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# Graham & Doddsville

An investment newsletter from the students of Columbia Business School

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**Alex Sacerdote**

## Alex Sacerdote of Whale Rock Capital

Alex Sacerdote is the founder and portfolio manager of Whale Rock Capital Management, a \$1 billion global long/short equity manager focused on the technology, media and telecom (TMT) sectors. Prior to founding Whale Rock, Mr. Sacerdote was an analyst and sector portfolio manager at Fidelity Investments. He began his career in Smith Barney's TMT investment banking group, and also served as VP of Finance at Interactive Imaginations, an internet advertising start up. Alex received his MBA from Harvard and earned his BA from Hamilton College. Alex currently serves on the Board of Trustees of Hamilton

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**Ed Bosek**

## Ed Bosek of BeaconLight

Ed Bosek is the founder and managing partner of BeaconLight Capital, a \$250 million global long/short equity fund. Before founding BeaconLight, Ed was a partner at Atticus

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**Jane Siebels**

## Jane Siebels of Siebels Asset Management Research

Jane Siebels, CEO of Siebels Asset Management

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**Hugh Wrigley**



**James Ferguson**



**Andrew Burns**

## Global Endowment Management

Global Endowment Management (GEM) was founded in 2007 and manages \$7 billion for clients including endowments,

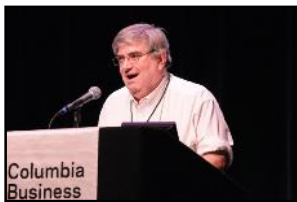
foundations, and other institutional investors. Hugh Wrigley is a co-founder of GEM. Previously, he served as Head of the Private Investments Group at DUMAC and as

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## Welcome to Graham & Doddsville



Meredith Trivedi, the Heilbrunn Center Director. Meredith skillfully leads the Center, cultivating strong relationships with some of the world's most experienced value investors, and creating numerous learning opportunities for students interested in value investing. The classes sponsored by the Heilbrunn Center are among the most heavily demanded and highly rated classes at Columbia Business School.



Professor Bruce Greenwald, the Faculty Co-Director of the Heilbrunn Center. The Center sponsors the Value Investing Program, a rigorous academic curriculum for particularly committed students that is taught by some of the industry's best practitioners.

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We are pleased to bring you the 25<sup>th</sup> edition of *Graham & Doddsville*. This student-led investment publication of Columbia Business School (CBS) is co-sponsored by the Heilbrunn Center for Graham & Dodd Investing and the Columbia Student Investment Management Association (CSIMA).

Since our Spring 2015 issue, the Heilbrunn Center hosted the sixth annual "From Graham to Buffett and Beyond" Omaha Dinner. This event is held on the eve of the Berkshire Hathaway Shareholders' meeting and features a panel of renowned speakers.

In this issue, we were fortunate to speak with six investors from four firms who provide a range of different perspectives and investment approaches.

**Alex Sacerdote** of Whale Rock Capital discusses his unique approach to technology focused investing. His S-curve and competitive advantage frameworks allow for the identification of companies with the potential to exponentially increase their earnings power. He also shares a number of compelling ideas, including Apple



**Mario Gabelli '67 shares his experiences as a panelist at the May 2015 Omaha Dinner**

(AAPL), Amazon (AMZN), Ellie Mae (ELLI), and NetEase (NTES). If readers are interested in hearing more of Alex's views and perspectives, he will be presenting at the Boston Investment Conference on Thursday, November 12.

**Ed Bosek** of BeaconLight Capital shares his perspectives on variant perception through identifying Fundamental, Meaningful, and Different (FMD) ideas. Ed discusses his global, generalist strategy, which allows his team to identify differentiated opportunities to generate alpha on long and short positions, and walks through current ideas including Daqin Railway (601006) in China and Builders FirstSource (BLDR) in the U.S.

**Jane Siebels** of Siebels Asset Management Research discusses her unique exposure to commodities from an early age and focus on opportunity funds. Jane shares some thoughts on the outlook for commodities and emerging markets, and also explains her open outsourced research platform, another hallmark in her attempt to do things differently.

**Hugh Wrigley, James Ferguson, and Andrew Burns** from Global Endowment Management discuss compensation in the investment industry, the importance of being able to invest in smaller spaces, and the risks inherent in transitioning from analysis to management.

Lastly, we continue to bring you pitches from current students at CBS. CSIMA's Investment Ideas Club provides CBS students the opportunity to practice crafting and delivering investment pitches. In this issue, we feature three ideas from our classmates Nielsen Fields '17, Justin Hong '17, and Alexander Levy '17: a special situation based paired trade incorporating a long position in Rentech Nitrogen Partners LP and a short position in CVR Partners (RNF, UAN), long Tenneco (TEN), and short Las Vegas Sands (LVS).

As always, we thank our interviewees for contributing their time and insights not only to us, but to the investment community as a whole, and we thank you for reading.

- G&Dsville Editors



**Meredith Trivedi with Professor Bruce Greenwald at the Value Investing Program Welcome Reception**

## “From Graham to Buffett and Beyond” Omaha Dinner 2015



Mario Gabelli '67, Bill Ackman, Tom Russo, and Tano Santos speak on the Omaha Dinner Panel



Panelist Bill Ackman shares his views at the Omaha Dinner



Budge & Carol Collins. Budge serves on the Heilbrunn Center Advisory Board



Board of Overseer Member and Pershing Square Capital Partner Paul Hilal '92



Former Heilbrunn Center Director and current Special Industry Advisor Louisa Schneider '06 & Mario Gabelli '67



## Columbia Business School Events: Pershing Square Challenge and Value Investing Program Welcome Reception



Pershing Square Challenge finalists pitch their stock to the panel of judges



Michael Herman '16, Bill Ackman, and Damian Creber '16 after the Pershing Square Challenge presentations



Pershing Square Challenge judges listen intently to CBS student pitches



Students mingle at the Value Investing Program Welcome Reception



Bruce Greenwald speaks with students and alumni at the Value Investing Program Welcome Reception

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# SAVE THE DATE

## 19th Annual Columbia Student Investment Management Association Conference

January 29, 2016

A full-day event featuring some of the most well-known investors in the industry, presented by:

The Columbia Student Investment Management Association  
and  
The Heilbrunn Center for Graham & Dodd Investing

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## Alex Sacerdote

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Alex Sacerdote

**College and Shady Hill School, and is active on their investment committees.**

**Graham & Doddsville (G&D):** Can you discuss your background and your path to investing?

**Alex Sacerdote (AS):** I've been interested in the stock market from an early age. In the early '80s, my father bought each of me and my two siblings a share of Apple and I watched it incessantly and was delighted when it split three for one. Although I was too young to understand that I had not tripled my money. In the second grade I distinctly remember doing a report on the stock market with crude stock charts.

Out of college, I started out as an investment banker in the Tech, Media, and Telecom Group at Smith Barney. It was a boot camp-like experience in which I really learned the mechanics of finance. We were active with M&A deals, IPOs, and high yield offerings across a range of subsectors from media, software, and wireless to semis, so it was great exposure.

But my initial interactions with buyside investors led me to believe that was the place for me. During our roadshows for IPOs and high yield offerings, we brought our management teams to a number of buyside institutions. The buyside analysts across the table at the big firms like Fidelity were roughly my age, but they were much more knowledgeable about the industry, even though I had been working on the deal for three months. In

some cases they knew as much or more than even the management teams. If you are really intellectually curious and you want to spend 90% of your time critically thinking, the buyside is where you want to be.

At the same time, the internet revolution was just beginning. I decided to work for an internet advertising start up in New York City in 1997 before going to business school. The company, Interactive Imaginations, actually pioneered the concept of the ad network. It gave me a deeper understanding of internet based businesses, and there were a handful of other publicly traded internet companies like AOL and Yahoo that I carefully followed and invested in on my own.

So at business school I targeted buyside opportunities and secured a summer internship at Fidelity. I was very fortunate because Fidelity provides their interns with a tremendous amount of responsibility. They said to me, "There is this new thing called the Internet. You know something about this. Why don't you cover e-commerce for the summer?" I was in heaven. I travelled the country visiting the roughly ten internet companies that were public at the time and met the CEOs and founders. I was able to attend Amazon's first investor day and had lunch with Jeff Bezos. He had the same laugh back then too! By meeting with the companies and studying them carefully, I came to the conclusion that Amazon was going to run the tables and win in e-commerce in a big way, and it was only a

matter of time before they expanded beyond books.

At the time Amazon was very out of favor, and I made a 25 page presentation to the entire equity department advocating that Fidelity buy shares in Amazon. I think half the investment team thought I was crazy because of the high valuation and losses, but some people must have liked the analysis because I got the job at Fidelity, and that's how I got into the business.

I spent the next six years there as an analyst and sector portfolio manager primarily focused on technology. It could not have been a better training ground. First, there were so many great investors to engage with and observe: Danoff, Wymer, Tillinghast with his unique brand of value, and Myers, who actually started in my intern class back in 1999. It was a very individualistic place with so many different styles and processes. I also got some nice time with Peter Lynch who loved to mentor younger analysts. His temperament, curiosity, and love of the craft were amazing. I've read his book several times. You also get great exposure to management teams and a chance to really master your industry and the confidence that comes with that. Finally, you get the chance to run money pretty early on to hone your skills and investment style.

Ultimately, I decided to go out on my own. Fidelity was really about running large pools of capital diversified across industries, and I viewed myself as a tech specialist. In the technology sector, it's

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## Alex Sacerdote

important to be a specialist. The long/short format is great for TMT because there are always winners and losers, and the ability to short can dampen inherent volatility.

But throughout all these experiences and from an early age, my father was clearly the biggest influence on me. He was a great role model both as an investor and a human being. He had a wonderful career in finance at Goldman Sachs as head of Corporate Finance and then Chairman of the Private Equity group. He represented the old guard. He was a true gentleman and was known for his keen intellect, leadership, and mentoring. Not many bankers are known as great investors, but he certainly was. He chaired the credit and investment committees there for more than two decades and kept them out of a lot of trouble. He was an electrical engineer from Cornell and was smart as a whip and could instantly get to the heart of any issue, but he always exhibited humility and graciousness. The best thing about my father was that he was such a great mentor to so many and when he passed away in 2011, I received countless letters and stories about this.

**G&D:** Identifying S-curves is an important part of your process. Can you talk about that?

**AS:** It can be tricky to invest in the tech sector. There is constant change, brutal competition, price deflation and often high and “bubble” like valuations. At the same time, it’s clear that there has been massive, large scale

wealth creation in the internet sector over the past 20 years. By some measures, it is \$2 trillion in wealth. As technology goes deeper and deeper into society and spreads around the globe, there is a chance this wealth creation accelerates. I had the opportunity to watch some of this play out over the past few decades. I started to realize that there are three common characteristics of great winning

**“It can be tricky to invest in the tech sector. There is constant change, brutal competition, price deflation and often high and “bubble” like valuations. At the same time, it’s clear that there has been massive, large scale wealth creation in the internet sector over the past 20 years. ”**

technology stocks that produced this wealth.

The first characteristic relates to the S-curve of technology adoption. All technology adoption starts very slowly. It can be held back for a variety of reasons: high price, complex products, lack of an ecosystem. At some point, these barriers

are removed, and the technology moves on the S-curve from the early adopter phase into the majority phase. At that point a massive wave of demand kicks in, and you can see three to four years of incredible unit growth.

Everybody says tech is so unpredictable, but if you understand the way S-curves work, it actually can be quite predictable during certain time periods. You are able to understand how fast units might grow over a three to five year period. In analyzing the S-curve, it’s important to assess both the slope of the curve as well as the height of the curve.

One example of an S-curve was flat panel TVs. Flat panel TVs came out in 2000, but the products were very expensive and there was no HD content. However, by 2005, the price of a 40 inch flat panel TV fell to \$1,500. Monday Night Football and other high quality HD programming was available on TVs and the demand just exploded.

We went from 2 million units to 50 million units in a four year period. It was clear that once flat panel TVs hit the mainstream, you were going to get this incredible unit growth that you just don't get in any other part of the economy.

The most famous recent S-curve is the smartphone adoption cycle. Smartphones were actually out in the 1990s, but they were clunky, internet access was unreliable and there were no real apps or any features we commonly associate with smartphones today. Apple changed that and

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## Alex Sacerdote



Former CSIMA Co-President Brian Waterhouse and current CSIMA Co-President Damian Creber '16 discuss investments with H. Kevin Byun '07 of Denali Investors

you went from one percent penetration to 50% in a five year period. This became a billion unit market and this is well known now but at that time you'd be shocked at how few people truly grasped this.

Understanding where a technology sits along the S-curve and if you are nearing that inflection point is powerful. The inflection point not only creates incredible unit growth, but it also reduces risk because one of the biggest drivers of tech company failures is faltering demand or demand well below expectations. It's very hard for that to happen in the middle of an inflection point on the S-curve.

Sometimes understanding the S-curve can help you time your exit as well. When adoption gets close to 50%, growth can rapidly decelerate.

**G&D:** You have important parts of your process beyond the S-curve. Do you want to expand on those?

**AS:** When we find an attractive S-curve, the next thing we do is search for companies benefiting from the S-curve that have strong competitive advantages. Tech can be brutally competitive, but, occasionally, a company can emerge with a near monopoly. There are many subtle factors within technology ecosystems that create powerful competitive advantages. On the internet it's about network effects, in software it's about coalescing around standards like PC operating systems. So we spend time assessing companies within S-curves that

might exhibit really strong competitive advantages.

**G&D:** Is it hard to assess competitive advantage during rapid growth? The rapid growth may obscure what will eventually be fierce competition.

**AS:** Growth investors will occasionally find an attractive S-curve, but the important piece really is competitive advantage and operational abilities. Finding that competitive advantage, understanding it, appreciating it before other people, and developing a more in-depth understanding of its strength are really important

**“When you have an S-curve in combination with a really strong competitive advantage, the earnings can grow exponentially...Apple's earnings per share went from \$0.50 to \$9, Priceline's earnings went from \$2 to \$40, and Tencent's went from \$0.12 to \$2.58.”**

to us. Just about every e-commerce company I evaluated in the Fidelity report in the late 1990s is gone, except for Amazon. In smartphones, Apple created half a trillion dollars in wealth

but HTC, RIM, Nokia, Motorola, and LG destroyed value. Several went bankrupt and didn't make a dime out of the smartphone S-curve.

Investors have occasionally grown skeptical of Google's competitive advantage. During our research of Google roughly five years ago, we met with Microsoft's head of search. Despite Microsoft making a huge push, it was clear that even Microsoft's search team realized the tremendous uphill battle they were fighting. We developed a new appreciation for Google given that Microsoft, one of the most valuable companies in the world, could not successfully enter the market.

We're constantly looking for similar stories to illustrate competitive strengths. Microsoft invested several billion dollars for multiple years to take share in search, and they have 15-20% of the US desktop search market. Google has 60-70% in the US and 80-90% share in most other geographies around the world.

We think they can sustain this advantage because of their massive scale, significant R&D budget, and so many other pieces throughout the sales channel. Their ability to add adjacent markets on top of search with Android gives them a further advantage.

**G&D:** The last characteristic you evaluate is valuation?

**AS:** Right, we don't just invest blindly when we think we have found a winner. We need to see long term under-appreciated earnings power.



## Alex Sacerdote

When you have an S-curve in combination with a really strong competitive advantage, the earnings can grow exponentially. This happens more frequently than you might think. Apple's earnings per share went from \$0.50 to \$9, Priceline's went from \$2 to \$40, and Tencent's went from \$0.12 to \$2.58. If a company is experiencing strong unit growth and a competitive advantage prevents price compression, the company will grow revenue rapidly and will be able to leverage their expense structure. That's what produces exponential earnings growth. If we have a lot of confidence in both the S-curve and the competitive position, we are able to model out the business with a high degree of confidence and ensure we are buying at reasonable long term multiples.

A great example was LinkedIn (LNKD). They came public in 2011. We really liked their S-curve. They have 3 businesses, and the most important one is their talent management business. LinkedIn has a fully updated database of almost every single white collar worker in the United States and beyond. We realized this was a huge game changer. Before recruiters were relying on two solutions: Monster, a resume database of unemployed people, and head hunters, a really expensive option. It was so superior to the existing solutions that we knew it would see widespread adoption.

We attended a number of human resources trade shows and spoke to 50 or 60 recruiting companies and found out that LinkedIn had

100% penetration among recruiters at early adopters like Microsoft and Google. And yet most Fortune 500 companies were just beginning to adopt it. Our research also suggested that they would have pricing power.

We also spent time assessing LinkedIn's market penetration, which can be a challenging statistic to calculate. We asked questions like what is annual employee turnover, how many businesses are there of various headcount sizes, what industries have a lot of turnover that are more white collar oriented. We came to realize that LinkedIn was maybe 3% to 4% penetrated, but it was definitely hitting the mainstream.

We determined that there was probably \$8 per share in earnings power. At the time many people said, "I like LinkedIn, but it's so expensive." For us, it was a bargain. Our price target was almost 2.5x what the stock was trading for based on a 30x multiple of our \$8 estimate of earnings power. There are a lot of reasons we thought it would still trade at 30x even three or four years out because if you look at other subscription or information database businesses like Factset or CoStar, they still have very high multiples, even with low single digit revenue growth rates.

**G&D:** Can you discuss your decision making process to exit?

**AS:** Sometimes share prices reflect the potential future scenarios we are envisioning for a company. The rest of the

world catches onto the story and it is no longer under-appreciated based on long term earnings power. This happened with LNKD and within a year and a half it hit our target. Also, the company launched a few new products that didn't receive significant adoption. That, combined with the rapid share price appreciation caused us to be more cautious on our outlook. Another good example is Apple (AAPL). We have been big Apple bulls for a long period of time. In 2012, US smartphone penetration hit 50%. The 50% level starts to make us nervous. Adoption will begin slowing down. Apple also had started to lose share in 2012. We were hoping Android would fragment which would hurt the Android ecosystem, but by 2012, it was clear that Android was here to stay. The idea that Apple could potentially fully run the table in smartphone software was no longer a possibility. And lastly, we were previously well ahead of Wall Street on our EPS expectations, even 100% in some cases, but the world had caught up to us.

So the S-curve was not a green light anymore. The competitive advantage was very good, but not getting better and maybe getting slightly worse. And third, the under-appreciated earnings power had become appreciated. We exited the position at that point.

**G&D:** What is your current positioning with regard to Apple?

**AS:** There have been a lot of developments since our exit. But last year we came back in. The idea that Apple's value is

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## Alex Sacerdote

in their platform not their hardware was strengthened with the launch of the Apple Watch, the App Store growth, their innovations in payments, and the TV product. None of those on their own are big enough to double the earnings of the company, but if iPhone can still grow 5% to 10%, the addition of those four things might get to 20% growth. And even if iPhones are flat, these other segments might have a potential to drive 10% growth.

We remain pretty excited about the App Store. Gaming revenue and app revenue are starting to become meaningful for Apple. It might be just under 10% of profits, but it's growing significantly faster. That stream of earnings should command a premium multiple as well. When Tim Cook made the announcement that their sales in China were progressing well even in the face of the stock market crash, he cited the App Store as having record revenues there.

Lastly, many people laugh at the idea of an Apple car. They think it is way out of Apple's realm, but the fact is, there is a lot of change in the car. It is becoming a supercomputer on four wheels with millions and millions of lines of code, hundreds of semiconductor chips, visual graphical user interfaces, high quality audio and video output, wireless entry with your phone, and there is even the driverless possibility in the near future. There's no doubt that an Apple car is a long way away and analyzing the potential value of such a business is difficult. However, Apple is investing heavily in the car business and given their track

record and some simple assumptions, it can actually be additive to the share price today. If you assume Apple achieves 3% market share of the car industry, sells units at an average price of \$75k, and achieves gross margins in line with Porsche, this could actually move the EPS needle in a big way even for a company of this size.

We think Apple has the track record and scale to be successful. Tesla has already demonstrated that the barriers to entry are not insurmountable. Apple can afford to invest billions in R&D without endangering the company, which only a few companies can say.

It's not an important part of our thesis and we're not counting on this but if it kicks in, that could double the P/E of the stock from an absurdly low level, roughly 10x. It wouldn't be crazy to see it at a P/E of 15x or even 18x. The other aspect is capital allocation, which generally is not a large driver in our typical investments because we typically focus on companies in their growth phase, but with Apple as a somewhat mature company, it can be a really great way to improve stock performance. They're doing the right things there.

**G&D:** Benedict Evans of venture capital firm Andreessen Horowitz agrees that barriers to entry are coming down and that the car market is really the only market that can rival phones in terms of total value. However, he points out that autonomous driving is a negative trend for Apple. It means we likely do

not own cars and only use them in an on demand fashion. That likely reduces the role of design and likely favors Google over Apple. How do you think about that?

**AS:** There are still a lot of unknowns in cars. I think our vision for Apple's car is a four to five year vision while Benedict's may be even longer-term. I think we still have a long time before autonomous driving is mainstream, so people will be buying cars like they normally have for some time and even when they are autonomous people likely will want their own.

I don't want to give the impression that I'm super bullish on Apple being a home run success in the car market. But over the coming years, I think other investors will begin to appreciate that there may be more potential for an Apple car than they previously expected.

**G&D:** You have mentioned a handful of frameworks you are looking for with regard to competitive advantage. Are there any other common situations you gravitate toward?

**AS:** We like it when companies become industry standards. We already mentioned Microsoft, but Oracle is another obvious one. Oracle's position within the relational database has translated to an excellent competitive position. Everybody has been trained on it, a number of other software programs were integrated with it, and the companies that had adopted it were reluctant to change given the mission

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## Alex Sacerdote



Faculty Co-Director of the Heilbrunn Center Tano Santos welcomes a student to the Value Investing Program

critical nature of certain databases.

Another good example is Ellie Mae (ELLI), which we feel is in the process of becoming an industry standard. They provide a Software as a Service offering for the mortgage industry. The process of filing a mortgage in the US is incredibly paper and time intensive. There are all kinds of different players in this ecosystem and layers upon layers of regulation. Mortgage lenders basically do not have the technical competencies to design a technology solution that keeps up with the regulations and the paper and time intensive steps in the industry. The value proposition is obvious. There are fewer mistakes, lower costs, and streamlined processes saving time and money. You protect yourself against regulatory and compliance risks. We think Ellie Mae will become the common cloud for the mortgage ecosystem almost like Bloomberg is for financial professionals. There are 600,000 mortgage professionals in the US. The industry's S-curve has recently started accelerating for secular and cyclical reasons. Underinvestment in technology by mortgage lenders during the housing downturn means lenders are being forced to adopt Ellie Mae.

They are growing subscribers at 30% per year, and revenue per subscriber is also growing as subscribers adopt more features and modules. This is a recurring revenue business and we think Ellie Mae will be hard to displace.

Their customers today are generally smaller mortgage companies, but the Big 6 mortgage players like Wells Fargo have not yet adopted it. These companies represent 200k of the 600k in industry headcount. To date, they have used their own systems, but they are client-server based, so we think there is a good chance that Ellie Mae could get one of them to sign up as a customer. This would be a huge accelerator to the growth rate. Their current margins are

***“[Ellie Mae’s] value proposition is obvious.***

***There are fewer mistakes, lower costs, and streamlined processes, saving time and money [...] We think Ellie Mae will become the common cloud for the mortgage ecosystem almost like Bloomberg is for financial professionals.”***

around 20%. We think they can double or triple sales and have 40% operating margins. This is a company we are still excited about even though it has been a successful stock for us so far.

**G&D:** Can we discuss shorting? Do you also use your S-curve framework in evaluating shorts?

**AS:** Short ideas can fall at any point along the S-curve. The classic is the maturing industry, but you don't want to just short companies at the top of the S-curve. We would also like the company to be losing their competitive advantage and have over-estimated earnings power, which is essentially the opposite of what we look for on the long side. Newspapers were an interesting example where the industry had been mature for a long period of time, but then the internet came along and significantly eroded their competitive advantage. That's a classic short we would look for.

We like looking for companies without competitive advantages as well. We mentioned all the losers in the smartphone game as well as in e-commerce. Another area is technology in the early phase of the S-curve. These technologies can get really overhyped. Electric cars a few years ago were a good example. There was a company called A123 that was perceived to have an excellent position. They claimed they had proprietary battery technology and some high percentage of cars would eventually be electric, so their earnings power would be significant. The company ultimately went bankrupt because the barriers to adoption were still significant and they had no competitive advantage in a commoditized battery market. There were no good OEMs using their technology, and there were still concerns about electric car range. It was just too early in the S-curve ramp.



## Alex Sacerdote

**G&D:** Have there been situations where you were bullish on a company in the beginning of a growth phase, but transitioned to a short when the thesis played out and other investors continued to extrapolate the great results?

**AS:** Sure. Certain companies have incredibly powerful and durable competitive advantages, while other companies might have a competitive advantage that only lasts two or three years. This is often the case in semiconductors. One of the few ways we found to play the flat panel TV S-curve was a chip company that made an image processor for the TV. They had 15% share going to 30% share in a period when units were growing from 2 million to 50 million. The problem is the Chinese or Taiwanese end up reverse engineering the chip. In those cases, you have to be really on top of it to know how long the advantage can persist.

**G&D:** It's clear that Whale Rock travels pretty extensively and that management meetings are a key part of your process. Can you talk about this?

**AS:** Yes, we do 1,000 face to face meetings a year despite being only a team of five. I think we travelled something like 250k miles last year. We go to Asia three or four times a year. We recently travelled to India to meet with 30 private and public Indian internet companies.

Within our framework, we do not specifically include management quality, but it does tend to play out that these great companies often

have incredible management teams, so it makes sense for us to spend time with them.

**G&D:** Have you come across any management teams that you think are especially underrated?

**AS:** He is not exactly underrated, but I think Mark Zuckerberg is underappreciated as a businessman. He saw earlier

***“We think [Amazon’s AWS division is] a leader in a market that represents \$500 billion in annual spending. They are focused on the public cloud, which we think is the biggest opportunity in all of IT.”***

than anyone else how valuable Instagram and WhatsApp would be. Both assets have tremendous value. He also moved quickly on virtual reality. There are indications today that VR could be a mainstream medium. He found a management structure enabling him to focus on the long term future of technology while Sheryl Sandberg and other incredibly talented professional management can focus on the business. He seems quite skilled at delegating and hiring, acting on

strategic M&A, executing and building the culture of the company, and he also has that broader vision of connecting the world.

If you compare Facebook to Twitter, so much of the difference is execution. I think Facebook is a better asset because frequency of use is higher and it's more broadly adopted, but if you talk to advertisers, even Facebook's ad systems are more robust than Twitter's. Facebook has an impressive ad platform and distribution and sales process. I think he's done a tremendous job there.

Another CEO is Jeff Bezos of Amazon (AMZN). He is not underrated either but he deserves even more praise than he gets. Most CEOs might accomplish one great thing, which would've been the retail operation for him. He now has helped create a second massive opportunity with AWS.

I think Amazon's e-commerce business is pretty well understood. I think the main misunderstanding with regard to Amazon is AWS. I think Amazon shareholders know it is an interesting opportunity, but I don't think they fully understand what they are sitting on.

**G&D:** Can you explain the AWS opportunity to us?

**AS:** We think they are a leader in a market that represents \$500 billion in annual spending. They are focused on the public cloud, which we think is the biggest opportunity in all of IT. It will encompass spending on

## Alex Sacerdote

servers, storage, networking, systems management, related services, and several other areas that aren't even fully developed yet.

The FAA recently completed a large transformational deal with Amazon. They will be spending \$100 million per year with Amazon, and that will not even be their entire IT budget. That's about 50 basis points of their budget. That gives some indication of the scale of the opportunity. It's not hard to envision a majority of global companies spending 50 bps of sales on AWS. Even with all the discussion of cloud activity and the movement to the cloud over the last six or seven years, the amount of compute that's done on AWS is 2% to 3% of the world's compute. It's really just getting to the mainstream now.

We think the S-curve has the potential to last 20 years. These big shifts in enterprise IT happen once every two decades with mainframes in the '60s and '70s, client server in the '90s up until now, and the public cloud will be the next one.

On competitive advantage, most investors think that the public cloud is a commodity business. The reality is that AWS is pretty sticky due to the whole software layer on top, 10 different flavors of storage, systems management containers, all kinds of software that increases switching costs.

They're the biggest player and they are out-investing the competition. We have spoken to a couple hundred users of AWS and they say that this is

similar to Coke and Pepsi except there is no Pepsi. A recent study we reviewed suggested that 50% of customers use Amazon, 10% use Azure, and Google is not particularly relevant. Another interesting insight was that the customers using Amazon have much higher volumes than the average customer. The usage differential can be 10 to 1, or more.

The software lock-in is not on the same level as a Microsoft operating system, but it's enough to where you don't want to switch providers. Your team is trained on it and they become familiar and efficient with the tools of AWS.

Even if it were a commodity, AWS would be 10 times the size of the next biggest competitor anyway. The scale of AWS gives it a big advantage in unit costs, but it also allows AWS to invest significantly more in R&D. We are hearing that AWS has some of the best computer scientists in the world working as part of their team. They added 350 features this year. Last year it was 100 and what we're hearing is they're pulling away from the competition in terms of features and additions.

**G&D:** What about overall returns on capital? Bezos has cited the capital intensity of AWS as one of his worries.

**AS:** That is a big question that we have spent time thinking about. We have analyzed server costs, required data center capex, and AWS unit pricing by service. One part that is challenging to predict is pricing. Within the last 2 years, Google cut price by 50% or

more in an attempt to improve the competitiveness of Google Compute. Amazon immediately responded with a similar cut. And they have cut price essentially every year. But we haven't seen a big dramatic move recently, so AWS is growing revenue in line with usage and achieving high teens margins, but pricing could see another significant cut in the future.

Given how impressive the moat is, that switching costs will only increase in the future, and the fact that they are already making 20% margin, I think ROIC will likely be very good. Moore's Law should also help them lower the capital intensity per unit of server capacity.

We think half of all compute will be in the public cloud versus 3% today. Bezos draws the analogy to the old days when corporations had their own power plants before we eventually developed centralized utilities. We think AWS could wind up as the equivalent of a centralized utility with 50% to 70% market share around the entire world. We are convinced this is going to be an extremely valuable business. The stock is getting credit for it now but we still think people are missing how big the opportunity is and how thoroughly Amazon will dominate it. It's a large position for us now and it continues to amaze me how one company has been able to position itself so well for two of the largest business opportunities of our generation in e-commerce and the public cloud.

**G&D:** You have an interesting

(Continued on page 14)

## Alex Sacerdote



Students enrolled in Applied Security Analysis attend the Pershing Square Challenge Finals

*thesis on gaming. Would you like to discuss that?*

**AS:** We own companies related to traditional console video games as well as companies benefiting from the mobile S-curve. On one of our trips to China two years ago, I noticed a teenager on the subway who had a really big phone and was playing a really intense game. It started to become clear to me that mobile gaming would eventually be huge. It has been very hard for companies to effectively monetize mobile games. The screen sizes were much smaller and the graphics power in mobile CPUs were much weaker so the only games that succeeded in any way were very casual games. The casual games tended to have relatively short lives, posing additional difficulties to effective monetization.

What we are now seeing is very positive for mobile gaming monetization. With bigger screen sizes and better graphics, you can have games with richer stories that require a much larger development team. These developments favor scale players. On top of that, these PC games have millions of players to the point that it is similar to a social network. Virtual goods can be purchased for low price points but the user base is so large it can be meaningful revenue. A Japanese gaming company, GungHo, launched a game that generates over \$1 billion in revenue. It's been going for two or three years now, and there are no signs of it going away.

We have followed NetEase (NTES), a Chinese video game

company, for years. It has a very high quality management team. The CEO, William Ding, owns 50% of the company. He does not spend time talking with sell-side analysts, he is very focused, and he has essentially built the Activision of China. The company has grown their net income from \$50 million to \$700 million in PC gaming. Their PC gaming

*“Some stock picking can be trained or learned but there may be an innate aspect to it — an inherent savviness, contrarianism, and creativity in thinking. I view it as a willingness, if not a passion, to challenge the status quo or vehemently argue other viewpoints, coupled with a flexibility and openness to adjust to new facts.”*

revenue is an attractive base of recurring revenue supported by long duration franchise games. The value proposition to the customer is very compelling. It works out to roughly 2 cents per hour of game play.

NetEase was early to appreciate the potential of mobile gaming. Two years ago, they started developing mobile games and thinking of ways to take their great IP from PCs to mobile. They recently launched a mobile game, Fantasy Westward Journey Mobile. We have been tracking it actively. Our interns on the ground in China have been visiting Internet cafes and we have different ways to track app store activity. Our research suggests it is the number one game in China. We think it will generate about \$1 billion in revenue. To put that revenue figure in context, the company generated around \$2.6 billion in revenue last year, so it is a very meaningful contributor. They have several other mobile games in the pipeline that could deliver additional upside. NetEase has appreciated in the last six months, but we still think this is the best opportunity for playing the mobile gaming S-curve.

**G&D:** *And the console gaming opportunities?*

**AS:** Everybody thought mobile would kill the console. That is not happening at all. The console has remained strong due to the connection to the internet and the ability to generate recurring revenue through downloadable content. The popularity of certain console games has continued to increase massively. The margins have generally increased as downloadable content has high incremental margins without any margin shared with retailers.

We see it as a big renaissance

*(Continued on page 15)*



## Alex Sacerdote

for the gaming industry. The console market is now more lucrative and mobile is opening up a potential new market for them. We are looking for companies with great IP that can now use that IP in other ways that might not be appreciated. We think Electronic Arts (EA) has done a fantastic job with FIFA and NFL Ultimate Team.

**G&D:** Do you have any advice for Columbia students looking to enter the investment management industry?

**AS:** I think you have to be in the business for the right reasons. It's really important to be very curious and have a passion for investing because there are so many people out there competing with you. It's really important to love what you are doing.

In this business, it's not about sheer brain power, SAT scores, or an MBA from a leading business school. Those factors help and of course are nice to have, but they do not guarantee success by any stretch. I've worked closely with scores of investors across roles and across strategies in my career, and really a small percentage are truly gifted and able to generate alpha over long periods of time. I've thought a lot about what characteristics these people have in common which I think may be important for your younger readers to consider if buy-side public markets are the right path for them.

Some stock picking can be trained or learned but there may be an innate aspect to it — an inherent savviness, contrarianism, and creativity in

thinking. I view it as a willingness, if not a passion, to challenge the status quo or vehemently argue other viewpoints, coupled with a flexibility and openness to adjust to new facts and information. You have to love learning and really get excited when you gain conviction in a theory. You have to be a sponge for information and ready to learn from anyone or anything.

Munger talks about how Warren Buffett is a learning machine with his constant reading. At Whale Rock we talk about this concept of the learning machine and how we can become better learners individually and as a team. It's not how many brain cells you have, it's how the synapses fire together and this is why we focus a lot on effective communication within the team. We spend a lot of time collecting data, but much more important is developing insights from it and building it into our collective thinking.

Also, for those interested in investing, there are a lot of really helpful books that you can read. My favorite for growth investing is *Common Stocks and Uncommon Profits* by Philip Fisher. It is essentially the Bible of growth investing. Philip Fisher was doing this in the 1950s and almost everything he says in that book is true today. In the book, he outlines 15 elements of a great growth stock. When I read the book, I was amazed at how similar it was to our process for conducting research.

*The Gorilla Game* by Geoffrey Moore is the best book on tech investing. A lot of what

we do at Whale Rock can be found in this book. And finally, I can't leave out *The Tao Jones Averages: a Guide To Whole-Brained Investing* by Bennet Goodspeed. The thesis of the book is that Wall Street and academia favor and attract left brain thinkers who are good at linear thinking and can crank through problem sets quickly. But to really spot big inflections and change (where the real money is made), especially in technology, it's often the domain of the right brain which is more spatial and intuitive. Right brainers can connect dots from seemingly disparate sources to put the whole picture together.

I also encourage students to invest on their own. It doesn't have to be a lot of money, but if you do it on your own account, you will learn a great deal.

Lastly, if you are trying to enter the business, make sure you have two or three reports on companies you really like with supporting models and a well-articulated thesis. It's important to demonstrate that you can really do the research.

**G&D:** Thanks so much for your time, Alex.



Nielsen Fields '17

Nielsen is a first year MBA student at Columbia Business School. Prior to CBS, Nielsen was a Co-Portfolio Manager and Senior Analyst at Summit Global Management, a long biased hedge fund.

## Merger Arbitrage with Special Situation Spin-Off Long RNF/Short UAN

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### Executive Summary

- Rentech Nitrogen (RNF), a publicly traded variable rate fertilizer MLP, is selling its East Dubuque, IL facility to competitor CVR Partners (UAN). RNF holders will receive 1.04 shares of UAN, \$2.57 in cash, an estimated \$0.23 of incremental distributions, and continued ownership of the Pasadena, TX facility which will be either sold or spun-off prior to close of the transaction.
- The market, pricing RNF shares at \$12.00, fails to recognize positive incremental value through the distribution disparity between RNF and UAN while also ignoring additional value accretive to RNF shareholders through the sale or spin-off of the Pasadena facility – an ammonium sulfate producing facility likely worth between \$0.77 and \$2.25 per RNF share.
- By going long RNF shares and shorting the necessary number of UAN shares (1.04 per RNF Share) the investor can create a net position for roughly \$2.00. At close, the investor will receive UAN shares in the amount to cover the short, \$2.57 in cash, net incremental distributions per share of \$0.15, and any value created through the sale or spin-off of the Pasadena facility worth a probability weighted value of \$1.43. In total, the investor accrues \$4.14 in cash on a \$2.00 net investment.

### Relevant Statistics

	RNF	UAN	The Offer	
Price	\$12.00	\$9.63	UAN Price	\$9.63
Shares Outstanding	39m	73m	UAN Shares/RNF Share	1.04
% Free Float	40%	46%	Value in Shares	\$10.02
Majority Owner	Rentech (RTK)	Icahn Ent (IEP)	Cash Per Share	\$2.57
<b>Liquidity Statistics</b>			<b>Total Offer Value</b>	<b>\$12.59</b>
Avg Daily Volume	145k Shares	230k shares	<b>Unrecognized Value</b>	
Avg Daily Value	~\$2,000,000	~2,500,000	Net Expected Distributions	\$1.15
50% of Volume	\$1,000,000	\$1,250,000	Pasadena Expected Value	\$1.43
<b>Pricing Prior to Deal Announcement</b>			<b>Total Additional Value</b>	<b>\$1.58</b>
Day Prior Price	\$10.30	\$10.69		
30 Day VWAP	\$13.56	\$12.40		

### Deal Rationale

#### Parent Rentech (RTK) a Forced Seller

- Rentech is transitioning from an alternative energy business to a wood fiber business
- Leverage grew substantially with debt, financed by GSO Credit Partners, to fund wood fiber expansion
- RTK needed to monetize RNF ownership to pay down debt and fund rising wood fiber expansion costs
- New CEO focusing entire organization on wood fiber business versus operating two disparate businesses

#### CVR Partners a Motivated Buyer

- CVR Partners input is petroleum coke vs Rentech Nitrogen's input of natural gas
- CVR Partners' facility is located in Coffeyville, KS while Rentech Nitrogen's facility located East Dubuque, IL
- Combining these assets diversifies both input costs and facility locations and offsets turnaround years
- RNF facility ideally situated in the heart of corn belt, with barge access and adjacent land for future expansion

#### Pasadena Facility Excluded But a Lynchpin

- Pasadena has been a troubled asset since RNF purchased the business in 2012, CVR Partners has no interest
- 2015 is the first year under RNF ownership that Pasadena is expected to generate positive EBITDA
- S-4 lists Pasadena equity value at just 30% of RNF's original purchase plus associated capex

#### Why is there still an arbitrage opportunity?

##### Liquidity Impediments

- The trade has a gross exposure 11x greater than net exposure
- RNF average daily value traded is \$2m while UAN average daily value traded is \$2.5m
- Both are limiting factors in arbitrage funds' ability to build a meaningfully sized net position

##### Master Limited Partnership Structure

- Investors have to be willing to file a k-1 due to the MLP structure of RNF
- Excludes some institutional investors and reduces total capital able to arbitrage opportunity

##### Investors Fail to Realize Pasadena Piece

- 65% and 84% of RNF and UAN free float respectively is held by retail investors
- Bloomberg deal premium at ~5% (Pasadena sale cited in notes) Quants not seeing deal economics properly

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## Merger Arbitrage with Special Situation Spin-Off (Continued)

### Pasadena Asset Value

Due to parent company Rentech's decision to explore strategic alternatives for RNF and the subsequent belief that the Pasadena facility would be either sold or disposed of, the company performed an impairment test in Q2 2015. Management concluded the Pasadena facility's carrying value was no longer recoverable and wrote down associated assets by \$101.8m to their estimated value. A value based on indications of interest received from potential buyers. The remaining \$73.7m of equity value listed in the recently filed S-4 represents the best estimate of Pasadena's fair value, equating to \$1.9 per share.

Alternatively one could value Pasadena based on facility EBITDA, which management projects to be \$10m in 2015. In fact I believe this to be conservative guidance. Year to date EBITDA totaled \$5.4m and when questioned whether the lower second half balance of \$4.6m was seasonally related or other, the CEO answered, "I think it's prudence from trying to get a number right for once on that plant." At a range between 4x and 7x EBITDA, Pasadena would be worth between ~\$1.00 and ~\$1.80 per share. Likewise a free cash flow based DCF model yields values between ~\$0.80 and ~\$1.50 per share (seen in the tables below).

Pasadena Value Based on EV/EBITDA						Pasadena Value Based on DCF							
EBITDA	EV/EBITDA					Discount Rate	Growth Rate						
	4.00x	4.75x	5.50x	6.25x	7.00x		(1.5%)	(0.75%)	0.0%	0.75%	1.5%		
	\$7.50	\$0.77	\$0.92	\$1.06	\$1.21		\$1.35	11.50%	\$0.79	\$0.85	\$0.91	\$0.98	\$1.06
	\$8.75	\$0.90	\$1.07	\$1.24	\$1.41		\$1.57	10.75%	\$0.84	\$0.90	\$0.97	\$1.06	\$1.15
	\$10.00	\$1.03	\$1.22	\$1.41	\$1.61		\$1.80	10.00%	\$0.90	\$0.97	\$1.05	\$1.14	\$1.25
	\$11.25	\$1.16	\$1.37	\$1.59	\$1.81		\$2.02	9.25%	\$0.96	\$1.04	\$1.13	\$1.24	\$1.37
\$12.50	\$1.29	\$1.53	\$1.77	\$2.01	\$2.25	8.50%	\$1.03	\$1.12	\$1.23	\$1.36	\$1.52		

### Alternative View & Key Risks

The key risk with the investment is the transaction not closing. If prices of both RNF and UAN revert back to the pre-deal closing prices, the expected downside is \$2.80. One could also take the viewpoint that the market does in fact recognize the value of Pasadena but believes the probability of the transaction closing is just under 60%. Even at an implied 60% chance of close, the probability weighted upside/downside ratio is still ~2.2x.

The probability of close is far higher than the market's expectations solely based on the majority ownership of both companies, each having agreed to the deal. Additionally, UAN is acquiring the facility for \$2,300 per gross ammonia ton, a similar price to recent new builds in the region near the end of their construction timeline. In buying the facility UAN avoids a risky four year construction runway and benefits from immediate cash flows.

For an additional valuation point, CHS recently purchased 8.9% of CF Industries' North American production at a price >\$4,000 per gross ammonia ton. UAN is by no means overpaying for the assets (see figure below: Cost per Gross Ammonia Ton). Meanwhile RNF is a forced seller at the \$2,300 per gross ammonia ton due to its need to pay down debt and fund growing wood fiber expansion costs.

Finally, the likelihood that regulation will be an impediment to this deal closing is de minimis given that on a combined basis production is just 3% of North American nitrogen fertilizer demanded.

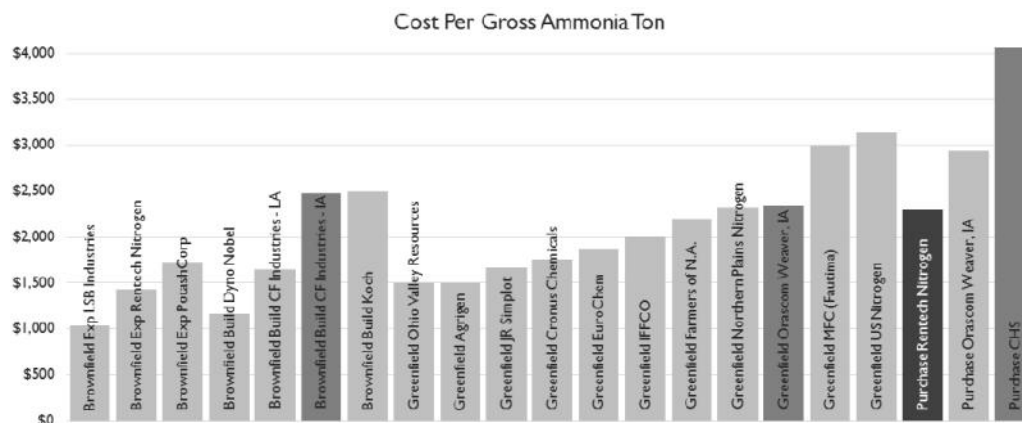
Upside/Downside Ratio Calculation				
Downside	Shares	Price	Prior Price	G/(L)
RNF Shares	1.00	\$12.00	\$10.30	-\$1.70
UAN Shares	(1.04)	\$9.63	\$10.69	-\$1.10
Total Downside				-\$2.80
Probability of Break-Up				40%
Probability Weighted Downside				-\$1.12

Upside	DPU	Pasadena	Cash	
RNF Shares	1.00	\$0.15	\$1.43	\$2.57
UAN Shares	(1.04)			
Total Upside				\$4.14
Probability of Deal Close				60%
Probability Weighted Upside				\$2.49

Upside/Downside Ratio	2.22x
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## Justin Hong '17

Justin is a first year MBA student at Columbia Business School. Prior to CBS, Justin was an Associate in the High Yield Bonds group at Oaktree Capital Management. He is currently a school-year intern at a family investment office.

## Tenneco Inc. (NYSE: TEN) - Long

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**Thesis**

Tenneco's share price has declined recently due to concerns over a slowdown in China, cyclical depression in the mining/agricultural end markets, and most recently, a large disruption at a major customer (Volkswagen). However, these issues do not impact the secular tailwind from increasing global automotive emissions standards. Tenneco has #1/#2 global market share in components and systems that help reduce emissions and will benefit both from increased per-vehicle content adds and robust volumes as OEMs increasingly seek suppliers with scale. Lastly, the Street is also discounting the accretive potential of Tenneco's recently announced accelerated share repurchase program. My target price of \$61.00 represents ~36% upside from the current share price.

**Business Description**

Tenneco is a global Tier 1 auto parts supplier that serves both automobile OEMs and the repair and replacement aftermarket. The company operates in two divisions: Clean Air (emissions control) and Ride Performance (stability, comfort, and safety). Revenue and EBIT split between Clean Air and Ride Performance, excluding low-margin substrate sales, are roughly 60%/40% and 63%/37%. Aftermarket sales are about 15% of total sales. The company has 90 manufacturing centers and 15 R&D centers located on every continent. As of FY14, Tenneco had ~70 different OEM customers and is well diversified for a Tier 1 auto supplier, with only two customers representing over 10% of revenues (Ford at 15% and GM at 13%).

**Investment Merits**

- **Increasingly Stringent Emissions Standards and Enforcement:** Government regulations in both developed and developing markets require automotive OEMs to substantially reduce vehicle tailpipe emissions. Tenneco will benefit directly from this secular trend as it has global #1/#2 market share positions in the growing market for emissions reduction products. In addition to rising standards, an underappreciated aspect of the secular story is the increase in enforcement of these standards. For example, in Europe, vehicle manufacturers will be required to meet emissions levels in real world conditions, as opposed to simulated conditions, beginning in September 2017. In China, compliance with emissions standards is currently low (~45%) but is expected to increase dramatically in the coming years. Stricter enforcement will put even more pressure on auto OEMs to seek components and systems that help them to achieve mandated targets.
- **Significant Per-Vehicle Content Add Opportunity:** I project Tenneco's organic revenues to grow at a faster rate than underlying growth in vehicle unit volumes due to increasing per-vehicle content additions. The power of Tenneco's content add story is seen in its most recent quarterly results - when global demand for commercial and off-highway vehicles were down 25% Y/Y, Tenneco's sales to this sector were only down by 4% Y/Y. Tenneco was able to offset the vehicle volume decline with significant per-vehicle added content.
- **Continued Trend of Vehicle Platform Standardization:** Light vehicle platforms such as Volkswagen's MQB and GM's Delta platforms that support well over 1mm+ units are expected to grow from 51% to 56% of global OE production from 2014 to 2019. Thus, OEMs are increasingly seeking suppliers with the scale to supply components for extremely large volumes on a global basis. Tenneco stands to benefit from this trend as one of the two largest and globally diversified suppliers of critical emissions reduction components.
- **Ride Performance and Countercyclical Aftermarket Exposure:** Tenneco's Ride Performance business, (40% of total revenues), is a solid business in itself. Similar to the Clean Air business, Ride Performance offers OEMs the scale and ability to supply to massive standardized vehicle platforms and also enjoys modest secular tailwinds due to the increasing need for technologies that advance fuel efficiency (efficient braking and handling) and vehicle safety (roll-over protection systems). In addition, ~37% of Ride Performance's revenues are from the aftermarket and its brands command #1 market share in most global markets. Aftermarket parts generally command higher margins than OE parts, and exhibit more consistent demand which offsets some of the cyclicity of Tenneco's OE businesses.
- **Accelerated Share Repurchase Program:** Management recently expressed frustration over Tenneco's valuation and accelerated its 3-year \$350mm share repurchase program to conclude a year early - by the end of 2016 (\$175mm per year). The repurchases will boost EPS in the near term and provided that shares continue to be undervalued, I believe management has the willingness to continue the repurchase program beyond 2016. Tenneco currently has the balance sheet and FCF generation to support this.
- **Opportunity in Adjacent Markets:** Tenneco is working to translate its emissions reduction technology to adjacent markets including locomotive, marine, and stationary motor applications. In fact, Tenneco recently became the first company to receive Chinese approval to sell marine SCR systems for diesel-powered Chinese-flagged vessels. Tenneco is also developing turnkey aftermarket emissions treatment systems for large locomotive engines. As emissions regulations for these adjacent markets are also becoming increasingly

Trading Statistics	
Price as of 09/30/15 close:	\$44.77
DSO as of 09/30/15:	61.4
Market Capitalization (\$mm):	\$2,747
Cash and Equivalents:	\$250
Total Debt:	\$1,230
Enterprise Value:	\$3,798
P/E (FY15E EPS):	10.5x
EV/EBITDA (FY15E EBITDA):	4.85x
52-Week High:	\$61.73
52-Week Low:	\$39.13
Avg. 3-Mo Daily Volume (mm):	0.717

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## Tenneco Inc. (Continued from previous page)

- stringent, I expect this to be a small but rapidly growing market opportunity for Tenneco.

### Investment Risks and Mitigants

- **The Auto OE Parts Sector is Highly Competitive and Cyclical:** The automotive parts sector has historically experienced cyclical downturns. Although we are currently in a healthy part of the auto OEM cycle, it is difficult to predict when the cycle will turn. However, Tenneco's secular emissions tailwind will remain intact despite the cyclicity. Tenneco also has the balance sheet and cost structure to withstand the next cyclical downturn. Management has done an excellent job of reducing leverage (currently ~1.3x net debt / EBITDA) since the recession, and cost rationalization programs have been successful at reducing overhead and administrative costs.
- **The Mining and Agricultural Markets are in a Cyclical Downturn:** The mining and agricultural end markets are both seeing cyclical depressions in equipment demand. However, the secular emissions story is still intact in these markets, and Tenneco stands to benefit once the cycle turns. Also, Tenneco has mitigated the cyclical downturn in the off-highway market by offsetting unit volume declines with per-vehicle content adds.
- **China Slowdown (and Other Macro Risks):** Concern over a slowdown in China's economic growth is currently spooking the markets. However a slowdown in the Chinese economy is not expected to slow the increasingly stringent emissions regulations that are being introduced there. In fact, Chinese President Xi Jinping recently announced that China's slowing growth will not deter much needed reforms, including reducing pollution from vehicle emissions. Tenneco's reported topline has also been pressured recently due to the strengthening USD, but on a constant-currency basis, revenue growth is still expected to be in the mid single-digits going forward.
- **Volkswagen Emissions Cheating Scandal:** As Volkswagen is Tenneco's third largest customer, Volkswagen's recent emissions cheating scandal has weighed on valuation. However, I believe this is a large overreaction from the market. Tenneco's revenue exposure to Volkswagen's North American diesel engine business is just \$7mm, only ~0.08% of total revenues. Revenue from the entire affected global MQB platform totals \$310mm, or roughly 4% of total revenues. The Volkswagen scandal will be a very short-term issue for Tenneco, and in fact I see this event as a long-term positive as it highlights how difficult it is for OEMs to meet emissions standards, and how serious regulators are in enforcing them.

### Variant Perception Recap

- The Street is currently preoccupied with potential macro/cyclical/temporary issues and is temporarily forgetting about Tenneco's underlying and long-term secular emissions story.
- Historical valuation multiples and comparables analyses suggest Tenneco should trade in the high range of comparable auto parts suppliers. The Street is currently lumping Tenneco within the broader universe of cyclical and lower value-add auto parts suppliers. I expect Tenneco's valuation multiples to mean-revert to more appropriate multiples as temporary headwinds subside and Tenneco continues to deliver solid organic growth.
- The Street is ignoring the impact of Tenneco's accelerated share repurchase program. Given the current undervaluation of shares, I expect the repurchases to be immediately accretive. In addition, if the undervaluation persists, I expect continued repurchases beyond FY16, given the company's strong FCF generation and low leverage.

### Valuation

Method	Price	Commentary
DCF	\$63.50	My best estimate of a conservative intrinsic value.
EV/EBITDA	\$59.47	EV/EBITDA is an effective way to compare multiples between different industries. I believe auto parts suppliers should generally trade at around 5x - 6x, and that Tenneco deserves to be valued at the higher end of this range.
P/E	\$59.88	Given competitor multiples and relative quality of Tenneco's business, I believe a 14x P/E multiple is conservatively appropriate. In addition, this implies a ~7% current earnings yield, which I believe is also appropriate for this business.
Sum of the Parts	\$61.13	More a confirmatory exercise as I don't believe the businesses would be separated, but if they were, the Clean Air division would command a higher multiple than Ride Performance.
<b>Target Price</b>	<b>\$61.00</b>	

	EV/EBITDA Valuation									
	Current	Base Case			Continued Repurchases			FY18	Upside	CAGR
		Current	Upside	FY18	Upside	CAGR	FY18			
Share Price	\$44.77	\$59.47	32.8%	\$91.07	103.4%	24.2%	\$94.62	111.3%	25.6%	
Shares Out	61.36	61.36		54.74			48.99			
Mkt Cap	2,747	3,649		4,985			4,635			
Debt	1,230	1,230		1,230			1,230			
Minority Interest	71	71		71			71			
Cash	(250)	(250)		(771)			(421)			
EV	3,798	4,700		5,516			5,516			
EBITDA	783	783		919	17.3%	5.0%	919	17.3%	5.0%	
<b>EV/EBITDA</b>	<b>4.85x</b>	<b>6.00x</b>		<b>6.00x</b>			<b>6.00x</b>			

	P/E Valuation									
	Current	Base Case			Continued Repurchases			FY18	Upside	CAGR
		Current	Upside	FY18	Upside	CAGR	FY18			
Share Price	\$44.77	\$59.88	33.8%	\$79.22	76.9%	19.0%	\$91.00	103.3%	24.1%	
Shares Out	61.36	61.36		54.74			48.99			
EPS	\$4.28	\$4.28		\$5.66	32.3%	8.9%	\$6.50	52.0%	13.6%	
<b>P/E</b>	<b>10.5x</b>	<b>14.0x</b>		<b>14.0x</b>			<b>14.0x</b>			

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Alexander Levy '17

Alexander is a first year MBA student at Columbia Business School. Prior to CBS, he was an equity research associate at Morgan Stanley covering coal, steel, and iron ore equities. Alexander graduated from Duke University with a degree in political science and is a CFA® charterholder.

## Las Vegas Sands Corp. (NYSE: LVS) - Short

Price Target: \$30

Alexander S. J. Levy, CFA  
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Cap. Structure (\$m)		Trading Statistics		LVS Estimates (\$m)					
Price	\$45.24	52-Week High	\$65.83	Revenue	13,770	14,584	11,537	11,058	11,043
Shares	797	52-Week Low	\$40.00	EBITDA	4,503	5,178	3,664	3,338	3,328
<b>Mkt Cap</b>	<b>36,074</b>	Avg. Daily Volume	5.4m	EPS	\$2.87	\$3.55	\$2.03	\$1.68	\$1.63
Cash	2,819	Short Interest	6.9%	<b>Macau Supply-Demand</b>					
Debt	9,818	Cost of Borrow	0.3%	Visitor Count (m)	29.3	31.5	30.4	29.7	30.5
<b>Net Debt</b>	<b>7,000</b>	Dividend Yield	5.5%	Gross Gaming Rev. (\$b)	45.2	44.1	27.7	21.6	18.9
NCI	1,397	GGR/Capita (\$)							
<b>EV</b>	<b>44,471</b>	\$1,542 \$1,399 \$909 \$727 \$618							
				Hotel Rooms	27,764	27,904	30,854	37,554	39,554
				Occupancy	83.1%	86.5%	75.5%	60.5%	64.0%

### Executive Summary

LVS previously thrived on rapid Macau gambling growth. That story is no longer intact as the Chinese economy slows, a corruption crackdown hits spending, and the industry faces margin pressure from oversupply. The company's traditionally reliable non-Macau cash generators face headwinds, and less likely but still real tail risks loom. Despite these challenges, consensus is betting on stabilization/recovery instead of on more realistic mean reversion away from boom times, creating an attractive short opportunity with ~35% downside to my \$30 price target.

**Optimistic Consensus/Valuation:** Despite major headwinds, consensus remains bullish, with estimates calling for 2016 EBITDA stabilization (+6% growth at SCL) and +7% growth in 2017. Only one sell-side analyst has a sell vs. 11 buys. The avg. target price is ~\$54. Short interest is only 6.9% of float, suggesting buy-side positioning is not too bearish. On optimistic consensus numbers, LVS trades at ~1x 2015/2016 EBITDA, but trades at an expensive ~12x/13x 2015/2016 EBITDA on my more achievable estimates (12%/20% below consensus in 2015/2016). Adjusting for non-attributable earnings from Sands China, LVS is even more expensive at ~14x/15x 2015/2016 EBITDA.

**Dividend/Buybacks at Risk:** LVS currently pays a 5.5% dividend yield on top of a remaining ~\$1.7b in buyback authorizations. However, the dividend, let alone the buybacks, are not covered by cash flow through at least 2017 on my estimates, creating risk of a cut longer term.

**Why This Opportunity Exists:** The China growth narrative, in general and related to Macau, is alluring – it worked for 10+ years. Today, both the sell-side and LVS' shareholders are betting that the current slowdown is a blip and that growth resumes in short order. Forecasting is anchored by years of profitability and growth, making contemplating a lasting downside shift difficult. Dividends/buybacks, although not covered, pay investors to wait, while the company is optimistic even as competitors admit caution.

**Why Short LVS and Not SCL:** 1) US market procedures and protections; 2) Most of LVS' leverage sits in the USco entity (6.4x net debt to TTM EBITDA vs. 0.5x at SCL and 1.5x consolidated), raising LVS' vulnerability to lower intercompany cash flows from Macau/Singapore.

### Company Description

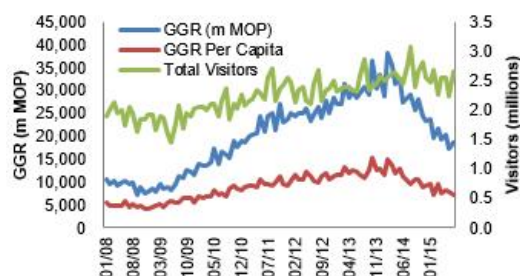
LVS is a US-based gaming and lodging company that operates integrated resorts with hotel, gaming, entertainment, and retail components in Las Vegas, Pennsylvania, Singapore, and Macau. In 2014, 13% of revenue and 8% of property EBITDA were earned in the US, with 22% and 32% respectively earned in Singapore and 65% and 60% respectively earned in Macau. LVS operates in Macau via a 70.1% stake in Sands China Ltd. (SCL, publicly listed in Hong Kong as 1928.HK). Sheldon Adelson is the controlling shareholder (54% stake), chairman, and CEO.

### Investment Case: Short

LVS' Macau earnings are driven by 3 factors: visitor count, gross gaming revenue (GGR), and non-gaming spend (shopping & hotel). I expect all to be pressured as demand slows and competition intensifies.

#### 1) Visitor count already falling & unlikely to resume steady growth near-term

- Slowing Chinese economic growth, a corruption crackdown, and visa restrictions have weighed on Macau visitor count, with entries falling 3.5% YoY YTD. 67% of Macau visitors are from mainland China.
- Macau has proposed capping the number of Chinese visitors at current levels (~21m/year) to preserve resident quality of life.
- Improved travel infrastructure is unlikely to materialize over the next few years. The Macau-HK bridge slated for 2016 could take until 2017+ to finish as costs rise. A light rail project in Macau may not be ready until 2017/2018.
- Proposed expanded smoking ban could scare away customers, given ~25% of China smokes.
- Bulls argue that Macau has a long penetration runway given 34% of people in the US gamble, but only 1.5% in China have visited Macau. However, a much larger 8.7% of people in Guangdong (province closest to Macau) have visited. Furthermore, China's GDP/capita is ~\$7k vs. \$53k in the US, meaning income levels must meaningfully increase (not easy with slowing growth) before people can afford to visit.



Editors' Note: LVS share price as of September 18, 2015 as originally presented.

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## Las Vegas Sands Corp. (Continued from previous page)

- Chinese consumption patterns mean that avg. hotel stay length is unlikely to grow. Visits to Macau are high frequency but short duration (1.2 nights on avg. vs. 3.6 nights in Vegas). High minimum table stakes mean gamblers often exhaust funds quickly. In China, annual vacation entitlement is only 5 days for people with <10 years of work and 10 days for people with 10-20 years, limiting time off. During public holidays, people often go home instead of abroad.

### 2) Gross gaming rev. (GGR) under pressure from corruption crackdown and shift to mass market

- An ongoing Chinese corruption crackdown has had a chilling effect on Macau VIP gambling. Mix is shifting towards the lower spending mass market. Enforcement is also targeting junkets, which recruit high rollers.
- LVS will have trouble making up for lost VIP business as mass market has a lower GGR/capita: \$232 avg. in Vegas vs. \$1,399 in Macau. In addition, bulls point to 40% mass market gaming margins vs. 10% VIP, but LVS already gets ~74% of Macau gaming profits from mass market.

### 3) Explosive gaming/lodging supply growth (despite slowing demand) will likely pressure margins

- Casinos are rapidly expanding gaming and hotel capacity over the next 2-3 years. There are six integrated resort & two hotel projects under way. If these materialize, the number of rooms will grow by 47% vs. 2014 while the number of tables and slot will rise by 53% and 75%, respectively. Even the most optimistic demand scenarios are insufficient to absorb this new capacity, and I see total hotel occupancy in Macau falling from 86.5% in 2014 to ~60% by 2016, and only recovering to ~70% by 2018. Hotels are ~15% of LVS' Macau profits.
- Gaming licenses require casino projects to advance and remain operational regardless of conditions. As oversupply grows, margins will come under pressure as competition intensifies to fill resorts. Gaming/lodging is a competitive, high fixed cost, capital intensive industry. Once the capital is in the ground, owners are incented to fill capacity by competing on price to take advantage of high fixed cost leverage.
- Amidst oversupply, LVS may need to increase discounting/advertising/promotions to fill rooms. Wages are growing by 5-10% annually as unemployment is sub-2%. For reference, Vegas EBITDA margins are ~20% vs. ~30-35% in Macau.
- Regional competitors in Korea & Philippines are adding new casinos to attract Chinese tourists, while Japan could do so before the 2020 Tokyo Olympics. The number of Chinese visitors to Korea has grown by 5x vs. 2009, and Korea is closer to Beijing/Shanghai than Macau. Non-Macau avg. minimum table stakes are lower (\$270 in Macau vs. \$50 in Singapore, \$20 in Korea/Vegas), increasing mass appeal.

### 4) Non-gaming spend not immune from slowdown and vulnerable to non-Macau competition

- Mass market customers have a lower ability to pay for high priced lodging/food/luxury goods than VIP visitors.
- LVS' strategy to increase non-gaming revenue relies on large retail complexes (~12% of LVS' Macau profits). A slowing Chinese economy and corruption crackdown could lower sales, which drive ~30-40% of rent income. While sales at LVS malls have been resilient, jewelry sales in Hong Kong are -15% YoY YTD while clothing sales are -5% YoY YTD.
- LVS' strategy to increase reliance on non-gaming revenues (hotel, food, shopping) strays from gaming, which has a competitive moat (Macau is the only part of China with legal gambling). In comparison, the market for China's non-gaming tourism dollars is quite competitive, with new destinations such as Disneyland Shanghai opening up.

### 5) Singapore & Penn. casinos, usually reliable cash flow generators, are facing headwinds many overlook

- YTD, the Singapore Dollar has appreciated by ~14% vs. the Malaysian Ringgit and ~9% vs. Indonesian Rupiah, disadvantaging gamblers from these countries, while at the same time weakening vs. the USD by ~5% (negative for earnings translation). Slowing Chinese growth could affect the Singapore economy (~17% of local GDP from exports to China).
- New casinos in the Northeast (PA, NJ) could take market share from Sands Bethlehem.

### 6) Downside optionality: Political/tax tail risks threaten terminal value

- LVS' Macau gambling subconcession expires on June 26, 2022. Unless it is extended, all casinos transfer to the government without compensation. In addition, the cap on the number of gaming licenses in Singapore expires in 2017.
- LVS has two significant tax arrangements with Macau that expire at the end of 2018, which could subject SCL to a 12% tax on dividend distributions.

### Valuation

My \$30 price target is derived from a DCF valuation cross checked against a sum-of-the-parts valuation model. My EBITDA estimates are 12%/20% below consensus in 2015/2016, respectively, as I anticipate further deterioration in the market on both demand declines and margin compression from increased competition. Note that my terminal year assumes a generous 15% ROIC, meaning that a more severe structural impairment of the Macau story could lead to further downside. For valuation purposes, it is important to properly adjust out non-attributable earnings/cash/debt related to the non-controlling interest in SCL. Some may not make this adjustment, flattering LVS' valuation.

### Downside Catalysts

1) Opening of competing Studio City casino on October 27, 2015; 2) Negative sell-side estimate revisions and/or downgrades; 3) Continued declines in Macau quarterly revenues/earnings; 4) Further weakness in Macau's monthly GGR/visitor statistics; 5) Stronger USD and/or weaker RMB; 6) Expanded smoking ban; 7) Loss of preferential tax treatment; 8) Changes to gambling subconcession; 9) Dividend cut.

### Upside Risks

1) China relents on anti-corruption drive; 2) Chinese stimulus; 3) Macau relents on smoking ban and/or visitor caps; 4) New hotel/gaming supply delayed; 5) Macau infrastructure projects accelerated; 6) Aggressive share repurchases.

### DCF Summary

Cost of Equity	12.1%
LT Growth Rate	4.2%
Implied Terminal EV/EBITDA	9.0x
<b>Value/Share</b>	<b>\$30</b>
Upside/(Downside)	(35%)

	2016	EBITDA	Multiple	Value
Las Vegas	266		10.0x	2,662
Pennsylvania (Attrib.)	109		8.0x	875
Singapore	1,405		11.0x	15,451
Macau (Attrib.)	1,248		12.0x	14,978
Corporate	(240)		11.2x	(2,692)
<b>Total EV</b>	<b>2,788</b>		<b>11.2x</b>	<b>31,273</b>
Net Debt (Attrib.)				7,687
<b>Equity Value</b>				<b>23,586</b>
Share Count				799
<b>Per Share</b>				<b>\$30</b>

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## Ed Bosek

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Ed Bosek

### Capital.

#### Graham & Doddsville

**(G&D):** Could you start off by telling us about your background?

**Ed Bosek (EB):** I was raised in Staten Island and went to Regis High School in Manhattan. I think my background ties into what I'm doing today as I learned early on to have a differentiated view and pursue my own path for success. In my formative years, I chose to do something very different from everyone else in the neighborhood. While my friends went to the local high school, I, by choice, commuted two hours each way to the Upper East Side to attend Regis, an all-scholarship, Jesuit prep school. The Regis experience gave me a different perspective on life and taught me how to think for myself.

I was accepted to the University of Pennsylvania and, at that point, I wanted to be a doctor. Growing up in Staten Island, I wasn't really exposed to investing as a career option. After arriving at Penn, I was surrounded by Wharton students, who brought an intellectual rigor to finance and economics that I hadn't seen before. I became intrigued by investing and started taking some economics classes in addition to my pre-med coursework.

At the end of my freshman year, I transferred to a dual degree program with the College and Wharton, in order to receive both a pre-med and Wharton degree. Towards the end of my sophomore year, which coincided with the height of the Internet bubble, I

decided that I wanted to get my MBA. I didn't want to go back to school later for a graduate degree, so the idea of getting an MBA in conjunction with my undergraduate degree was very attractive. I had started school early and was young for my class so, if I completed the Wharton MBA submatriculation program, I could still graduate on

***"I learned early on to have a differentiated view and pursue my own path for success."***

schedule. I was lucky enough to be accepted and graduated with an MBA at 22.

For most of my early life I never really left the United States or the East coast and, in fact, really only knew this 90 mile corridor around Staten Island. To broaden my horizons, I decided to do an MBA internship in Europe and worked at Deutsche Bank in London. After the internship, I received a full-time offer from Deutsche Bank and I accepted. However, I quickly realized that investment banking was not my calling so I started to look around for other opportunities in London.

I began learning more about the hedge fund business, which was nowhere near what it is today—there were only a handful of household names. I wanted to join a place called Atticus Capital, which was not a widely known firm at that point. I think it's really important to realize that, when you are making decisions about

where you want to work, you should spend a lot of time thinking and focusing on who you are going to work with. The hedge fund industry, in essence, is a group of small businesses run by entrepreneurs where each managing partner does things differently. Generally speaking, the whole organization is really a reflection of how the person running it wants it to operate. When I met Tim Barakett, the founder of Atticus, within 10 minutes I was thinking, "Okay, I want to work for him."

**G&D:** What about Tim Barakett made you want to work there?

**EB:** I joined the Atticus European fund when their AUM was about \$250 million dollars, around the same size as BeaconLight is today, and overall, Atticus managed approximately \$1 billion dollars. Tim had incredible charisma and a focused energy that just blew me away. I was also interviewing at bigger places that were probably more like investment banks in terms of culture. Atticus was more appealing as I would be the fourth person on the European team. I took a week off in between investment banking and joining Atticus. It was just four of us sitting in a room in London picking stocks. Looking back now, I realize that success in life is not only just about how good you are, but also how good the opportunity set is. We were emerging from the fallout of the tech bust and there was heightened tension in the Middle East, so the market was very depressed. It was August of 2003 and it was a really attractive entry point for

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## Ed Bosek

stocks.

Fast forwarding a few years, by the end of 2007, Atticus' assets had soared to \$22 billion dollars, of which \$13 billion was due to performance. There was still a small investment staff, all of whom were generalists, outside of the occasional specialist. I was fortunate to be able to contribute to the firm's success.

The performance run at Atticus came after a transition in investment strategy. Atticus had a risk arbitrage and event-driven bias, but there was a dearth of opportunity in risk arbitrage in 2003 because rates were really low and every deal was getting done in cash. The fund evolved to be more directional and concentrated.

By 2004 I became involved in some activist situations before activism took center stage in markets. It was an amazing experience to see so much at a very young age. I worked for two portfolio managers at Atticus: David Slager, who ran the European fund, and Tim Barakett, who ran the U.S. fund. What made the opportunity at Atticus so extraordinary was that both PMs were willing to back you as an analyst if you were willing to do the work and convey conviction in an investment. Whether you were 22 or 42, it didn't really matter. That was really empowering as a young investor.

At the end of 2004, the European team moved back to New York and we became one team. We were still two funds, but we were all working together. David is more of a

value investor and Tim is more of a quality—and in some ways momentum—investor and he likes really great stories. I would pitch things that David loved, and Tim would hate them. Then I would pitch things that Tim loved and David would hate them. When you're confronted with two starkly different ways of thinking about investing, it forces you to examine and develop your own investment philosophy. Most investors' philosophies can be boiled down to a set of

***“Most investors’ philosophies can be boiled down to a set of rules. How well you follow and hone those rules over time is really what determines your investment acumen.”***

rules. How well you follow and hone those rules over time is really what determines your investment acumen. It's important to keep in mind that you have to maintain some flexibility around those rules. People can have very different rules and be very successful investors. You have to match your rules to your personality in order to avoid behavioral biases or other problems that detract from your process.

In order to be consistent with both Tim and David, I began refining my own investment philosophy, which is the foundation of what we employ

today at BeaconLight. I would search for ideas that would look cheap to David, so they'd be great value investments, and that, simultaneously, had a great story, which I knew would be really appealing to Tim. That really was how I started doing things at Atticus, and it's carried on over the last decade to how I see the world at BeaconLight. For us, it's about finding interesting opportunities where we see businesses very differently than the market, often on multiple levels.

**G&D:** When did you decide to leave Atticus?

**EB:** I decided to leave in early 2009. When you're managing \$10, \$15, or \$20 billion in essentially one fund, it's quite hard to be differentiated and create alpha. In addition, when you're that big, it's also difficult to be nimble and generate alpha on the short side which I believe is a critical component of managing capital through every market cycle. To give you some perspective, if you're \$20 billion, your minimum position size is probably half a billion dollars.

My investment philosophy translates extremely well to the short side because we employ the exact same process both long and short. A lot of investors' approaches to evaluating companies don't function well on the short side, so they need different long and short strategies. I have based our philosophy on conducting deep, fundamental research where we see things differently and can be proven right. Whether you're long or short, it's really the same type of analysis, I believe. If you were

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to have the same concentration on the long side that we used at Atticus, balanced by a rigorous short book that's all alpha-driven, over time you could really reduce volatility. Quite simply, you wouldn't have drawdowns that long-biased funds have and, by being concentrated, you could still compound capital if you're right. That was and continues to be the mission at BeaconLight. Ultimately, I left Atticus in early 2009, and I launched in January of 2010.

**G&D:** Did your investment philosophy at BeaconLight change over time?

**EB:** Not really, but our execution has been fine tuned. We launched BeaconLight when I was 29 with just \$50 million of total capital, a portion of which was internal, so we were a very small fund. To date, we have grown in a controlled fashion because, regardless of size, we have wanted to maintain a disciplined investment process that is focused on deep research.

Given that I had a long bias during my tenure at Atticus, I was extremely focused on having a balanced portfolio at BeaconLight. I certainly experienced growing pains and a learning curve as any investor would. Investing is a journey to understanding yourself. To understand who you are as an investor, you have to expose yourself to grow and improve and, ultimately, to figure out how your strategy works best. For me, the biggest area for growth was working with and leveraging a team of analysts. At Atticus, I was responsible

for my own idea generation and all the analysis. Delegating part of the investment process to my team, while also remaining highly involved, was one of the bigger learning curves.

**G&D:** Do you have any exposure to emerging markets?

**EB:** We have had very little exposure to emerging markets as we only consider stocks that we can take a medium-sized, 3% or 4% position in. Today that's \$10 million a day in average daily volume. There are 6,000 stocks in the world that trade about that much—2,500 are in the U.S. and about

***"I was given a remarkable opportunity and, as a result, learned a lot of the lessons that others maybe never learn in their careers."***

1,500 are in China. The rest of the world pales in comparison which limits our exposure to those regions. I think the European country with the most names with that level of liquidity is Germany and they have less than 100 companies we could consider.

When you start thinking about the emerging markets, Brazil has less than 30 companies that trade enough for us to invest. So, we're a bit constrained around the emerging markets; however,

we are doing a lot of work in China and we can talk about this in greater detail. We think there is an enormous opportunity on the long side right now given the level of government stimulus and market dislocation.

Internationally our exposure has largely been Western Europe and other developed markets. We've had emerging market positions here and there, but they tend to be sort of one-off.

**G&D:** What was the fund-raising process like, especially coming out of the crisis?

**EB:** I think we have a very unique history as a firm. People look at us today and say, "Now, you have a five or six year track record. You're still relatively small. You have good pedigree. Why do you exist?" Hedge fund managers who have been around this long would have either quit or would be managing more capital, and we don't make sense to some people in that context.

I was, in some ways, really lucky that my entire career was incredibly accelerated. I graduated with an MBA at 22 and was a partner at one of the world's biggest hedge funds at 26. I was given a remarkable opportunity and, as a result, learned a lot of the lessons that others maybe never learn in their careers, such as being too big in a position or investing in illiquid assets. I experienced disruption post the financial crisis at a time in my life where it might have seemed more ideal to stay the course. If Atticus had been structured differently and were still around today, I would have

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been perfectly happy being a partner there.

Given the initial trajectory of my career, I made the conscious decision to take things very slowly with BeaconLight. When we were launching in the end of 2009 the environment was awful. There were some former Atticus investors, who might have partnered with us, but given our fund was going to run 30% net exposure, and not 100% net, it didn't really make sense to talk to these investors, even though they were familiar with me. For us, it was about raising enough capital so we could run our process the way we wanted to run it. I was lucky enough that I could take the long view in building the firm's culture and process. Specifically, one of the reasons we turned down some seed offers was the seeds' emphasis on raising substantial capital by the end of one or two years which we weren't ready to do. The fundraising market was tough, which was certainly a headwind, but we didn't really have ambitions to be very big upfront. As we walk through some of those market liquidity statistics, it means that equity funds and hedge funds with our strategy probably should never be that large. We firmly believe that \$2 billion of capital is the maximum size where we can still generate the type of alpha we'd like to create.

Our average long has outperformed our average short since we launched—that's what we call alpha spread. With our approach to investing, there is probably a direct correlation between size and how strong that alpha

spread can be. We think we have a lot of running room between here and that point. We've been fortunate enough to take the long view on asset growth while putting together what we think is a world class team. I think if you do that and perform, the capital will follow. It is easy to grow your assets ahead of your business and not have longevity. For the long-term, I think it's important to do things your way.

**G&D:** Are any other former Atticus folks who started funds still around?

**EB:** None of the spinouts from that vintage are around today. But you have to remember, I was young and some of those

***“A lot of people think being a hedge fund manager is really glamorous, but it's not. It is hard work.”***

managers were a bit further along in their careers. I don't think that the fact that they shut down is a reflection of them not being good, but probably more a function of where they were in their careers. There are some incredibly talented people in that pool.

A lot of people think being a hedge fund manager is really glamorous, but it's not. It is hard work, particularly in a long/short equity structure with one portfolio manager: it all comes down to you getting things right. If you love doing it, the hard work is well worth it, but it can be very stressful, so it's not for everyone. I think

it makes perfect sense for people that have been partners at massively successful funds to want to do something else with their time.

**G&D:** You mentioned earlier that it's key to see something differently than how market sees it. What does that mean for you?

**EB:** We look for opportunities that are “FMD.” That's our own jargon for “fundamental, meaningful, and different.” “Fundamental” really has to do with the underlying drivers of the business. It's about the earnings being different from consensus expectations—not the multiples being different. “Meaningful,” for us, is about the magnitude of the difference. We're not looking for a company that could beat earnings by 5% this quarter; we are looking for companies where next year its earnings could be 100% to 200% higher on the long side. On the short side we want to find a business that is going to be worthless but where everyone else thinks they're going to make a lot of money over the long-term. That is really what we're thinking about when we're thinking “different.”

Then the question is how does that happen? We are global generalists and think the best way to invest is to generate ideas as a generalist. We look for things that don't seem to make sense, and then as we do the work, it's important that we become experts. To take really concentrated, conviction-weighted positions, you need to be an expert to truly understand the investment. I think edge is difference multiplied by conviction. It's

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really easy to think you see something differently but not have conviction. It's also easy in some cases to have conviction but not be different. The combination of the two creates really exciting investments where you can have substantial returns. Given the way our portfolio is structured, we don't use leverage or take a lot of gross exposure; so for us, it's all concentration risks. Our top five positions are 50%+ of our long book and we have similar types of concentration on the short side. Our gross exposure in some cases is half of the industry norm and that makes our life really hard in terms of generating high returns, as stock picking is critical. But I think it also puts us in a position to see things in some cases very clearly because we don't get swung around by markets as much.

**G&D:** Can you talk about the challenge in picking idiosyncratic ideas in a bull market like the one we've experienced, particularly in the context of out-performing the benchmark where correlations are high?

**EB:** Investing is hard. There are a few ways to beat the benchmark. For example, you can take structural risks, you can use leverage, you can use beta, you can reduce liquidity, or you can use stock-picking skills to create alpha. That is, per unit of risk that you take, you're better than the benchmark.

In the last five years, almost every asset class has gone up, so it's been next to impossible to catch benchmarks. Those investors who have done best

from a performance perspective generally took a lot of the structural risks to the highest level they could—in a rising market this look really impressive. Through cycles, however, I'm not sure this is sustainable. You need some of the structural elements to allow really good stock picking to show through. No matter how good your stock picking is, if you don't have enough of it, it gets sort of washed away. You need the combination of the two. A lot of gross exposure funds run what we would call “lazy gross,” where they're just hedging and, by definition, not looking to create alpha. I think the alpha portion of picking individual assets differently is the piece that doesn't scale. Structural advantages can scale. It's one of the reasons we are so cautious about getting too big and have limits around how much capital we can run.

The last few years have tested investors, particularly if you've erred on the side of caution as multiples have just gone in one direction in certain parts of the world like the United States. Now, in other parts of the world, largely emerging markets, multiples have only gone in the other direction. It can be hard to discern if your stocks are really working because you're really smart or if it is just money flows that are chasing certain things. I think the more clearly delineated your roles and processes, the more you know if you're doing things how you want to. Returns are very important but how people define the concept of risk-adjusted returns is really important to understand in this industry.

There tends to be a reductionism in looking at performance down to net results. The average investor tends to invest in the strongest past returns and get the worst forward returns. That's been a function of markets for as long as they've been around. As a manager you try to pick the best things you can that are

***“The average investor tends to invest in the strongest past returns and get the worst forward returns. That's been a function of markets for as long as they've been around.”***

going to go up if they're longs or down if they're shorts, in almost any environment, thereby setting up a structure where your alpha can shine through whether the markets are up or down.

Upward markets have clouded whether hedge funds are putting up great returns. But this year the hedge fund industry in general has done really well because markets are down while the hedge fund industry is up. If you've been blaming lack of relative performance on rising markets, well, this should be the year where you get to tell people, “Look, the markets aren't up and we're creating absolute returns.” This should be the time to remind allocators about performance.

**G&D:** How do you go about finding these FMD situations?

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### Are there any common characteristics among them?

**EB:** We've generally found that the really great investments come down to one or two drivers that tell a story differently than people think. Part of it is experience and seeing different things over the last 13 or 14 years play out across different geographies. If you can identify what has potential to be those drivers, formulate a really good question around those drivers, and then just focus on answering that one question, you can really reduce the noise.

We typically find that specialists or people who closely follow businesses or industries get things wrong when there is substantial change. Maybe they have stale frameworks, i.e., some things have worked for a long time but something really new is happening. Sometimes having a fresh perspective helps you see changes more clearly. Another example is when there's an element of complexity not necessarily specific to the industry. It might be that there's a tech specialist who has a macro issue affecting a business or a legal issue affecting a business. That might be an opportunity for a generalist to come in and say, "We've seen this in other sectors, so we actually have some expertise here." Change and complexity often lead markets to get things wrong and hence create an opportunity.

Markets are pretty good at extrapolating trends that are in place and pretty bad at identifying inflection points.

We're on the lookout for those turning points and answering questions around complexity and/or change.

### G&D: Can you give an example of a key question?

**EB:** If you want to come up with differentiated ideas, you have to accept that the work you're doing has to be separated from the urgency of needing an idea today. For example, we've been spending 40% to 50% of our time on understanding China this year. There might be a lot of firms where a portfolio manager

***"Markets are pretty good at extrapolating trends that are in place and pretty bad at identifying inflection points. We're on the lookout for those turning points."***

wouldn't want his analysts spending that kind of mismatch of time versus investing; but we are prepared to do the work and be patient.

An example of how our questioning process works might be energy. Currently, we no longer have a very big short position in energy, but last August we were quite active. The genesis of the idea actually came from the work we had done on a long idea from 2012 on Flotek Industries (FTK). They make chemicals called surfactants, which you put into oil wells when you're fracking them. It essentially makes

water slippery, and enables more oil to be extracted from the ground. They were saying that if a company invested 1% or 2% on the cost of the well, they'd get 30% more oil out of the well. We concluded, "Wow! That sounds pretty good. I bet people would want to buy that product."

As we conducted the diligence to verify that, we started to realize there were customers who were seeing lots of other products and techniques to drive even more efficiency in drilling. Our idea is that U.S. onshore drilling is, in some ways, a closed system, where every dollar generated goes back into the ground, and each dollar that goes back into the ground generates more barrels of oil due to investments in efficiency. To take this idea a step further, each barrel of oil coming out of the ground, was also generating a higher profit margin as producers gained efficiency, which would then drive exponential growth in capital available to re-invest into this closed cycle.

At a high level, it was clear that the marginal cost of oil in the world was falling pretty dramatically. For us, it was about asking this original question about one company's products and being able to tie it to a broader trend. We started to see this real explosion in U.S. production in 2014. We had done the work two years earlier to clarify how this could happen. As it happened, it conformed to what we thought we would see and we started to short pretty broadly across the industry.

### G&D: Are you still short

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Pershing Square finalists present their investment thesis to the judges

today? What are the questions you're asking?

**EB:** When crude oil was at \$100, we were pretty convinced we were really different. Next we ask “what is the risk/reward?” Usually, if you think you really see something differently, and you're wrong, you don't get hurt that badly because nobody else is betting on it. If you're right, you can do very well. In this case, we saw asymmetry in companies that provided services or, in some cases, owned some resources in the oil industry.

Today, the debate is what the near-term low is going to be—not so much what the long-term price will be. If I were forced to do something, I would probably still be leaning a little short. We have one real position left in the energy space. We don't want to be in the position of fighting trends. If money's flowing in, how are you going to know you're right? After we establish our thesis, we think about something called a recognition point. If we see a thesis very differently, it's important to know when people will be forced to see what we see. We are going through the recognition point right now in energy and we'll probably be covering this last short soon.

The benefit of being a global generalist is that we're not forced to do anything. We just need to find the best ideas from a wide universe. You're never going to catch the top to the bottom in names. You have to accept that and just hope the next thing you find is better than what remains in what you've left behind.

**G&D:** Did you look at the other potential angles maybe where low oil prices are an input cost and somebody might benefit from that?

**EB:** We have to some degree. But when commodities are an input, often it's the same commodity for everyone else, so if economics get much better in an industry, it just gets better for everyone. You'd need to find a company

**“Really great theses have drivers that push on misperceived levers such as industry consolidation; a change in incentives; a change in behavior; a new product; or large acquisitions which changes competitive dynamics.”**

that has a real franchise that can hold pricing while their input costs are going down. We haven't found many of those. Certainly last year when oil first started going down, there was a rush to buy anything that uses oil. Three or four months later, people realized that all of their competitors used oil and all the stocks did poorly after that.

We're currently long a company that benefits from lower oil prices, but is considered an energy MLP and as a result, is just getting sold down every day while the

business has only improved. You realize it's going to continue until the whole sector has found the bottom. The people who own that stock probably own other energy names and are probably getting redeemed so they can't have one name left in their books.

If you were to get back to that, you'd say, “Okay, we think the business is getting much better. What's the recognition point? When will people care or start to see what we see?” We think that's a really good way to stay honest about your investment theses. Being firm about recognition points on the short side has led to a fair amount of success in the last few years. You could say, “This is a bad business, and it's one or two multiple points more expensive than it should be, so I'm going to be short it.” That type of investment lacks a recognition point and is not for BeaconLight.

**G&D:** What questions are you asking in China and how are you approaching that opportunity?

**EB:** We think really great theses have drivers that push on misperceived levers such as industry consolidation; a change in incentives; a change in behavior; a new product; or large acquisitions which changes competitive dynamics. We consider these levers when evaluating the financial statements. Next in our process, we ask ourselves why there is a misperception. I think many of these factors are relevant now in China. The economy is slowing down in a way that's concerning and there is confusion from a

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## Ed Bosek

macro level within China.

I think people who doubted China for the past ten years will continue to doubt it, and people who have loved China for the past ten years probably still love it. It's somewhat problematic to know exactly what's going on, but at the company level, it's actually a bit easier. Two of the most powerful drivers with the most levers for an investment thesis that we've ever witnessed are deregulation and demutualization.

At Atticus, my biggest contribution was buying financial exchange operators around the world. The theses were relatively straightforward. Exchanges were transitioning from being owned by their customers to their shareholders that, in turn, really drove a change in behavior, particularly around cost allocation and investment in the cost base. This led to potential for mergers, which would also dramatically change cost structures. In some of the exchanges that we owned, margins were 10% and ultimately skyrocketed to 60%.

China is still a command economy where there are a lot of regulated areas and a market where 70% of the market cap is owned or controlled by the state. We think that we're starting to see a demutualization of a lot of those companies against a backdrop of uncertain economic outlook, which is certainly leading to confusion and a lack of fundamental analysis. In China we're zeroing in on companies where there is both deregulation and demutualization.

There are hundreds of companies exposed to these dynamics. I think you want to be and you can be very choosy because there's a lot going on and people are not super focused on it. We think it's important you do the work today so you can be prepared when things start to really play out.

One example is the largest cargo railroad in the world called Daqin Railway (SHSE: 601006). Prices have been set for almost 20 years by the NDRC, the national regulator. The NDRC allowed Daqin to increase prices last year for the first time and then allowed

***“Two of the most powerful drivers with the most levers for an investment thesis that we've ever witnessed are deregulation and demutualization.”***

them this February to lift prices again. In August, the NDRC allowed Daqin to determine the prices so, for the first time ever, they could have some flexibility in setting prices, and they're already a 30% EBITDA margin business.

China is structurally short rail capacity and needs more of it, so a lot of cargo is sent by truck, which is rail's main competition. Daqin is essentially sold out and trucks cost roughly three times the amount that Daqin's rail

services costs and are not a viable alternative. Daqin has established a pricing team within the organization to analyze pricing since they think their customers are incredibly inelastic which would justify further price hikes. There's some "we need to do what's good for the country in the short-term," but in the long-term, there's an incredible ability to raise prices. If there were free market prices here, we think this year's earnings are going to be around RMB 1.10, so just about eight times earnings. Daqin is net cash, and pays a big dividend. We think those earnings could go to RMB 3.00 if they were to have broadly liberalized free market prices which would imply significant upside.

**G&D:** China has built tremendous over capacity over the past 20 years. Are any volumes at risk due to over-building in China?

**EB:** They carry some cargo, but the bulk of where they make their money is carrying coal, which we view as an ongoing expense for the economy. Long-term, China would obviously like to use less coal rather than more, but they use three billion tons currently. Daqin carries 400 million tons on their main line and we reckon their addressable market is 1.5 billion tons, leaving a lot of room for demand for coal to contract before they're really impacted.

**G&D:** Any other situations you've been excited about?

**EB:** There's a Hong Kong-listed state-owned enterprise called China Resource

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Enterprises (SEHK: 291) which is 50% owned by China Resource Holdings. CRE own 50% of the biggest beer company in the world, called CR Snow, or China Resource Snow, while the other 50% is owned by SAB Miller (LSE: SAB), one of the world's best beer operators who has a vested interest in how the company is run. The beer industry in China is really interesting as it's the lowest priced beer in the world. CR Snow has about 25% market share. They make 11% EBITDA margins, while SAB's global business makes high 30s. They think that over the next five or six years they can reach parity with SAB's global margins, which will be partly due to industry consolidation.

Recently China Resource Holdings made a bid for all CRE's non-beer assets. It was equivalent to roughly 80% or 85% of the entire market cap of CRE before this bid. The SOE basically gave a gift to minority shareholders and bought the assets that nobody wanted, nearly giving full credit for the entire stock price. That has been approved now and will be paid out in October. They've also said that after they pay that, they're going to buy 20% of the market cap, which is 40% of the free float at a price that's also above today's stub value. So, they're doing things that are actually quite friendly toward international investors. And then they've essentially said that they're now going to consolidate the industry and in the next five years try to get to SAB Miller margins. In which case, we think EBITDA can increase by 5x in the next five years. Will it be a straight

line? Probably not. But this is an example where we see something playing out differently from what you might initially expect. For example, a Chinese SOE is going to buy some assets from minority holders. You might assume they're going to underpay but to see that they're actually rewarding minority shareholders and going to start doing things that are improving the asset in a dramatic way is really eye-opening.

Those are some of the best ideas I think we ever find. Because we are generalists and we're turning over a lot of stones, we have enough to be well versed in a wide array of names. Some of the greatest theses for us are things that, when you start digging in, are completely different than the general, widely held perception.

Daqin is a monopoly rail infrastructure and CRE is a valuable company with beer assets and are just two examples of opportunities where the upside could be meaningful as demutualization and deregulations takes place.

### **G&D:** How do you think about sizing these positions?

**EB:** Given we are a concentrated fund, the top 50% of our book is in five names and if we can find an additional one or two great ideas in China over the next few years, that would be a win for us. These aren't opportunities that will be up a mere 30% or 40%—we think they have tremendous upside. But let's face it, China is scary, and it is a bit path-dependent.

One other benefit for us is that we do work on individual Chinese companies. Sometimes the data you get around what's going on in the economy and specific companies is worse than macro data as far as quality of data. But sometimes it's much better and can give you a clear sense for the situation a company's facing.

In Daqin, you get really good volumes of the coal being transported in different areas. It's more timely and, in some ways, directionally much more accurate and interesting than macro data. By following the action in Daqin we have a good window into other investments in China. We've certainly exported some of the information that we've found around how bad some trends in China are into the rest of our short book globally. As a generalist, the goal is to cross-pollinate—and ideally see things with a varying perception and build on it.

As we research ideas, we will use smaller positions in opportunities that are really exciting as a way to put a stake in the ground, forcing us to focus and do even more work. The wind in China could blow a different direction and they could stop the SOE reform. They've tended to be pretty good about long-term thinking in China, but we have to keep an eye on that.

I'd much rather be spending our time there where nobody else is looking. People think I'm crazy when I talk about it and the deregulation and demutualization are actually happening. There's just a lot less competition around the

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margin in some regions internationally and we can create edge.

**G&D:** When you're building conviction and looking for recognition points, can you talk about when the wind does shift or how you think about revisiting your thesis in that context?

**EB:** We ask ourselves the following questions. Do we see things differently? Are we fundamental, meaningful, and different? Is there a recognition point? Can we really understand the things that matter? What are the trends in the business? If we want to be long in something, they should be getting better. If we are short something, fundamentals need to be getting worse. What are the expectations? Then, what's the risk/reward? Embedded in our decision-making is staying on top of what's happening in a business. Given that in some ways we're looking for the story to drive value, rather than waiting for value that will ultimately be unlocked, it's really important that the story is on track. We stay on top of our businesses and make sure we have high conviction in what we think is going to happen is actually playing out.

I've generally found that sometimes when you're waiting to be proven right, you actually can build conviction and have a higher batting average, and often the market doesn't see it until much later. There's a sweet spot of being early, but not too early. If the fundamental thesis is happening and there's proof of concept, but the market is not yet tuned in, there's a delicate

balance. You never want to be too cautious where you miss a great opportunity and it runs away from you.

We focus on key drivers moving in directions that we think we see clearly. If the data is tracking 1% or 2% different than we'd expect, it's generally not enough to scare us. But, for example, if Daqin's prices are going down when I think they're supposed to go up, then that's a big delta, or if CR Snow is engaging in a price war, while we're expecting rational price discipline and margin expansion, those are

***“I'd much rather be spending our time there where nobody else is looking... There's just a lot less competition around the margin in some regions internationally and we can create edge.”***

the types of fact patterns that would immediately set off alarm bells for us.

Sometimes the difference between a really great year or a really great track record and not such a good year or track record is how quickly you recognize your mistakes. Certainly not adding to detractors can make a dramatic difference. I know some investors that think they can have a 40% batting average, but if they press their winners and avoid taking big losers,

they can still have a great performance.

**G&D:** Given the high valuation levels in the U.S., how are you finding these situations that have such meaningful differentiation and upside?

**EB:** We wrote earlier in one of our quarterly letters this year that we couldn't find any long ideas. We looked around the world and couldn't find anything terribly compelling. We were starting to see some of the trends in China, but it was really difficult: investors were very bullish. The U.S. market at the low has corrected over 10%—that's one index. Then the question is “how do the components of that index do?” There's been a lot of damage under the surface this year, so while overall the market's down a little bit and earnings for the year are probably flat to down slightly, the multiple hasn't moved very much. There is certainly a segment of stocks that have been massively de-rated. We are not in the game of looking to catch falling knives, but there has been a fair amount of correction around valuation in large parts of the market that I think can be easily missed if you observe just the indices broadly.

**G&D:** Could you tell us about an idea in the U.S.?

**EB:** This year a position that we are intrigued by is a company called Builders FirstSource (BLDR). We think the U.S. housing market has routinely disappointed investors over the last three or four years as hopes for a recovery have been dashed. In cyclical

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markets like housing, in some ways, the longer the disappointment lasts, the more attractive the opportunity becomes, as investors become more cynical.

You're starting to see a lot of the evidence of a housing recovery materializing. The labor market has improved, financing has become more accessible, and mortgages are still affordable. Household formation is starting to grow as demographics have become a tailwind. There's also a need to add housing inventory and, while some parts are over-supplied, we're pretty bullish about activity. That alone wouldn't be enough for us to take a position, but we're aware of the change in trends and monitoring the situation for investment opportunities.

Builders FirstSource is a lumber distributor in an industry where there has been serious consolidation. This year, there have been two mergers between essentially four of the top five players that have created two dominant players that have taken appropriate measures to offset some of the competition. The company that Builders was able to buy was a Fidelity private equity investment which never really cut costs during the downturn, so there's a big margin gap between the two companies. We think today by factoring in cost-cutting efforts, the stock is worth about \$20. We were paying \$12 or \$13 to buy the stock, and the stock is still around \$12 today. We think in a mid-cycle, the stock, using seven or eight times EBITDA—peers trade at ten times EBITDA—the stock

could be worth \$50 or \$60. A number of things are coming together to drive the value in the shares, including higher volumes and cost-cutting. Previously, it was also a relatively small company with a private equity owner, so the free float was limited and it was under the radar. Following the merger, they did a placing which has increased the liquidity and now it's nearly a \$2 billion market cap company attracting coverage. The runway is still long for the combined entity and the full story will play out in the next 18 months or so.

We're upbeat on the prospects as we think it's trading at an 11% or 12% free cash flow yield before any recovery. Looking at the sell side consensus recently indicates there is upside to numbers and as soon as we turn the calendar, it looks like the shares are trading on 6.5x earnings. We are, in some ways, early to a story that not many people understand and there will be discovery value as people see what's going on here.

**G&D:** How do you think about the recognition point for this idea?

**EB:** I think the recognition point is when the deal closes and they start delivering on the cost synergies and the story becomes more widely broadcasted. Their equity placing coincided with the market selloff in late August so I'm not sure many investors were looking at brand-new, fresh ideas when their books were getting hit. Sometimes you get lucky and get to take advantage of these market

dislocations when there is a great story you stumble upon.

**G&D:** Could you talk about how your approach translates to shorting?

**EB:** One of the shorts in energy was Helmerich & Payne (HP) which is an oil services company involved in horizontal drilling. In the last down cycle for oil services, horizontal drilling was still in the early days of penetration, so they were essentially immune from the pull-back. This time, they have not been insulated and there's been a serious pull-back in utilization. We thought that others might realize there would be a downdraft in utilization but would assume that pricing would be maintained at its former level because it did in the previous cycle. However, from our standpoint, we thought utilization would decline and while a recovery in utilization may ensue, there would actually be a price-down. We remained negative as people have been very excited about a recovery that will never materialize and as they figure that out EBITDA differs vastly on multiples to replacement costs. We think the best way to think about H&P now is to consider them in an oversupplied machinery market and, therefore, their price-to-book should look similar to vertical rigs going forward.

That's a prime example of seeing something differently. In this case, there was a clear recognition point around when pricing would change. We did a lot of work around horizontal rigs, and the trends were obviously terrible, as

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they were 45% utilized and getting worse. Expectations in the near-term in cyclicals are hard because they were depressed and people were hoping for rebound. We could then gauge the risk/reward clearly. Using all of these elements in our analysis is exactly the same whether we are making decisions from the long side or the short side.

I think the real place that we're a bit different on the short side vs. the long side is that we are tighter on the recognition points for shorts, which tend

***“The more you can know who you are, the more you can figure out what you want to do.”***

to be within three to six months. Sometimes on the long side we can wait a bit longer. In shorting it's much harder to underwrite your downside which is something crucial to keep in mind.

**G&D:** If you were to sum up your strategy, what would it be?

**EB:** If I were to sum up what we're trying to do in two words, it's to be “different” and “right.” If we can do both, we will perform. We can ensure that we're different but it's harder to ensure that we're right. That's why we spend a great deal of time on our research and use the same approach on both our longs and shorts.

**G&D:** Do you have any advice

for students looking to get into the industry?

**EB:** The further you go in your career, the more the path makes sense retrospectively: you can connect the dots. The more you can understand yourself and take this time—I think business school is an amazing time to learn—to meet people and really soul search and learn about yourself, the better. The more you can know who you are, the more you can figure out what you want to do. To me, that's probably the most important thing. People come to me all the time and ask me for advice, for example, what job they should take. I ask them the question, “What do you want to do?” Very few people know the answer to that. I think an MBA program is a great time to learn more about yourself. Once you do that you can more easily navigate the industry and find a strategy that fits.

**G&D:** This has been really great. Thank you.



## Jane Siebels

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Jane Siebels

**Research, has always invested differently. Her open outsourced investment research firm is the latest iteration of investing differently, although elements of this research platform have driven her outperformance for the last 15 years. She has recently made the research platform available for any investor to use.**

### Graham & Doddsville

**(G&D):** Can you discuss your background and your path to investing?

**Jane Siebels (JS):** I grew up in Iowa. My father was a grain dealer. I literally started taking grain prices at the age of 5. You can imagine the frustration of the traders on the phone with me! My father always said you have to know something that no one else knows, and I have relied on that advice throughout my career. For trading grains, that meant literally flying up and counting corn fields, soybean fields, and how the crops were looking across the whole region. I had received my pilot's license at age 16 so I could do that with my father. It was a wonderful introduction to the markets. Another early influence was my family's encouragement to always have a job. For me, this meant I was always mowing lawns, cleaning houses, lifeguarding, and those sorts of activities. This was also influential because you learn a lot about business common sense.

After high school, I was accepted at Stanford, but I ended up attending the University of Iowa. My father wasn't excited about paying

Stanford tuition when he had paid state taxes all those years. I graduated with a degree in Finance. After focusing on finance at University of Iowa, I went to the Thunderbird School of Management for a year before receiving a Rotary Fellowship to study at St. Gallen in Switzerland.

In the gap year before starting in the program at St. Gallen, I went to Chicago to work with UBS. I spent time working on their Forex Money Market desk, conducting credit analysis for some of their lending operations, and even helping to set up their futures seat in Chicago. It was great experience.

At St. Gallen, I tried to focus on an area where no one else

**“My father always said you have to know something that no one else knows, and I have relied on that advice throughout my career.”**

was focused. I conducted long wave economic analysis on the art market. Long wave economic analysis intrigued me because it was an interesting combination of both the interests of my mother and father. My father was of course involved in markets, and my mother was a psychologist. Long wave economic analysis incorporates an element of generational psychology. I studied the impact of long term macroeconomic trends

on art movements, such as Impressionism or Modernism. I essentially was assessing the correlation between the two. My analysis suggested that art movements were impacted by broader macroeconomic trends. The qualitative explanation is that when you have difficult economic times, everyone is fearful and worried about the economy. It helps people understand what they're really made of, and it brings out creativity. You see this trend with major inventions as well as in art movements. On the other hand, when everyone is eating high on the hog, as everyone says in the Midwest, creativity declines.

**G&D:** When did you first get involved in the money management industry?

**JS:** After St. Gallen, I went to Norway with my fiancé. I started working at Storebrand, a Norwegian reinsurance company. I was 24 at the time, and they gave me a \$100 million global equity portfolio and a \$25 million venture capital portfolio. It was really sink or swim – I had to figure this out on my own. My general approach was to identify industries that would have attractive and improving fundamentals for the next 10 years. Then I studied everything I could about the industries and the companies within the industries. Interestingly, that's what I still do to this day.

The venture capital experience was fantastic because I was involved as an early stage investor in Magellan Navigation as well as IMAX. After Storebrand, I worked at UBS

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## Jane Siebels

as the Head of Equity Management in Europe before heading back to the US to be closer to family.

**G&D:** When did you connect with Sir John Templeton?

**JS:** Around the time I returned to the US, I interviewed with Sir John. I was able to get the position, so I started managing \$3.5 billion in separate accounts as well as a Latin American fund and a personal hedge fund for Sir John. In 1996, I approached Sir John about starting a hedge fund. Since my performance on the personal hedge fund was so good, he was willing to back me. I added 6 other families to the investor base.

I started an emerging market long/short hedge fund. I was again motivated to focus on areas where no one else was focused, and because everyone assumed there was no borrow available, there was no one else shorting emerging market equities. We actually found a few different sources of borrow and were positioned quite nicely for some of the emerging markets turmoil in 1997 and 1998. Unfortunately, we were still hit on some of our long exposure, but we were able to outperform other funds during the time period.

In May 1999, I mentioned to Sir John that emerging market tech stocks were trading at single digit P/E multiples even though they were growing rapidly. Meanwhile, developed market tech stocks were trading at triple digit P/Es. I thought capturing the eventual normalization of this spread represented an opportunity. Sir John immediately

appreciated the opportunity and decided to invest in my long/short tech focused hedge fund. I actually didn't have one at the time, so we took the Latin American fund off the shelf and changed the name.

Our fund was long emerging market tech companies and short developed market tech companies. In 1999, it was like standing in front of a train, but we did reasonably well. On the short side, we pursued a strategy focused on companies with expiring lockups which helped. Despite painful performance, Sir John stuck with the strategy and actually added several times to the fund. He even added to his shorts and ended up with a pretty significant short position essentially at the peak in March. So we ended up doing quite well, and eventually closed the fund in 2002 as the anomaly went away.

**G&D:** Did you manage any evergreen funds that had indefinite lives? Or have you always been focused on opportunity specific funds?

**JS:** No, I have focused on opportunity specific funds throughout my career. Going back to the theme of doing things differently, I've tried to set up funds targeted at specific anomalies. I feel strongly that investors should be able to understand how their money is invested, and it is more easily accomplished with opportunity specific funds. When the anomalies went away, I closed the funds and I returned the money. In every instance, I returned investors capital above the high water mark.

I also generally focused on attracting families and high net worth individuals to build my investor base. Wealthy families have the advantage of thinking long term. From what I can see, they are basically the only investors that can be long-term. Due to demographics, regulation, or benchmarking, it is difficult for other investors and institutions to think long term.

Benchmarking is an interesting issue. When Sir John first started investing, the MSCI World did not even exist. If you went back and retroactively calculated the performance, Sir John underperformed the MSCI World for his first 10 years in business. In today's world, he might not even be around! It's rare for a manager to underperform for 10 years and remain in business, but he obviously turned out to be an excellent investor. I think that highlights that benchmarking could very well be negatively impacting the ability for managers to think long term.

**G&D:** What other opportunities did you pursue?

**JS:** In 2000, we launched Siebels US Relative Value to take advantage of the dispersion in valuations between small cap value and large cap growth. We closed that fund in 2003 when the opportunity went away.

In 2002, I saw that there was an opportunity with commodities. We were 20 years into a bear market. At that point, most commodities were trading below the cost of production. Yet we saw tremendous demand growth in

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## Jane Siebels

China and other emerging markets. The fund was long commodities and short real estate. I believed that increasing commodity prices would trigger higher interest rates, which would negatively impact real estate values. It was a very nice setup for the fund and we did well. We eventually sold the Siebels Hard Asset Fund in 2013 as we started to see the peak in commodities.

**G&D:** Which commodities were you most worried about in 2013?

**JS:** We worried about pretty much every commodity across the board. Commodity prices were well above production costs, and that dynamic was bringing so much supply into the market. The commodity pricing and supply/demand dynamics had reversed significantly since we started the fund. With some commodities, China accounted for more than 70% of demand, and with China's demographics, we were very worried about the long term sustainability of that demand. So with a negative view on commodities and our real estate thesis having played out earlier, we decided in 2013 that it would be appropriate to sell the fund along with the hedge fund business.

**G&D:** What are you focused on today?

**JS:** I manage Green Cay Private Client. We work with high net worth families to help them think long term about how to grow and protect their wealth. One area I'm really excited about is Siebels Asset Management Research, the

research arm of Green Cay Private Client. We started this in 2000 because I was sitting in the Bahamas and thinking about how to do this differently.

I realized that I could have an army of 500 analysts and yet I still may not have the analyst with the right language skills, with the right industry background, or with the right local knowledge. At the same time, I read about a company that designed logos for corporations based on internet competitions. They published a mandate, reviewed

***“We have found the advantage of local expertise to be quite powerful. There are multiple examples of local knowledge helping identify and clarify really significant stock specific issues.”***

submissions, chose the finalists, and awarded the winners with cash prizes. I thought we could do that for qualitative analysis. That's when Siebels Asset Management Research was started. For example, if we wanted to do a report on Tata Motors, we would advertise the qualitative research opportunity in India, on relevant industry sites, and message boards. Prospective analysts register with us and can submit their research related to the opportunity. We look for original research and

of course avoid any insider information. We typically focus on qualitative information, but we do require a replacement value calculation because we think it is the ultimate value metric.

We now have 2,500 people registered with us around the world. We previously used the research internally at our hedge funds and we still use it internally for our private clients. However, our internal portfolio for the private clients is only 10 stocks with less than 20% turnover, so we felt it would be an interesting opportunity to offer the research to other investment firms.

We have found the advantage of local expertise to be quite powerful. There are multiple examples of local knowledge helping identify and clarify really significant stock specific issues. For example, in India, one real estate company actually had empty sites with customers demanding their deposits back. It was clear that wasn't an attractive investment opportunity!

We try to structure compensation to incentivize high quality work. Analysts accumulate points based on the quality of their work, and the point totals place them in one of 3 levels of seniority. Compensation doubles with each increase in level of seniority.

**G&D:** Has the research led to any actionable ideas recently?

**JS:** One industry study we recently finished was an evaluation of the cruise industry. It has been a tough

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## Jane Siebels

industry. Everyone has been perpetually disappointed. We gathered information that suggests the dynamics of the industry could finally be improving. The long awaited restructuring may finally be occurring, and there is an opportunity for further consolidation in the industry. Additionally, with oil prices down and new routes like Cuba and parts of Asia opening up, we think the cruise industry is a pretty interesting place to invest. I will hold off from mentioning any specific companies, but I think the larger companies with stable balance sheets will be able to take advantage of this opportunity.

**G&D:** Given your past experience, we would love to hear your thoughts on commodities today. There has been plenty of debate, both bullish and bearish. How do you think it's going to play out?

**JS:** I think we are getting close to a bottom, but not yet there. In a typical commodity cycle, price has to bounce around the bottom for a long time in order for excess supply to be taken out. We are only just now seeing some supply taken out of certain markets. Iron ore, oil, even some of the precious metals are in the early phase of supply exiting. When we see companies exiting industries, closing assets, or really just having a tough time, that can be an interesting signal. But I think we're just starting to scratch that surface at the moment.

**G&D:** Is India going to be the next China in terms of demand for commodities?

**JS:** India has problems that China does not have. One is the tremendous bureaucracy. No matter what government gets elected, there are certain limitations to the pace of reform. I think that bureaucracy is leading to another growth roadblock in India. Yes, if you look at the numbers, if you look at the potential, it should definitely become the next great commodity importer, but I think it will take time. I also don't think the cultural tendencies in India tend toward consumerism to the degree they do in China. That has likely been a driver of consumption in China that you might not see in India.

**G&D:** Do you have a perspective on the stability of particular countries in emerging markets? Will there be another Asian crisis, and where might it occur?

**JS:** That's a great question. One benefit of this cycle is that less emerging market debt is dollar denominated as compared to 1997 and 1998. You still have some, but it is not on the same magnitude. I would definitely avoid countries with current account deficits or high US dollar debt as a percentage of GDP.

Another interesting emerging market out there at the moment is China. I think Chinese government debt in renminbi could be a very attractive investment. I think the skepticism around the renminbi devaluation is overdone. I think there is a high probability that the renminbi comes into the SDR, which I expect will stabilize the currency. Inclusion into the

SDR is certainly not being priced as a high probability today. I might then short some of the countries that have funded a lot of their growth with US dollar denominated debt.

**G&D:** Do you have any advice for Columbia students pursuing a career in investment management?

**JS:** A big one is "Do it differently." I have mentioned this several times throughout the interview because it has been an important theme throughout my life. Also, not only do you have to do things differently, but you have to do things passionately. The money is not worth it. You need to be passionate. You need to love what you do. Usually, if you really get in touch with yourself and follow your passion, you will be different than anybody else because there's only one of you.

**G&D:** Thanks so much for the interview, Jane.



## Global Endowment Management

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**Hugh Wrigley**

a Vice President in the Mergers and Strategic Advisory Group at Goldman, Sachs & Co. He graduated with an L.L.B. (honors) and a B. Comm. from the University of Melbourne.



**James Ferguson**

Campbell Wilson, CFA is the founder of Old Well Partners, the first “GEM Cub,” which will be primarily focused on the direct investment strategy deployed at GEM. Campbell joined GEM in June 2007 and headed the public investments team. Campbell is a member of Value Investors Club and he is on the Board of Directors at KIPP Charlotte, a free, open-enrollment, college preparatory public school serving underserved communities. He received his B.A. of Economics and Political Science from University of North Carolina at Chapel Hill.



**Andrew Burns**

James Ferguson, CFA joined GEM in 2012 as an Associate. Previously, James was a Marketing Principal for Childress Klein Properties. James received an MBA with distinction from Wake Forest University School of Business and a B.A. in Economics from Duke University.

Andrew Burns, CFA joined GEM in 2008 as an Analyst after graduating from Duke University with a B.S. in Economics.

**Graham & Doddsville (G&D):** Could we start off talking about your individual

backgrounds and then launch into a discussion on the history of Global Endowment Management?

**Hugh Wrigley (HW):** As Director of Investments, I coordinate the activities of GEM’s public and private investment teams. Previously, I led the private investment team at Duke University under Thruston Morton, our founder and then CIO of Duke University’s endowment. We launched GEM in 2007 as an investment firm that would invest in the long-term, value-oriented style of the leading university endowments, but on behalf of smaller endowments and foundations who lacked a dedicated investment office. By pooling their assets, our investors could invest like the largest endowments without the inefficiencies and conflicts that frequently arise in separately managed account structures.

We sought to create a structure that allowed us to invest as similarly as possible to the large endowments—the Yales, the Dukes, the MITs, and Notre Dames of the world. Philosophically, investing a large endowment means searching for external managers across asset classes, globally, while maintaining an opportunistic mindset. At the end of the day, we are bottoms-up value investors looking to invest with the best managers, evaluating the least efficient asset classes we can find, and taking a long-term view. The main tenets have been consistent over time.

**Campbell Wilson\* (CW):** I was also on the investment team at Duke before joining

GEM in 2007. Before joining Duke, I was a student at UNC Chapel Hill, which is where I first fell in love with investing. I ended up writing an independent study about Buffett, Graham, Soros, and others. During school I worked an unpaid internship at a local investment advisor, just to get my foot in the door, and I realized that there were these endowments, including Duke’s, right down the road that had several billion dollars invested with the best managers in the world. They have an analyst program where they hire people to join a small team right out of college, where you could interact and learn from some of the best investors in the world. It was an absolute dream job for me and something I am still doing today.

**James Ferguson (JF):** I am a bit of a late bloomer in terms of doing this full-time. I have always been interested in public investing and grew up sitting around the table with my dad and brother, talking about stocks. I graduated from Duke in 2006 and then worked for a private real estate development firm that spun out of Trammell Crow in the late ‘80s. I was there for six years, but during that time, nights and weekends, I was reading annual reports, looking at manager filings, and then going to the Berkshire Hathaway meetings with my dad.

I came to the conclusion that I shouldn’t spend 20 hours a week doing that in my free time—that I should really do it full-time—so I began a dialogue with the GEM team in Charlotte, and then we

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reconnected at one of the Berkshire meetings. I joined GEM's public team in 2012 and spend time on both our external and internal public investments.

**Andrew Burns (AB):** James and I work closely together on the public investment team, focusing on both public equity and hedge fund investments. I graduated from Duke in 2008 and, attracted by GEM's team, investment philosophy, and open-minded culture, joined the firm right out of school. GEM has been an incredible learning experience for me. The strong culture allows us to fully embrace Charlie Munger's mantra about making sure that you go to bed smarter than you were when you woke up; we are constantly trying to improve ourselves and our processes. We are excited about both the foundation that we've built thus far and the chance to continue improving each and every year.

**G&D:** Could you tell us about the structure of the organization? How are you divided up? How many people work on the various teams and how do you cover the globe?

**HW:** We have 16 people on the total investment team, led by our CIO Mike Smith. We currently have five professionals on the public side and six on the private side. The public team is responsible for our public equity and hedge funds, including public credit. The private team is responsible for things like private equity, venture capital, real estate, private oil and gas partnerships. Everyone has a home base, on one team or the other, but we work really

closely together. We have whole-team meetings and look at investments together, so that we can really understand and debate the merits of investing publicly or privately in different asset classes. In fact, unlike many of our endowment brethren, we do not set allocation targets for private investments. We seek a

***“In almost every strategy, smaller is better... we are trying to invest in mispriced securities, and, generally, those are found in smaller spaces.”***

constant competition for capital between public and private opportunities.

**G&D:** Can you talk about influences from the experience at DUMAC on GEM, certain parts of the DNA that have transferred over, for example, the way you structured the team or lessons taken from your time at DUMAC that you have built on?

**HW:** DUMAC was an early investor in hedge funds, venture capital and private equity, so great manager relationships have carried over to GEM and have been really important. At GEM, we've continued to nurture that creativity gene we developed at DUMAC. Early on at GEM, we started investing directly with a portion of our portfolio—something we weren't doing at DUMAC in

the early 2000s. About 20% of our portfolio is invested directly today, with the remaining 80% invested with managers. We have tried to have even more collaboration between the public and private teams. As I mentioned, we don't have a specific budget for private investments anymore. A lot of endowments will say, “We are going to invest X in public equity and Y in private equity.” We say, “We want X in equity,” and the teams work together to find the best opportunities. Otherwise, though, there are a lot of similarities. We have always been focused on small early-stage managers and are really looking for investment partnerships day-to-day, not big asset managers.

**G&D:** How would you define small managers?

**JF:** The median assets under management in our public portfolio is about \$720 million.

**G&D:** Including public equity and hedge funds?

**JF:** Yes, public equity and hedge funds. Some are as small as \$50 million where we are most of the assets and we are fine with that. In almost every strategy, smaller is better. There are a few exceptions, but we like small because, at the end of the day, we are trying to invest in mispriced securities, and, generally, those are found in smaller spaces.

**G&D:** Could you talk more about how you approach allocation?

**AB:** We divide public investments into two components. There's public

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equity, which we think of as predominantly long-biased, and hedge funds, which are primarily funds with either low net exposures or a low expected correlation to global equity markets over the long term.

Credit has historically had an opportunistic (i.e., not constant) place in our portfolio. We never *have* to do anything in credit: just because something is relatively attractive in the credit world doesn't matter to us unless it is attractive on an absolute basis. Our credit investments compete with our equity investments from a return perspective, which typically means we usually stay away from performing credits and look to add distressed credit investments when opportunities arise.

For example, we made a number of distressed credit investments during and after the global financial crisis in 2008 when we thought we could make equity-like returns in investments with superior downside protection by nature of investing higher in the capital structure. We invested a fair amount of our portfolio into distressed mortgage-backed securities and corporate credits. Today, however, we have almost no exposure to credit in the portfolio. We would hope to size that back up again when another distressed cycle hits.

**JF:** Long-term, equity oriented funds are the core of our public portfolio, but we like the managers to have flexibility. If our managers are looking at a business and a tranche of debt is the best

opportunity, we want them to have the ability to invest there. Ultimately, our goal is to invest with managers who can generate the best risk-adjusted returns, and we believe that having the ability to invest across the capital structure provides them with the most opportunities.

**“Credit has historically had an opportunistic (i.e. not constant) place in our portfolio. We never have to do anything in credit...”**

**G&D:** Can you talk about your process of vetting managers, particularly if they are on the smaller side and maybe have recently launched and don't have much of a track record?

**JF:** We are really trying to underwrite two things: process and temperament. Arguably, temperament is more difficult to underwrite than process. You can go through the process and drill down into examples; you can read the annual reports and then come back with very pointed questions, but the temperament piece is much more difficult. So many managers say they are long-term and think about things on a multi-year basis, but we find that how they define long-term varies significantly.

For example, you don't know how they will react during a difficult period where, on a mark-to-market basis, they are down 50%. It is one thing to

say the underlying businesses haven't changed and the multiples have, but it is another thing to react accordingly. Ideally, we would get to know them over multiple years and really see how they behave when they are put in successful and difficult situations and everywhere in between. In practice, we end up spending a lot of time on references, looking for people who can speak to how the manager handled a variety of different situations.

**G&D:** How important is their idea generation process to you when you are thinking about what they are looking at?

**AB:** The importance of idea generation varies case by case, depending on a manager's strategy. For example, an investor focused on large cap stocks probably doesn't require idea generation as an important edge. For us, in that case, it's more important to understand the investor's temperament and underwrite their understanding of a business—its competitive position, return on invested capital, reinvestment opportunities, etc. On the other hand, if a manager is looking at micro-cap stocks in Asia, idea generation—flipping over as many rocks as possible to source investment ideas—might be the single most important factor in determining that investor's success.

**G&D:** Continuing on this notion of process, how do you filter down what managers are worth spending more time on?

**JF:** We have a broad filter and

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Scott Trenary '16, Anthony Philipp '16, Yinan Zhao '16, and Aaron Purcell '16 enjoy themselves at the Value Investing Program Welcome Reception

leverage our team's experience to evaluate multiple opportunities, but our goal is to be able to say "no" quickly based on a number of criteria. It could be they are too big. It could be they have 10 different funds, and it's really more of an asset management business. It could be they're not a good fit for our portfolio at the time. It's a balance between the two: thinking about our overall portfolio and how great an investor is on a standalone basis. One of the toughest parts is when we identify world-class managers but don't add them to the portfolio because of our strong conviction in our existing managers. It's clearly a high-class problem but nonetheless difficult to pass on a world-class manager.

**G&D:** How important is resume pedigree as you work through the filtering process?

**CW:** It is important to understand where an investor learned how to invest. We actually think, increasingly now, that it is becoming possible to learn from the greats without having worked with them. There is so much info on Buffett, Klarman, Greenblatt, and others, that we're constantly finding self-taught investors who just devoured everything ever written by or about those people and have become great investors themselves. Given the apprenticeship nature of our business, it's still tough to replace working for a world class investor but there are clearly self-taught managers who are extremely successful. Like most careers, a passion for one's work as well as an intense work ethic are

ultimately more important than where someone went to school.

**G&D:** Can you talk about how you balance having a long-term partnership with managers with moving in and out of certain strategies in your portfolio?

**CW:** The credit example we talked about is one of the few where we think that we have to be opportunistic, moving money in and out, depending on the market environment. In terms of our more equity-focused managers, we think longer term. We have the ability to hedge-out certain risks at the portfolio level. So if we have two great managers we love and want to invest with for the next 20 years in Europe, but our CIO is concerned that we have too much risk in Europe, we have the ability to hedge that at the portfolio level, leaving our bottoms-up investments intact.

In terms of manager turnover, generally, a change in people or process would be a reason why we would redeem from a manager. Ideally, we would never have to redeem and have an extremely long-term holding period, but things do change at these organizations and partnerships. It is usually not about performance. We have redeemed from some managers who have performed extraordinarily well for us. A common reason is that they get too big for our preferences and are forced to invest differently or to be a different kind of organization because of their size. Otherwise, staff turnover, strategy drift, or a manager launching multiple products, changing the

business profile meaningfully—these are reasons we've redeemed historically.

**G&D:** Do you get approached by small endowments or families that want to be a part of your organization?

**HW:** Yes, we do. Today, we are managing about \$7 billion in assets for 35 investors. We set out with the goal to get to \$7 billion or \$8 billion, and then to reassess. We had been managing just under \$8 billion when we left DUMAC, so we are very comfortable with our current size. In addition to managing our AUM growth carefully, we think carefully about the number of investors we will work with—and for similar reasons: we want to maintain quality, both in performance and investor service. In fact, we closed to new investors in 2015, but expect to open selectively again next year.

**G&D:** With respect to scale as an advantage, could you talk more about why that's so important? What else differentiates you from your peer group?

**HW:** If you look at endowment history, the largest ones have performed the best because they have been able to attract and then keep a talented team, and that has been really important. Their size also helps them get the first call when really talented managers want to raise capital. If you are the world's best stock picker and want to raise a fund, you could call five or 10 big endowments and raise the money, or you could call 50 to 100 small ones. Obviously, that is an easy choice.

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At the same time, we generally think size is more often than not the enemy of performance. It would be really hard to manage \$30 billion and achieve the results we do. With \$7 billion or so, you can write big enough checks to get the attention of good managers, but you're not so big as to be forced to change investment strategy.

**CW:** In terms of our competitive advantages, certainly our network helps, going back to the DUMAC days with all the manager relationships we developed. Our team also brings depth of experience and industry relationships—we have three former CIOs and a number of other people who have come from direct investing roles as well. I think that all helps our own process, and hopefully it helps our manager relationships, too. We try to be helpful, value-added investors for the managers we invest with—not just calling once a quarter to check a box. Hopefully, we bring something to the table, whether it is being helpful through connections and insights from our network or through our own history and experience.

**G&D:** Is the relationship different when you're the main investor versus when you are one of many? If so, is that intentional?

**AB:** It definitely can be. As Campbell mentioned, we always seek to have deep relationships with our investment managers and in cases where GEM is a key source of capital, it's typically easier for us to improve transparency and access and to

build a closer relationship with them. These strong relationships can provide us with the necessary conviction to support an investor during inevitable periods of difficult performance. We also encourage our managers get to know and build trust with us too. If an investor has conviction that GEM is a long-term and like-minded partner, it can provide them with a key competitive advantage. It's easy to pay lip service to the value of a strong partnership, so we typically encourage prospective partners to speak with some of our existing managers to get a better sense of our own mindset and, hopefully, gain conviction in us.

***“When somebody shifts from being a great stock picker to managing an organization and delegates the idea generation and research to someone else, that is usually a mistake”***

**G&D:** You have had the opportunity to evaluate a lot of managers. Has that helped you to evolve your own mental models and investment frameworks within GEM by evaluating all these managers?

**JF:** We're always looking at investments that we have made or haven't made, managers that have made great partnerships over time and

those that haven't, and why. A few lessons stand out and the co-portfolio manager model is a good place to start.

One of the biggest challenges has been the co-PM partnership where there is no clear driver and no clear passenger. When things are going really well and the investments have performed well, it is easy to have a great partnership. However, when business is under a lot of stress and the stocks are not performing well, it can be difficult to resolve conflicts in a 50/50 partnership.

We're also focused on our own return on time. It's easy to treat the most precious commodity that we all have as disposable but, ultimately, the way that we use our time will dictate our long term results. As a result, we're spending more time looking for managers that can compound our capital over multiple years and preferably into the decades. This not only mitigates our risk through the strength of the relationship but also mitigates the reinvestment risk that we face when we redeem from a manager and look for a new opportunity to redeploy that capital.

**G&D:** Have you seen other commonalities of what makes organizations successful or prone to failure?

**CW:** There are different ways to do it. Some of the best investors in the world have set up their firms to decentralize the organization. I think of Buffett as an example. He spends all his time reading and thinking—not managing people. That's great but hard

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to pull off, of course. The best investors generally try to maintain a small team structure, so they can spend most of their time investing. Having a really strong operations team, for example, to manage all the non-investment activities is important. When somebody shifts from being a great stock picker to managing an organization and delegates the idea generation and research to someone else, that is usually a mistake. They are managing people and process, and that is entirely different. Some people make that transition successfully—for example, a number of the big hedge fund managers now have done that well—but we have seen a lot of bad outcomes there.

We advise managers who are starting up not to compromise their investment process. It is so easy to set out saying, “I am going to do this. This is how I want my own money invested. This is what I believe in,” and then somebody comes along and says, “Could you change it a little bit, and I will write you a big check?” That’s hard to turn down when you’re starting off and you’re worried about growing your business.

**G&D:** After you have made the initial investment, how do you monitor the fund to ensure that theirs is a repeatable investment process that works the way that you initially understood?

**JF:** In evaluating a manager on a forward-looking basis, it is easier to investigate what’s worked and what hasn’t versus reviewing past case studies. We can say, “Okay, what did the manager tell us? What was

the investment thesis when we first met?” We can check in with them, and ask, “How have things changed with the underlying business? Aside from stock price performance, what was your view on the business? Did you think it was going to grow by 20%, and the business is actually shrinking? Why is that? Was it a mistake in process or something else?” We think about the outcome that we’re seeing play out in the context of their original thesis and, as a result, think about the portfolio on a look-through basis in terms of the individual businesses that we own.

**G&D:** How do you think of alignment of incentives with the managers and yourselves?

**HW:** First, we want to see our managers have all or most of their own net worth invested alongside us. We think that is the best alignment possible, but we have also made a push over the years to improve alignment of the terms of the partnerships we invest with. For example, we have a number of funds that we invest with now where we structured the incentive fee to be paid out over a multi-year period. We think it makes a lot of sense. Managers say they have a multi-year investment approach, and I think everyone would agree that it takes multiple years for results to even mean anything. In the hedge fund world, the 20% carry came from Venetian merchants who got to keep 20% of their profits if they had a successful voyage across the ocean. But we think that paying a hedge fund manager an incentive at the end of the year is like paying a merchant for

crossing part of the ocean, not for getting all the way, so we have been promoting structures like that. We want to reward managers if they generate great long-term performance, but not just for having one good year— or worse, for just showing up or riding a beta wave.

**CW:** We have also been structuring management fees to scale down as the manager grows. We think that, at the end of the day, the management fee should keep the lights on, pay people’s salaries, and keep everyone comfortable. But we think that a manager should get wealthy from our capital if they generate great performance over multiple years. Our ideal structures would have some elements of what Hugh and I just described. Over a third of our managers now have at least one of those components.

**G&D:** We noticed that you started posting thought pieces on your website over the past year. Can you talk about the genesis of that?

**HW:** Well, we’ve only posted two pieces but intend to do more in the future. That has been something that we thought would be helpful to our investors. In particular, the capital market assumptions are something we talk about with our university and foundation investors a lot. Our research lays out what they could reasonably expect for long-term returns given where markets are today because they need to think about their spending requirements and budget partially based on what could happen to their

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endowments over time. So, that literature has been in response to that need.

Then we do have a couple of investors who fall outside of the endowment and foundation space where they view us as a strategic partner—a few family offices, a few sovereign funds. We produced the literature to share our thoughts with them on what's happening for our equity space.

A good example is the GEM Implied Private Premium (or IPP), a concept we developed to improve our evaluation of illiquid investment opportunities. One of the challenges with these opportunities—of which private equity funds are a great example—is that a simple IRR doesn't account for the opportunity cost of forgoing public alternatives (for example, an S&P 500 ETF). To solve this problem we calculate the GEM IPP to answer the question, what additional return, if any, did an investor receive for agreeing to forgo the liquidity of the public markets? The answer helps guide our evaluation of the private investment opportunity relative to other, more liquid, alternatives.

**G&D:** How long have you been doing the direct investing?

**HW:** Since we started GEM in 2007. We do a few different things there. For example, back in 2010 we were invested with Todd Combs at Castle Point. Several of us had known him since being an early investor during the Duke days. At the time, Todd had one of his

biggest positions in Oaktree Capital. We thought that he knew the financial sector better than anybody—he was our only financials-oriented fund. Oaktree is a business model we understand and could underwrite. It's not dissimilar to our own business model, we had been a customer of their products at DUMAC for a time.

*“...the 20% carry came from Venetian merchants who got to keep 20% of their profits if they had a successful voyage ... paying a hedge fund manager an incentive at the end of the year is like paying a merchant for crossing part of the ocean...”*

Then Bruce Karsh joined the DUMAC board, eventually chairing it. When Todd was pounding the table about Oaktree, we started talking to him about whether we could buy some directly. He was open to the idea, and he actually started sharing his research and walking us through the accounting, which was a bit messy, and sharing his model—we had a good back-and-forth on Oaktree.

We were ready to buy the shares ourselves when we got the call from Todd saying that he was shutting down the fund and going to work for Buffett.

It was unfortunate as a whole for GEM to lose Todd as a manager. One silver lining was that we actually bought Castle Point's stake in Oaktree and transferred the shares to GEM. We have held a position in that ever since, and it has been a nice investment for us. I think that is an example of a one-off opportunity where we think we can understand the business and also leverage our managers.

We really liked Todd, and he loved this position. That is usually the starting point for our direct investments because we want to do it in a way that is complementary to the fact that we spend most of our time investing with managers.

**G&D:** Has your view on private equity evolved over the years as the space becomes more crowded?

**HW:** Our philosophy there is similar to the public team, where we are always trying to invest our capital in less competitive markets and in areas where we think mispricings are more likely to be found. For example, on the private equity side recently, our team has been spending a lot of time looking at small turnaround opportunities in Europe. Since starting the fund from scratch in '07, the percent in overall privates has grown to where about 25% of the total pool is invested in private assets—private equity, private real estate, private oil and gas assets. We think that is getting closer to the steady-state level where it will level off: closer to 30% over time is where we would like it to settle, but that will fluctuate with the opportunity set.

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## Global Endowment Management

**G&D:** Are emerging markets an area of opportunity either on the public side or private side for you or managers you are working with?

**AB:** We are actively investing in emerging markets in both public and private investments. We also consider investing in emerging markets, one of the highest risk investment areas in our portfolio. However, in the right circumstance, the potential rewards outweigh the risks. Developing equity markets can provide skilled investors with great hunting grounds for mispriced securities. Not all “emerging markets” fall under the same umbrella, of course. Today we believe that many markets in Asia represent an especially compelling opportunity due to the combination of the sheer quantity of listed securities and the *relative* dearth of exceptional investors looking at those markets. This dynamic is, of course, particularly pronounced for less-liquid investments. To help GEM exploit this opportunity set, I spent two months last year based in Hong Kong and traveled around the region in attempt to uncover some smaller, off-the-radar managers like the ones we can more easily find and partner with in the U.S. I think it’s important to mention that our positive view of the opportunity set in Asia is not related to our view on the consumer or China’s GDP growth—it’s a function of finding more mispriced investments due to a lower level of competition among professional investors in the markets.

**G&D:** Are there other markets that you find similarly

interesting on a long-term basis? Would you look at markets that are short-term destructive like Russia?

**CW:** There is a great book by Bill Browder about Russia. If you haven’t read *Red Notice*, I would recommend it. We have a couple of managers who have dabbled in Russia, but that is one of the few markets where it would be hard for us to have large exposure. There probably are some good opportunities, but I doubt that we could get comfortable—at least not today—with having a large position, given all the obvious issues.

**G&D:** What about India?

**CW:** We think that a market like India over the long term is great. There are more stocks listed in India than in any country other than the U.S. Over the next 20 years, we think a lot of those companies will grow a tremendous amount. There will be a lot of differentiation and a lot of inefficiencies, given the relatively low level of competition in the market, so that is one we are excited about. Even in Japan, we think there are far fewer long-term value-oriented investors than in a market like the U.S., despite it being a major market with lots of companies listed. Obviously Japan is not growing like China or India, but it represents a market with a lot of mispricing.

In Europe, too, there are not as many long-term fundamental investors as there are in the U.S. There are a lot of places we like more than the U.S. from an opportunity standpoint because of the level

of mispricing we perceive.

**G&D:** Do you feel like you are able to instill best practices through your partnerships with emerging market or frontier market investors?

**JF:** We are always thinking about ways that we can be helpful to our managers, both on the investment side and the operations front. For example, our CFO used to be in the back office of Blue Ridge Capital before moving down south. We have several people on our operations team who worked in hedge funds or audited hedge funds, so they have seen the best practices operationally of a number of different funds across strategies and regions.

When a manager is launching a new fund, we try to be helpful by providing best practices from an operations standpoint as well as using our experience and network to provide different perspectives around incentives, fund structure, service providers, etc.

On the investment side, we try to connect managers where they would both benefit from different perspectives. For example, one of our managers focuses on China, while we have another manager who invests a lot in technology and Internet business models globally and probably knows the Internet better than anyone. We think our China manager knows China better than anyone. It turns out they both were looking at Chinese Internet opportunities, so we thought it made sense to connect them. Having our global network of people in

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## Global Endowment Management

different places, doing different things, and then, when it makes sense, connecting them, is just one way that we can be helpful.

**G&D:** Broadly speaking, long/short, as a strategy, has struggled over the last couple of years. Could you share your thoughts on what you think of the strategy, how it has evolved over time, and some of the challenges it has faced recently?

**JF:** We think that short selling is exceptionally hard, and obviously it has been a tough market for shorts since the market has gone straight up for six years. It's also much more challenging than it used to be given the change in interest rates. That being said, we do think it is an important tool for a select group of managers and one where the best short managers can add value through the process.

Ultimately, we think that managers have to run their funds in a way that lets them sleep at night. Some of the best investors in the world simply aren't comfortable taking 100% market risk and being long-only; they sleep better at night knowing that they have a short book to protect them against uncertainty in a world of volatility. We know other great investors who can't sleep at night knowing that they have a small short position in a stock that could lead to unlimited losses. Investing is personal at the end of the day, and you have to do what you're emotionally equipped to do, to think about it as if it were all your own money.

We only want to invest in long/short managers if we think that they're great on the short side and truly add value there over time. Arguably, a lot of hedge funds short to call themselves hedge funds and justify the fee structure, and we think very few managers are great at shorting.

**G&D:** What do you think are the biggest risks to your portfolio, and how do you think about that on a manager level and then also on a macro level?

**CW:** I think that we share the views of a lot of smart managers today that all the money printing and artificially low interest rates are a big wild card that could be a risk over the next decade. What would we do then? Well, we've tried to build a battleship that can survive different environments. Like Buffett says, "Predicting rain doesn't count. Building arks does."

For managers one risk that has increased in recent years is managing inflows into their funds. It's a risk to managers if they grow at the wrong times. There is a big difference between dollar-weighted and time-weighted returns. There are some great managers with very strong performance track records, who have actually lost dollars for their investors over time. Money comes in at the wrong time and leaves at the wrong time. As a result, we have seen managers who have deliberately tried to limit inflows when things are hot and opportunity sets decrease; then they raise their hands when it's a great time to invest. It's hard to pull off. You

have to have the right investor base and a truly long-term mindset, but we have seen examples that have worked successfully. Then you can have great time-weighted and capital-weighted returns.

**G&D:** Do you have any view on activism and what seems to be the growing trend of activist managers?

**JF:** Interestingly, at the *Daily Journal* meeting, Munger basically acknowledged that in some cases they are needed, but in other cases, they are not, and I think that's probably how we think about it—it's very dependent on the situation and the activists themselves.

It is about the time horizon of the activists: are they really in it for the long haul? I am sure there are some people tagging along, calling themselves activists, trying to get companies to lever up and buy back shares to get a stock pop. That probably is an increasing risk, but some activists do add real value—it's probably a good thing to have them watching over a company at the end of the day.

**G&D:** Could you talk about the mission of Global Endowment? In addition to managing capital, is there an academic mission?

**HW:** We do not pursue an academic mission ourselves, although we obviously serve academic institutions and work to further *their* missions. But we do believe that serving one's community is important, in an absolute sense, of course, but also as a way to develop

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our internal culture. For example, a few years ago we created a virtual foundation—the GEM Foundation—that is managed by GEM employees and gives away a certain amount of the company's earnings to impactful local charities in Charlotte every year. Our employees actually diligence potential charities much like our investment team diligences managers! Each of our five partners has a background in the non-profit world—in addition to four of us having been principal investors—and that it is something that we are proud of. It keeps us excited about our work and reminds us that the underlying institutions for which we invest want to achieve great things. If we generate better returns, they can hire more professors, do more research and give more scholarships, and do things that we think are positive in the world. We actually hold regular overview presentations on what our investors do at our weekly company-wide meeting—every employee eventually 'presents' a deep dive on a particular investor to the group, to remind us all about the good they are doing and what our efforts support. To keep that front and center in our minds is really important.

**G&D:** Are there any resources or books that you have read that you could share?

**JF:** I have spent a lot of time reading business biographies lately. I really enjoyed Robert E. Price's *Sol Price Retail Revolutionary and Social Innovator* about the man who founded FedMart, where Jim

Sinegal worked before leaving to co-found Costco. Several of us also read Brad Stone's *The Everything Store* about Jeff Bezos. Another book that I really enjoyed is *Capital Account* by Edward Chancellor. It's a compilation of excerpts from Marathon in London.

Their unique focus on the supply side and the idea that it is the main driver of returns on capital instead of aggregate demand provides a different view of the world.

**G&D:** Do you have any advice for our readers who hope to invest as a career and even run a fund some day?

**JF:** If I were in an analyst's shoes, I would really think about why I want to start a fund. There are a lot of people for whom, if you asked that question, the ultimate answer might be that they shouldn't start a fund. If your goal is to do really well financially, there are a lot of funds where you can work and do very well financially, so I don't think that is a good enough reason. Do you want to be in charge of things? Maybe you can run a portfolio in size. I don't think that alone is a good enough reason. As we were saying earlier, about investing being so personal, it really is a question of figuring out why you want to start a fund. That being said, we love new funds and spend a lot of time looking at them. If someone does want to start a fund, we think that talking to people like us pretty early in the process can be helpful, not to figure out if we are going to invest, but just for perspective. We can provide perspective for different things that we have seen in the

industry and help in thinking through each part of the process: Who are the right LPs? Do you want to partner with someone else? How big do you want to be?

We have seen a lot of funds that have basically built the Cadillac model right away. Then they put themselves in the position where there is so much pressure from a business standpoint that they really have to go raise a huge fund. A better bet might be to start small and bootstrap the organization to create the track record and then build the team accordingly.

The last thing to add is that before starting on your own, it helps to have worked for an exceptional investor. At the end of the day, it's easy to get distracted by money, titles, or some other outward trapping of success. However, given the ability to compound knowledge in our business, a great foundation will at least tilt the odds in one's favor and probably lead to all of the above in the long-term. And if it works for your personal life, focusing on a less efficient market right now could present significant opportunities.

**G&D:** This has been great. Thanks so much.

\*Since the original interview was conducted, Campbell left the firm to launch the first "GEM Cub," Old Well Partners, which will be focused on the direct investment strategy deployed at GEM over the past eight years.



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