking given that data from Cambridge Associates shows that private equity returns have lagged the Russell 2000 index by 1 percent and the S&P 500 by 1.5 percent per year over the past five years.

This consensus has led institutional investors to flood private markets with capital, about $200 billion per year of new commitments. The result is soaring prices for private companies of all shapes and sizes. Just before the financial crisis, in 2007, the average purchase price for a PE deal was 8.9x EBITDA (earnings before interest, taxes, depreciation, and amortization—a commonly used measure of cash profitability). Deal prices reached 8.9x again in 2013 and are now up to nearly 11x EBITDA.

But asset prices are going up everywhere. What makes private equity dangerous is the use of debt—and the use of phony accounting to conceal the riskiness of these leveraged bets. The average PE deal is 65 percent debt financed, and whereas the valuations of public equities are determined by transparent, liquid public markets, PE firms determine the valuations of their own portfolio companies. Unsurprisingly, they report far lower volatility than public markets.

This appraisal accounting also encourages lenders to take risks. After the financial crisis, the Federal Reserve warned banks that most companies could not bear debt above 6x EBITDA. Lenders now tend to stop at 6x EBITDA in keeping with that rule, but they allow PE firms to play with the definition of EBITDA. Whereas regulators require public companies to use GAAP financials, lenders allow PE firms to remove various "one-time" costs to get to "pro forma" EBITDA or to take a particularly positive recent quarter and extrapolate from that short time period to an optimistic "run-rate" calculation. Such optimistic metrics are at their most extreme in software, where lenders will finance companies based on neologisms like "annual recurring revenue" and "cash EBITDA," which, having no fixed definition, allow debt levels to be picked from the air.

In 2007, private equity debt levels reached 5.2x EBITDA. Today, they are at 5.8x EBITDA, and they have been above 5.2x every year since 2013. The 2007 vintage deals did not end well for investors. Today's higher-priced and more leveraged deals could end even worse.

These levels of leverage leave companies with no margin of safety. Most companies' cash flows are too volatile and unpredictable to sustain high debt levels for long. In addition, the recent tax reform caps interest deductibility at 30 percent of EBITDA, which for most firms translates to about 5x EBITDA of debt. This will be particularly problematic for highly leveraged firms, especially in any downturn when EBITDA declines. Those that are lucky enough to grow will be fine, but companies with large interest payments and looming debt maturities cannot invest for growth.

The history of financial markets echoes with a warning: beware markets where investors are not only bullish but also borrowers. Yet there is always a logic behind each bubble, a set of ideas that form the foundation of the consensus thinking.

And there are three premises that underlie the private equity boom. First, the experts believe that PE firms make money by improving the companies they buy. Second, the experts believe that PE is less volatile and less risky than public equity. Third, the experts believe that PE will significantly outperform every other investment. There is near complete consensus on these three points among academics, investors, and PE firms.

Private equity assets today exceed $2 trillion, and PE firms have $700 billion of dry powder capital just sitting there, waiting to be invested. The market is so flooded with investors and valuations are so high that even the truest believers have not found a way to invest it. There is a huge amount of money betting that this consensus is right, and the voices arguing that the consensus is wrong are marginal relative to the chorus of those who agree.

But what does the data show? Is there evidence supporting these three core hypotheses? Or could some of the world's best and brightest all be betting on the same hollow assumptions? Let's investigate each of these hypotheses in turn.

Do Private Equity Firms Improve Companies' Operations?

At the peak of the private equity boom in early 2007, Cerberus Capital Management announced that it was buying Chrysler from DaimlerChrysler for $7.4 billion. The New York Times described Cerberus as a "private equity firm that specializes in restructuring troubled companies." "As a private company, Chrysler will be better positioned to focus on its long-term plan for recovery, rather than just short-term results," Chrysler's chief executive, Thomas W. LaSorda, told the Times.

Conventional wisdom had it that the sharp businessmen at Cerberus could slash costs and return Chrysler to growth. After taking the company private, they could then take the difficult steps necessary to transform it.

A mere two years later, however, the company filed for Chapter 11 bankruptcy. The turnaround had failed. The financial crisis had sent the company into a tailspin, and Cerberus was derided for its very public failure.

Many critics of PE tell stories like this to demonstrate the rapaciousness of PE capitalism—the hubris before the fall, the stripping of assets, the inevitable bankruptcy. But what is more interesting is what it reveals about the narrative of operational improvement. The Chrysler deal is one obvious case study that points to the fact that private equity's operational savvy is not always as impressive as claimed in marketing materials.

PE firms relentlessly promote the idea that they can restructure companies and orient them toward long-term growth rather than short-term results. Blackstone, the PE giant, advertises on its website that it makes money "by investing in great businesses where our capital, strategic insight, global relationships, and operational support can drive transformation and realize the company's potential. The resulting improvements in growth and global competitiveness benefit not only investors, but also workers, communities, and all stakeholders."

And at some level, this makes sense. Why would Blackstone buy the entire company instead of just a minority stake? Presumably because they think they can run the business better than the current management team.

But do PE firms truly improve growth and competitiveness? What impact do these firms really have on the businesses in which they invest?

This might seem like an unanswerable question. After all, PE firms take their companies private, hiding their financials from the public. The industry would have us believe that the proof is in the pudding: their return outperformance proves they are better managers who drive superior growth and produce superior outcomes.

But there is, actually, a way to answer this question. As it turns out, many PE firms issue debt to finance acquisitions and, in those cases, the firms are required to provide investors with the company's financials. These financials can be used to compare a company's pre- and post-acquisition performance to determine exactly what the PE firms achieve.

My firm, Verdad, took that information and compiled a comprehensive database of 390 deals, accounting for over $700 billion in enterprise value (EV), a substantial set of data representing the majority of the largest deals ever done. We then analyzed it to understand what has actually been going on in the PE industry.

We wanted to put each of the industry's core claims to the test. Firms like Blackstone often claim that their portfolio companies will achieve accelerated growth and more efficient operations, because of a superior capital structure and PE managers' ability to make long-term investment decisions that public companies may not be able to make.

If these claims are true, we should see results in the financials of the portfolio companies, such as accelerated revenue growth, expanded profit margins, and increased capital expenditures. But the reality is that we see none of these things. What we do see is a sharp increase in debt.

In 54 percent of the transactions we examined, revenue growth slowed. In 45 percent, margins contracted. And in 55 percent, capex spending as a percentage of sales declined. Most private equity firms are cutting long-term investments, not increasing them, resulting in slower growth, not faster growth.

If PE firms are not growing businesses faster, investing more in growth, or gaining much operational efficiency, just what are they doing?

In 70 percent of cases, PE firms are leveraging up the businesses they buy. PE firms typically double the amount of debt on the balance sheet, from 2.5x EBITDA to 5x EBITDA—the biggest financial change apparent from our study.

The industry mythology of savvy and efficient managers streamlining operations and directing strategy to increase growth just isn't supported by data. Instead, there is a new paradigm for understanding the PE model—and it is very, very simple.

As an industry, PE firms take control of businesses to increase debt and redirect spending from capital expenditures and other forms of investment toward paying down that debt. As a result, or in tandem, the growth of the business slows. That is a simple, structural change, not a grand shift in strategy or a change that really requires any expertise in management.

That is not to say that debt is always bad, or that rerouting capital to debt paydown is necessarily a negative thing. There is an optimal capital structure for every company that maximizes the value of the interest tax shield while minimizing the risks of financial distress. Many companies have too little leverage. The effective use of leverage was key to private equity's historical success. In the 1980s and early 1990s, private equity firms helped rein in the impulses of would-be empire builders and bad capital allocators (Japan today could probably use a healthy dose of this, for example). Investors were right to demand earnings not be kept in the business but instead returned to investors through debt paydown and dividends.

But there is a big difference—bigger than most realize—between what private equity used to do (buy companies at 6–8x EBITDA with a reasonable 3–4x EBITDA of debt) and what private equity does today (buy companies at 10–11x EBITDA with a dangerous 6–7x unadjusted EBITDA of debt). Debt is a double-edged sword. It can provide great benefits if used judiciously, but if regularly applied in large dollops, it can create massive problems.

The PE industry has created an effective and pervasive marketing myth: that they are superior to individual companies' management, operating more efficiently and earning greater returns. But, as we have seen, this is largely fiction. The real reason PE firms want control of the companies they buy is not because of superior strategic insight but because they want to significantly increase debt levels. And while debt magnifies positive returns and enhances the returns of good decision-making, it can also cut the other way, exacerbating negative returns and punishing bad decisions.

My firm's study is not the only one to come to this conclusion. A 2013 study of 317 LBOs by researchers at the University of Texas found "little evidence of operating improvements subsequent to an LBO. . . . Our results suggest that effecting a sustained change in capital structure is a conscious objective of the LBO structure."

Bain & Company's 2017 global private equity report came to similar conclusions. They compared deal model forecasts for revenue and EBITDA with the results for PE deals in their proprietary database. More than two-thirds of the time, PE deals underperformed the EBITDA forecasts made at the time of purchase. This underperformance was masked, however, by almost two turns of multiple expansion at sale. "GPs [private equity fund managers] had the good fortune to make up the shortfall in margin expansion through unforeseen multiple expansion," Bain wrote.

The evidence suggests that operational improvements are more marketing than reality.

Does Private Equity Offer Lower Risk?

Risk and return are generally related, and financial products that offer high returns at a low risk are likely to deliver on neither promise.

Daniel Kahneman and Amos Tversky found that humans are twice as sensitive to losses as they are to gains. They call this cognitive bias "loss aversion." The public equity markets are very volatile—a difficult thing for the loss averse to stomach.

The volatility of public markets has consistently puzzled academics since the 1930s. John Burr Williams, who invented modern finance theory, wished for a day when experts would set security prices. He believed that expert valuations would result in "fairer, steadier prices for the investing public."

The PE industry would seem to have made Williams's dreams come true. Experts, rather than markets, determine the prices of PE-owned companies. Even better, those experts are the PE firms' employees!

Predictably, this results in dramatically lower volatility. The hurly burly of the public markets is replaced by the considered judgment of an accounting firm that just so happens to be employed by the PE fund. Investors have seen how those types of cozy relationships worked out in the past.

To understand the magnitude of this difference, consider what happened in 2014 and 2015 when energy prices crashed over 50 percent. The S&P 600 Energy Index dropped 52 percent during the period from December 31, 2012, to September 30, 2015. Yet at September 30, 2015, PE energy funds from the 2011 vintage were actually marked up on average to 1.1x multiple of money invested (MoM), while funds from the 2012 vintage were marked at 1.0x MoM and 2013 vintage funds were marked at 0.8x MoM. PE energy funds almost universally claimed to have dramatically outperformed the public equity market, not even recognizing half of the losses exhibited in public markets.

Institutional investors value these "smoothing effects," as they call them. In a recorded public presentation, the CIO of the Public Employee Retirement System of Idaho called this the "phony happiness" of private equity.

"We did know that our actuaries and accountants would accept the smoothing that the accounting would do. It may be phony happiness, but we just want to think we are happy," he said. "If [private equity] just gave public market returns, we'd be in favor of it because it has some smoothing effects on both reported and actual risks."

In other words, the Public Employee Retirement System of Idaho is allocating more capital to the asset class not in order to make the public employees of Idaho more money but because the CIO of the system values the "phony happiness" of the smoothed accounting.

George Washington University professor Kyle Welch argues in a recent paper on PE accounting, "Private Equity's Diversification Illusion," that portfolio managers "have incentives to obfuscate systematic risk and to choose investments that appear low-risk." If public markets take a dive, portfolio managers with large PE holdings might not have to book large losses.

Welch shows that if PE firms adopted fair value accounting standards, then the reported volatility of private equity would double. We can also see this in the PE secondary market, where investors trade their stakes in

different PE funds. Marking the reported returns of private equity to market by using these secondary transactions would bring the volatility of private equity higher than the public markets.

Market pricing demonstrates that private equity is far riskier than internal valuation marks suggest. For example, PE funds traded at 59 percent of their net asset value (NAV) at the depths of the financial crisis when bought by PE secondary firms; the internal marks, in other words, were far from the actual transaction values.

But is this smoothing so bad if everything comes out right in the end? That is what some PE investors argue. And to the extent that things do come out right in the end, reducing a few wiggles along the way really is not so problematic. But not seeing the wiggles can also encourage complacency, allowing valuations and leverage levels to climb and climb because the consequences of those decisions have not yet been felt. A lack of short-term accountability just means a delayed reckoning, with all the chips coming due down the road. And there are warning signs that all might not end up so well.

Does Private Equity Offer the Best Returns?

Over a long horizon, private equity has certainly had a good run. From 1990 to 2010, private equity returned 14.4 percent per year, compared to 8.1 percent per year for the S&P 500 index. This 6.3 percent outperformance was net of private equity's "2 and 20" fee structure, meaning that the gross return of private equity over this period was more like 20 percent per year.

But past performance is a far worse predictor of future returns than prices. And as money has flooded into private equity, the prices paid for PE assets have gone up and up. In 2007, the average purchase price for a PE deal was 8.9x EBITDA. Deal prices reached 8.9x again in 2013 and are now nearing 11x EBITDA. In fact, private market valuations have been equal to or greater than public market valuations since 2010. As noted earlier, since 2010, private equity has, on average, underperformed the public equity market. Cambridge Associates' U.S. private equity index has lagged the Russell 2000 by 1 percent and the S&P 500 by 1.5 percent per year over the past five years.

Institutional investors' expectations for PE returns seem rooted in the asset class's performance in the 1980s, 1990s, and early 2000s. They have not adjusted for the recent period's underperformance—an underperformance caused by their invested capital driving up purchase prices.

The underperformance since 2010 shows that private equity does not always outperform public equity markets. The relative performance of private equity is contingent on size, leverage, and valuation.

The Canadian Pension Plan Investment Board (CPPIB) and the Abu Dhabi Investment Authority (ADIA) did a bottom-up analysis of 3,492 private equity transactions from 1993 to 2014 to understand these dynamics. They found that private equity deals are different on two key quantitative dimensions from public equity investments.

First, PE firms buy companies that are significantly smaller than broader public benchmarks. The median market capitalization of a company in the S&P 500 is $41 billion. The median market capitalization of a small-cap company in the Russell 2000 is $2 billion. But the median enterprise value of PE deals is only $250 million. Only about fifteen private equity investments have ever been larger than the maximum market capitalization of the small-cap index.

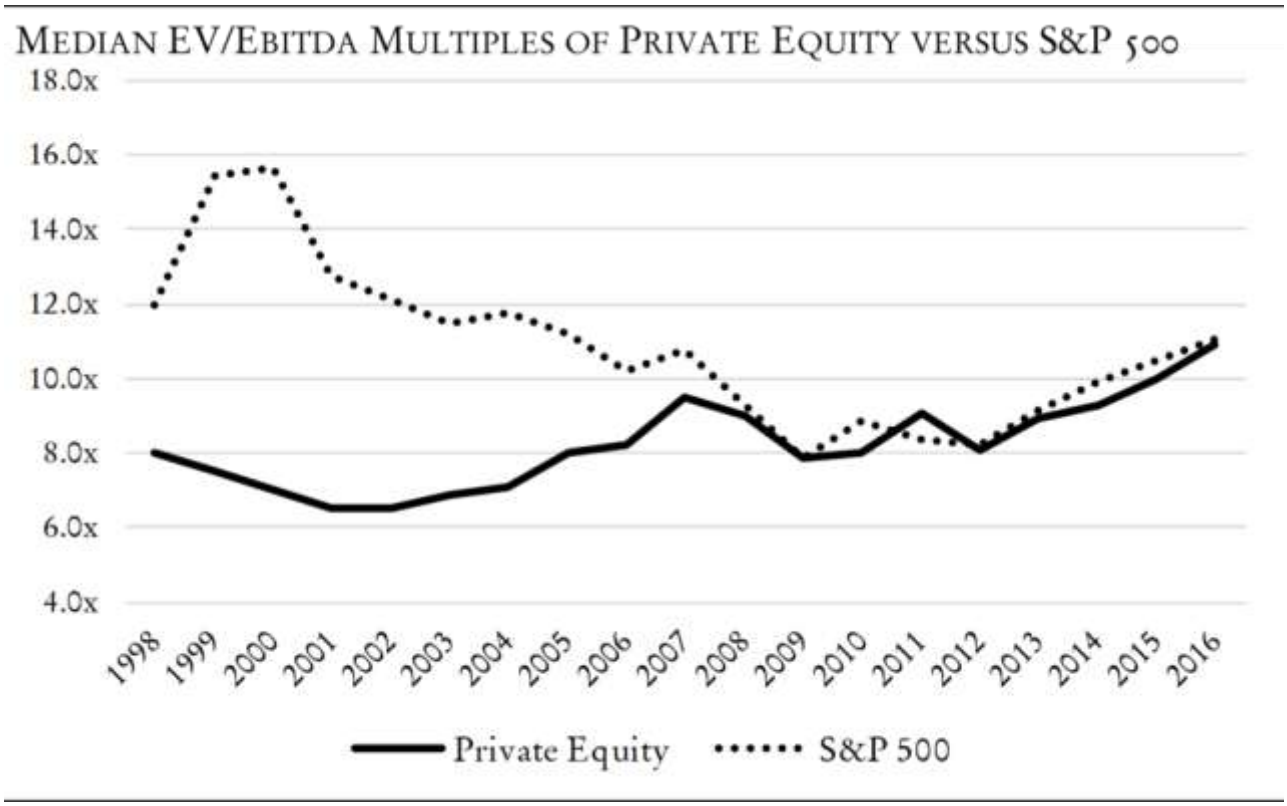
Second, PE deals are significantly more levered than the typical public equity. The CPPIB and ADIA found that the average ratio of net debt to enterprise value at inception has been approximately 65 percent. The typical

Russell 2000 small-cap company is levered at about 16 percent while the median large-cap company in the S&P 500 is levered at about 18 percent.

These two factors have been basically constant since the early 1980s. Changes in deal size and deal leverage levels do not explain why performance relative to public equity markets dropped off after 2010. And differences in size and leverage explain only about 50 percent of private equity's historical outperformance of public equity markets.

The factor that has changed is valuation. Private equity firms have historically bought companies at much lower valuations than the broader public markets.

Here we see a significant shift from before the financial crisis to after. Since the crisis, the flood of money into private equity has driven up purchase prices significantly, eliminating the formerly large gap between private and public market valuations.



This is more troubling than most market observers understand. Private equity is price sensitive because of the use of debt. Higher prices require more debt, leading to higher interest costs and higher risk of bankruptcy. The importance of valuation to returns is controversial but key to understanding the asset class, so it is worth looking at the issue from a few different angles.

The first approach is to look at PE deals and compare returns to purchase price. One PE firm did just such an analysis and found that over 50 percent of deals done at valuations of more than 10x EBITDA lost money and that the aggregate multiple of money was barely over 1.0x (i.e., for every dollar invested, only slightly more than one dollar was returned to investors).

The second is to compare the average purchase multiple in a given year to the returns of the funds from that vintage year. There is a –69 percent correlation between purchase price and vintage year return, a strong inverse relationship.

The third is to look at PE-backed companies that IPO. My firm, Verdad, looked at every company taken public in the United States and Canada by a top-100 PE firm since the financial crisis, a data set of 195 IPOs with an aggregate EBITDA of $66 billion and an aggregate market capitalization of $728 billion. The average company in this data set went public with $4 billion in market capitalization, traded for 17x EBITDA, and was 21 percent leveraged on a net debt/enterprise value basis at IPO. We segmented these IPOs by valuation at IPO. We divided the universe into three buckets: companies that went public at less than 10x EBITDA (about 20 percent of companies), 10–15x EBITDA (about 20 percent of companies), and more than 15x EBITDA (about 60 percent of companies). According to our research, the cheaper IPOs dramatically outperformed the Russell 2000, the moderately priced IPOs matched the Russell 2000's return, and the expensive IPOs underperformed.

The fourth approach is to listen to what PE firms are saying themselves. PE executives surveyed by Preqin said their biggest challenge was valuations (their second biggest challenge, worrisomely, was the "exit environment"). Joe Baratta, Blackstone's global head of private equity, said "this is the most difficult period we've ever experienced. . . . You have historically high multiples of cash flows, low yields. I've never seen it in my career. It's the most treacherous moment." Despite considering it a difficult period to invest, Blackstone Capital Partners VII raised $18 billion in 2015, the largest fund it had ever raised.

Whether you look at PE deals or public equity investments, paying high prices for companies and using debt to fund the purchase looks like a bad strategy. The scary thing is that private equity purchase multiples passed 10x in 2015 and show no signs of going down. In our view, the 2015, 2016, and 2017 vintage years are likely to return close to zero percent per year if history is a good guide.

Broader Implications

Private equity does not always outperform the public equity markets. The major change that PE firms make to portfolio companies is the addition of debt, not magical operational transformation. And the valuation marks which suggest that the volatility of private equity is lower than that of public equity are based on the subjective opinions of the PE firms themselves—hardly an unbiased source.

Yet the consensus thinking among institutional investors is leading them to shift money from public equity markets (which they consider overpriced and overly volatile) into private equity markets. But does this shift of capital from public to private make sense?

David Swensen, Yale's chief investment officer, believes it does. He contrasts the "short-termism" of public equity markets with the "five- to seven-year time horizon" of private equity. In his thinking, when you have PE firms acting as "hands-on operators that are going to improve the quality of the companies, there's no pressure for quarter-to-quarter performance."

This is a traditional criticism of big public companies: they have no real "owner" who looks after the long-term health of the firm or holds managers accountable. Instead, the CEOs respond to the whims and vagaries of a shareholder base that is either dispersed and inattentive or overly focused on short-term movements in the stock price. PE firms, by contrast, are supposed to "think like owners," making the tough choices that are best for the company in the long run.

But the evidence shows that PE firms are really just adding debt: the supposed improvement in incentives and managerial alignment is more marketing than substance. To be sure, debt can have a disciplining effect, and can enhance returns on good investments. But the amount of debt being used in most buyout transactions today has gone way too far. And debt, as Clay Christensen has pointed out, reduces a company's long-term capital

flexibility. The "discipline of debt" and "long-term thinking" are mutually exclusive goals. And it is of course ironic that the same PE firms making these arguments—Blackstone, KKR, Apollo—have themselves gone public.

When institutional investors criticize the "short-termism" of public equity markets, perhaps they are really critiquing the transparency of market valuations. The internet and big data have made the inability of most investors to beat the public equity index much more obvious, leading to the rise of passive, low-cost index investing. Perhaps it is no surprise then that highly paid investment managers prefer to move money into private markets, where the numbers are fuzzier and where it takes years rather than minutes for the consequences of bad decisions to be realized.

So PE firms end up adding debt in hopes of enhancing returns and using phony accounting to conceal volatility. And the institutional investors that have flooded private equity with capital prefer this "phony happiness" because it reduces career risk and the hard work of having to explain the volatility of public markets to stakeholders.

Gold Rushes Past and Present

The California gold rush of 1849 was led by individual speculators who dreamed of newfound wealth. The great private equity gold rush of the post crisis era, like the subprime bubble before it, is led by managers and consultants, whose spreadsheets are well formatted and precisely wrong.

The California gold rush of 1849 was based on the discovery of actual gold in streams and mountains. The great private equity gold rush of the post crisis era is based on airy ideas about operational improvements, low volatility, and historical outperformance. They may not be tangible, but they make for good bullets in a PowerPoint presentation.

The California gold rush of 1849 did not end well for the poor and desperate speculators who dreamed of a better future. And the great private equity gold rush of the post crisis era may not end well for the confident experts who deploy other people's capital with the goal of staying rich, not getting rich—and it may be even worse for everyone else.

How much has private equity contributed to the bizarre economic situation of recent years—in which asset prices soar while underlying GDP, along with productivity growth, remains historically weak? And is today's private equity froth a warning sign of the next crisis?

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Our thoughts

The search for high returns with low risk has been and will continue to be the Holy Grail on Wall Street. Private Equity had the high returns, until the opportunities were drown in a flood of money. The same thing happened to Commodities. From our website: "In a 9/1/16 interview titled “Why Investing in Commodities Can Be Challenging”, Morningstar’s Brian Huckstep, a senior portfolio manager, detailed why they finally dropped commodities from their Lifetime Allocation Indexes: “we stuck with commodities for a long time. We do have that long-term horizon and we kept waiting for roll yield to flip back to positive and it just hasn’t. So because it’s been negative for so long, we really have updated some of our expectations, and liquid commodity investments are just not as attractive as they used to be.”"

The low risk associated with Private Equity was and is an illusion. When you provide portfolio managers an incentive not to mark-to-market, the resulting mirage shouldn't be a surprise. Non-traded public REITs are another example that we wrote about here: http://www.hughescapitalmanagement.com/2017/11/11/first-financials-turn-non-traded-reits-are-a-red-flag-111117/

We have written extensively about the efficacy of combining the Size and Value Factors. Verdad's results for their Global Fund, as shown, certainly confirm that conviction. However, their results in 2014 & 2015 make it clear that the Holy Grail remains elusive. We should note that we haven't seen any data that screening for "leveraged" small value enhances returns, and that outperformance doesn't equal Alpha, which, by definition, is a risk adjusted metric.

	Verdad	Russell 2000	Alpha
2013	85.9%	38.8%	47.1%
2014	-9.8%	4.9%	-14.7%
2015	-22.0%	-4.4%	-17.6%
2016	40.8%	21.3%	19.5%
2017	33.6%	14.6%	19.0%
Total	**19.8%**	**14.1%**	**5.6%**