



Columbia Business School
AT THE VERY CENTER OF BUSINESS™

Graham & Doddsville

An investment newsletter from the students of Columbia Business School

Inside this issue:

CSIMA Conference	P. 3
Pershing Square Challenge	P. 4
A. Rama Krishna	P. 5
Cliff Sosin	P. 14
Student Ideas	P. 28
Chris Begg	P. 36

Editors:

Eric Laidlow, CFA
MBA 2017

Benjamin Ostrow
MBA 2017

John Pollock, CFA
MBA 2017

Abheek Bhattacharya
MBA 2018

Matthew Mann, CFA
MBA 2018

Adam Schloss, CFA
MBA 2018

Visit us at:

www.grahamanddodd.com
www.csima.info

 **Columbia Business School**
The Heilbrunn Center
for Graham & Dodd Investing

CSIMA | COLUMBIA STUDENT
INVESTMENT MANAGEMENT
ASSOCIATION

Issue XXX

Spring 2017



A. Rama Krishna

ARGA Investment Management

A. Rama Krishna, CFA, is the founder and Chief Investment Officer of **ARGA Investment Management**. He was previously President, International of **Pzena Investment Management** and Managing Principal, Member of Executive Committee, and Portfolio Manager of its operating company in New York. He led the development of the firm's International Value and Global Value strategies and co-managed the Emerging Markets Value strategy, in addition to managing the U.S. Large Cap Value strategy in his early years at Pzena. Prior to joining Pzena in 2003, Mr. Krishna was at Citigroup Asset

(Continued on page 5)



Clifford Sosin

CAS Investment Partners

Cliff Sosin is the founder and investment manager of **CAS Investment Partners, LLC ("CAS")**, which he launched in October 2012. Immediately prior to founding CAS, Cliff was a Director in the Fundamental Investment Group of **UBS** for five years where he was a senior member of a team analyzing equities and fixed income securities. Prior to **UBS**, Cliff was employed as an analyst by **Silver Point Capital**, a hedge fund which invested in high yield and distressed opportunities, as well as by **Houlihan Lokey Howard & Zukin**, a leading investment bank best known for its advisory services with respect to companies requiring financial restructuring. Cliff

(Continued on page 14)



Chris Begg

East Coast Asset Management

Christopher M. Begg, CFA, is the Chief Executive Officer, Chief Investment Officer, and Co-Founder of **East Coast Asset Management**. Prior to co-founding East Coast, Chris served as a Portfolio Manager and Research Analyst at **Moody Aldrich Partners** and a Portfolio Manager at **Boston Research and Management**. Chris is currently an Adjunct Professor at the Heilbrunn Center of Graham and Dodd Investing at Columbia Business School, teaching Security Analysis during the fall Semester. Chris received his BS degree from the University of New Hampshire and holds a Chartered Financial Analyst (CFA) designation since 1998. Mr. Begg is a member of the Boston Security Analyst Society and the CFA Institute. Chris is involved in environmental conservation serving as a Corporate

(Continued on page 36)

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.

We are pleased to bring you the 30th 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).

In this issue, we were fortunate to speak with three investors who provide a range of perspectives and investment approaches. All three apply variations of value investing and fundamental research to find overlooked opportunities. These investments could be stable businesses in turbulent geographies, misunderstood businesses engrossed in controversy, or compounders that are hiding in plain sight.

A. Rama Krishna, CFA, of ARGA Capital Management discusses the application of value investing internationally, especially in emerging markets. His time working with Rich Pzena helped inform ARGA's approach and the goal to find value anywhere. Rama discusses the challenges and opportunities of this strategy, including the decision to invest nearly a quarter of ARGA's emerging markets port-

folio in Russia when other investors were fleeing the region.

Clifford Sosin of CAS Investment Partners shares his highly concentrated and long-term approach. He discusses two of his investment ideas in depth; anyone following Herbalife (HLF) or World Acceptance Corporation (WRLD), especially short sellers, will be interested in this discussion. Additionally, Cliff provides some unique career advice for aspiring investors.

Christopher Begg, CFA, of East Coast Investment Management discusses the benefits of investing in "compounders, transformations, and workouts." The adjunct professor of Security Analysis at Columbia Business School shares his thoughts on Sherwin-Williams (SHW) and other high quality businesses that are sometimes overlooked. Chris also emphasizes the benefits of multi-disciplinary learning, both for life and for investing.

Lastly, we continue to bring you pitches from current students at CBS. In this issue, we feature ideas from finalists of the Tenth Annual Pershing

Square Challenge in April 2017. Windsor Cristobal '18, Anji Lin '18, and Isabella Lin '18 share their winning pitch of Yum China (YUMC); Chris Waller '18, SK Lee '18, and HK Kim '18 discuss Alaska Airlines (ALK); Griffin Dann '18, Joseph O'Hara '18, and Vikas Patel '18 share Corning (GLW); Gustavo Campanhã '18, Gilberto Giuizio '18, and Thiago Maffra '18 present Dollarama (DOL).

We are honored and privileged to have continued the Graham & Doddsville legacy, and we look forward to reading the next generation of issues, helmed by three outstanding individuals in Abheek Bhattacharya '18, Matthew Mann '18, and Adam Schloss '18. We want to thank Abheek, Matt, and Adam for their commitment and dedication to Graham & Doddsville.

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

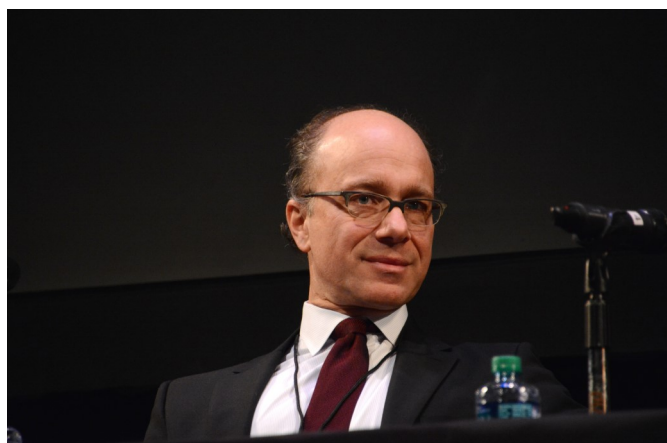


Student volunteers at the 20th annual CSIMA Conference, February 2017



Bruce Greenwald with keynote speaker David Abrams of Abrams Capital (right)

20th Annual CSIMA Conference — February 3rd, 2017



Keynote speaker David Abrams, Abrams Capital



Samantha McLemore, LMM, and William von Mueffling '95, Cantillon Capital Management, speak on the Behavior Finance panel



Thomas Russo of Gardner, Russo & Gardner, speaks on the "Finding Value: a Global Perspective" panel



Attendees networking and discussing stocks after the Best Ideas panel



From left: William Strong of Eschaton Funds, Dominique Mielle of Canyon Partners, Andrew Wellington of Lyrical, and Ryan Heslop of Firefly Value Partners offer their best ideas. Ellen Ellison of University of Illinois Foundation (right) moderates

10th Annual Pershing Square Investing Challenge — April 19th, 2017



The first-place team, which pitched Yum China, poses with Bill Ackman (left) and the other judges



The Yum China team (from left): Anji Lin '18, Isabella Lin '18, and Windsor Cristobal '18



The second-place team, which pitched a short on J.M. Smucker, poses with the judges



Last year's winning Couche-Tard team (from left): Melody Li '17, Joanna Vu '17, and Thais Fernandez '17



Students and alumnus discussing the pitches (from left): Vik Patel '18, Mahmud Riffat '14, Eric Laidlow '17, and Lilia Noack '18

A. Rama Krishna

(Continued from page 1)



A. Rama Krishna

Management, where he was Chief Investment Officer and Head — Institutional and International, and represented the asset management business on the Citigroup Management Committee. He also directly managed the Global Emerging Markets Equity strategy. Prior to Citigroup, Mr. Krishna was Director of International Equity Research, Portfolio Manager, International Equities and Chief Investment Officer, Emerging Markets Equities at AllianceBernstein in New York, London and Tokyo. He has also worked at Credit Suisse First Boston, first as an Equity Research Analyst and ultimately as Chief Investment Strategist and Director — Equity Research, in New York, Tokyo and Singapore. Mr. Krishna earned a joint M.B.A./M.A. in Asian Studies with a Japan Specialization from the University of Michigan in 1987 and a B.A. (Honors) in Economics from St. Stephen's College, The University of Delhi in 1984. Mr. Krishna received the Prize Fellowship in Japanese Business and the University Fellowship at the University of Michigan as well as the Middlebury College Scholarship. He was on the MSCI Editorial Advisory Board and is a Chartered Financial Analyst.

Graham & Doddsville

(G&D): Can you tell us how you got into the industry, and how you founded ARGA?

A. Rama Krishna (ARK):

Until I went to business school in the 1980s, I didn't know that the role of an investment research analyst even existed. Then I learned you actually get paid to analyze and critique other people's businesses. Well, that seemed like a lot of fun—and I wanted to apply the many useful learnings from business school in an intellectually rigorous profession.

I started out on the sell side because I wanted to understand businesses. After about five years, one of my clients—now AllianceBernstein—asked me to join them to help build their research and manage portfolios in global, international, and emerging market strategies. Based first in New York, then in Tokyo and London, I built and led Alliance's international research team, along with managing investment portfolios. I found my instincts about the profession were right—investing was very dynamic and challenging.

Much later, when I had some career flexibility, I decided to return to what got me into the business: investment research. All I had learned reinforced the importance of research in building client portfolios. I knew I wanted to bring together a team of people with the same investment beliefs. That's why I started ARGA.

G&D: How would you describe ARGA and its investment philosophy?

ARK: ARGA is organized around some enduring concepts that drive our

investment decisions. First, as investors, we think of investing in companies, not stocks. Second, we think the value of companies is determined by their long-term earnings power and dividend-paying capability. Third, our research analysts focus on understanding long-term company fundamentals, not analyzing investor sentiment. And fourth, our portfolio construction reflects the magnitude of the discount to fair value at which we buy in, as well as the risk that the forecasts may not be correct.

By incorporating these concepts into ARGA's valuation-based investment process, we take emotion out of investing. The process often results in our investing in currently unpopular companies and industries. The long-term benefits of this contrarian approach have been documented by a number of studies.

G&D: How does ARGA implement its investment approach?

ARK: One of ARGA's core beliefs is that pricing anomalies are created by emotions in investment decision-making. These anomalies provide opportunities for investors who can capitalize on them. Our valuation screens and our proprietary dividend discount model provide a systematic way to uncover these anomalies and measure them. By sticking to our disciplined investment process and staying the course amid short-term pressures, we remove emotion from investing.

We do only one thing at ARGA: valuation-based

(Continued on page 6)

A. Rama Krishna

investing. The pond that we fish in is deeply undervalued businesses. Our process begins by running several screens to identify companies' long-term value: price-to-book, price-to-earnings, dividend yields, normalized earning yields. Our screens are only the starting point. They simply give us a rich universe of companies on which to focus our research.

The companies that rise to the top of our screens, generally speaking, have some sort of issue—otherwise, they wouldn't be so cheap. The portfolio construction team for each investment strategy reviews the screens, focusing on the top quintile, then works with research management to assign companies to analysts.

At this stage, the analyst has one week to come back with answers to two questions: 1) "Why does the valuation look attractive?" and 2) "How are the fundamentals of the business likely to evolve over time?"

To implement this process well, you need to have the right kind of people. A number of analysts who joined during ARGA's early stage were people who I had worked with in the past so they were familiar with the investment approach from day one. The new analysts that we hire often have experience working in analytical roles at various businesses such as insurance companies, management consulting, and private equity. We haven't recruited much from the typical Wall Street sell-side analyst pool because we view our research team as business analysts, not stock pickers.

There's an important behavioral reason: we see ourselves as business analysts. When you start thinking about companies as stocks and try to time their purchase, you end up not owning the stocks when they may in fact be most attractively valued—which is probably when there's the most amount of stress and controversy associated with them. By focusing on the business analysis, we detach ourselves from emotion. Our investment process tells us when to buy and when to sell.

Our analysts spend nearly 95% of their time developing inputs that go into the investment process. The inputs are all about company fundamentals and related risks.

“When you start thinking about companies as stocks and try to time their purchase, you end up not owning the stocks when they may in fact be most attractively valued.”

A unique aspect of our firm is we started on day one as a global firm with two locations—one in a developed market, the U.S. (in Connecticut), the other in an emerging market, India. We felt that in today's world, you cannot look at any business without having both developed and emerging-market perspectives. We then staffed both locations with a very global team. ARGA's Connecticut office includes

people from Japan, mainland China, and India. Our India office has had people from Korea, the U.K., the U.S., and Singapore.

While ARGA's global team brings diverse perspectives, it is highly consistent in how we look at industries and accounting across geographies. This consistency is critical in comparing company valuations across the world on an apples-to-apples basis. We follow a strict set of rules to adjust different accounting standards in different parts of the world, so we can reflect the companies' underlying economic value. We are also consistent when we evaluate global market shares and link revenue forecasts for companies within an industry. While making all these consistency adjustments is time-consuming, it is core to our investment process of comparing company valuations.

Also at our core is completely aligning ourselves with the interests of our clients. We know most firms claim this, but we have actually turned down several institutions that offered to take a stake in ARGA, give us assets to manage, or even pay for our operating expenses. We flatly turned them down because we knew at some point, their interests and those of our clients would diverge. We're proud to be 100% privately owned, with many employees sharing in ARGA's earnings and value. Yes, ARGA's business has grown rapidly. But what's most important is that we do what we truly believe in: unconstrained investing, where the sole focus is valuation backed by research. The only

(Continued on page 7)

A. Rama Krishna

way to do that without interference is by being completely independent. The only people we answer to are our clients.

G&D: What are some of the adjustments you make for valuation or accounting across geographies?

ARK: Let's take China Resources Power in China, which uses steam turbines to generate a portion of its electric power. The company depreciates its turbines rapidly over roughly 16 years. The same steam turbines in Germany or the U.S. would probably depreciate over 25 years. So China Resources Power's reported earnings seem much lower than if you adjusted the turbines' accounting life to reflect their true economic life. If you didn't make such an adjustment, you could miss a company with greater earnings power than its reported numbers imply.

G&D: How do you organize your analysts given the multiple locations, various markets, and need to constantly adjust for such nuances?

ARK: We organize our research team by global sectors. Typically, more than one person has responsibility for a particular sector, which encourages and facilitates collaboration, both across and within offices. While it may not seem efficient for two people to cover a smaller sector, it ends up being more effective. These analysts build industry models together, and also link their individual company models. This helps ensure best possible inputs, as the analysts would object to linking

company forecasts if they didn't believe their colleague's industry forecast. There's a level of quality control even before an analyst brings a company to the research management or the portfolio construction teams for discussion.

ARGA's teamwork philosophy also ensures our businesses are well understood by persons beyond the industry expert. The two or more analysts with related coverage hold frequent discussions on sector businesses, often travelling together to visit companies. We believe this teamwork leads to better business insight, and, in turn, better investment decisions.

G&D: Could you talk about some of the lessons you've learned from investing over the past couple of decades and how that's influenced what you do today?

ARK: What has stuck with me most is that no matter how great the operating leverage in the business, if you have a lot of financial leverage, you might never reap the operating benefits. A big lesson for me was how to manage financial risk. Even if the financial leverage doesn't seem high at first, if the operating leverage is high and the business deteriorates faster than you expected, then financial leverage starts to grow exponentially. Be very wary of financial leverage.

G&D: Tell us about your portfolio strategies. How many positions do you usually target?

ARK: ARGA has three primary strategies: global

equity, non-U.S. or international equity, and emerging-markets equity. Each strategy today has approximately 50 to 60 holdings. We do have a highly concentrated version of our global strategy that has 15 to 20 holdings, but most strategies are in the 50-60 range. In constructing these portfolios, we do not consider the regional, industry, or stock weights of the market benchmarks. Of course, our clients compare us against benchmarks for long-term performance but benchmarks are non-factors in our portfolio construction. We focus purely on owning the most attractively valued businesses in the world.

G&D: What is your process of generating ideas? Could you walk us through one of those ideas?

ARK: It goes without saying that most investors want to buy a good business. But the reality is, for a company with a solid management, a strong balance sheet and good growth prospects, it's extremely difficult to get those characteristics at an attractive valuation. We're very realistic on what we can buy for our clients. Almost every candidate tends to be a company that has some issue.

What we're doing through our research is figuring out whether the issues are transitory or permanent. If we believe the issue is transitory, and the business is attractively valued on our dividend discount model (DDM), then we consider buying the stock. We invest with a three-five year view at ARGA. We want

A. Rama Krishna

to ensure any downside risk over that timeframe is limited. We think about downside risk as permanent loss of capital—“What is the downside risk of losing money when we sell the stock in three years’ time?”

Take Samsung Electronics. It came to the top of our screened list around early 2014. Our analyst spent a week researching Samsung’s business and came back with answers to our two questions. First, “Why is the stock cheap?” A key reason was that Samsung was losing market share in smartphones to Apple. Its share had tumbled from around 32% to the mid-20%. The smartphone business was a huge cash generator, about 60% of Samsung’s profits. Concerned that this profit stream was under threat, many investors had sold off.

Additionally, Samsung’s DRAM semiconductor business was facing an end-market slowdown as PCs slowed and smartphones became saturated. For these reasons, almost every analyst covering Samsung issued either a hold or a sell rating for the stock. The stock’s valuation collapsed. The second question our analyst addressed was, “How are the fundamentals of the business going to evolve over time?” The handset business is a consumer business. We can’t really forecast which smartphone model is going to be successful, so we treat it as a commodity business, where scale matters. In that light, even if Samsung margins tanked to 10%, the stock’s valuation still looked attractive.

For Samsung’s DRAM business, our analyst’s thesis was unique. Unlike most analysts who at that time were saying the DRAM cycle would go through its typical boom-bust rotation, our analyst pointed out that the number of DRAM players had gone from as many as ten a decade ago to currently only three. It’s now an oligopoly. The third largest player, Micron, barely made money in the best of times and would set the floor for pricing during the next downturn. So even though DRAM volumes might be off, our analyst’s view was that pricing would not collapse. That meant Samsung or even peer SK Hynix would end up making 20%, possibly 30%, margins during the next downturn. He believed that would surprise the investment community when it happened. We thought the analyst’s thesis was plausible, and decided that Samsung justified a detailed research project.

At this stage, we usually reject about 80% of companies under consideration. Companies can be rejected for any number of reasons. It could be structural. If the business faces structural challenges, we pass, as we know the stock will appear expensive on our DDM once we input our forecasts for growth and profitability. If the business has huge financial leverage, we may pass knowing it may not survive stress over our three-five year time horizon. The point is we proceed with detailed research on only 20% of companies.

G&D: What does this next step of research involve?

ARK: This is where we start behaving like a private-equity

firm, except that we invest in public markets at ARGA. We behave as though the New York, London, or Shanghai stock exchanges will close for the next three years, and we won’t have the liquidity to exit. We leave no stone unturned in our research. Otherwise, we wouldn’t have the confidence to own the business. We go to work on building detailed industry and company models. We talk to company competitors. We develop the income statement, balance sheet, cash flow forecasts by segment and full company.

“We behave as though the New York, London, or Shanghai stock exchanges will close for the next three years, and we won’t have the liquidity to exit.”

As we’re doing all this, we come up with questions for management. When we talk to management, we aren’t there to hear a presentation on the parts of the business that are doing well. We’re there to talk about their strategy for business recovery. We come back and update our models. Then, we talk to an analyst in the brokerage community who may have a different view of the company to see if we have a structural flaw in our analysis. If we have a structural flaw, we go back to the drawing board.

In the case of Samsung, the so-called “flaw” we heard from brokers was, “why would you

A. Rama Krishna

not want to wait until you see the handset business pick up again, or the DRAM business go through the next up-cycle?" That's music to our ears. Because if you waited for the good news to come through, you're going to miss the best part of the upturn in Samsung's stock price.

The point is, we're almost always buying stocks pre-catalyst or pre-good news. We all read the same newspapers. The difference at ARGA is we have a disciplined process from which we never deviate, no matter how we might feel emotionally about the company. Once we put the numbers into our DDM, if the stock valuation looks attractive relative to our computation of the company's intrinsic value, we consider the stock for our portfolio. For Samsung, our process indicated more than 100% upside in our base case scenario.

In addition to a base case that normally tilts conservative, we do a stress case for every company we research. The analyst sometimes finds no downside risk. When that happens, as it did in the case of Samsung Electronics, we pay very close attention. From a balance-sheet viewpoint, we found a company with little risk. We saw more than \$60 billion of cash that would allow ample financial stability. Our analyst had pointed out that a few of Samsung's smaller businesses were losing a lot of money. We concluded that if the core business ever came under serious threat, Samsung could immediately shut down these two smaller businesses to boost profitability overall. Because Samsung's stock had

already declined so much, our base case upside was very significant, while our stress case showed little downside. It was one of those good skewed outcomes that we generally look for at ARGA. If we're right on our forecasts, we make a lot of money for our clients, and if we're wrong, there's very little risk of losing money over time.

G&D: One concern that investors have had about Samsung and the Korean conglomerates is how their managers allocate capital, overspending or engaging in outright related-party transactions. How did you think about that when you were evaluating management?

ARK: That was a big concern. In fact, one of the reasons Samsung was so cheap was related to concerns about capital allocation. We had no crystal ball to forecast what management was going to do, so we focused on obtaining a very clear understanding of its underlying businesses. Our analysis showed the industry dynamics had changed dramatically in DRAM and even in NAND, becoming very consolidated. All players now appear very focused on returns, not just growth. It became apparent that even if Samsung didn't act in the near term, management would eventually realize that with its cash-generating handset business and flexibility to rein in capex, it was building excess cash on the balance sheet, which depresses returns.

We felt the interests of Samsung's management, the controlling family, were at least aligned with minority

shareholders in the desire for good returns in the long run, if not outright cash returns. We felt they'd be forced to do something about the more than \$60 billion in cash as the business matured. Our analyst noted that Samsung rarely made acquisitions, as these had not delivered great returns in the past. Viewing management as good stewards of shareholder capital, the only option left as cash builds to over \$100 billion is to begin returning cash to shareholders.

If management did anything right with the business, or if capital allocation turned out just a bit better than expected, it would be a big, positive surprise. This is an example where everything in our analysis pointed to an incredibly undervalued business for this kind of franchise and strong free cash flow generation, relative to the market cap. At ARGA, it always comes down to valuation.

G&D: How do you think about the politics of Samsung? The broader conglomerate controls so much of South Korea's economy. Plus, the heir to the Samsung empire was arrested earlier this year for his alleged connection to a corruption scandal.

ARK: Governance is an explicit part of the research for any company ARGA looks at. We even have a checklist that helps analysts understand companies' governance issues and associated risks. Yes, we identified a large risk with the Samsung group that they probably have a finger in every area of the Korean economy. At least in Korea, it's not just

(Continued on page 10)

A. Rama Krishna



Nick Briody '18 pitches a short on Smucker's at the Pershing Square Challenge

the Samsung group that is exposed to Korean political winds and economy. Other conglomerates have had similar issues. Governance at the larger Korean groups hasn't been positive in general.

The Samsung group has never willfully destroyed value at the Samsung Electronics level. It's their flagship company. They've done an incredible job of building a fabulous franchise by taking a long-term view of the business over the last three decades. The good thing about Samsung Electronics is you can't build and run a big, global company unless you have professional managers in each of the business lines who know what they're doing. Samsung Electronics certainly has its share of high-quality managers who we believe will continue to run the business well despite the detention of the Samsung heir.

G&D: *When you're looking at emerging markets, how do you get confidence in the financials and that the business is being properly represented?*

ARK: There are certainly groups or companies, particularly in emerging markets, where ambiguous financials are an issue. These typically tend to be private-sector or smaller companies. What we do in these cases is try to understand if the company has a history of questionable practices. Have they changed auditors often? Do the auditors have qualifications? We're constantly on the watch for these and other early warning signs.

In emerging markets, there are always going to be situations where you could be surprised by risks. Even with Big Four audits, there are cases of fraud. This is something you do your best to minimize through serious due diligence. You talk with management and peer companies, seeking to comprehend management's backgrounds and motivations. Still, it's a risk you always worry about. Of course, those very risks can also make stock valuations very compelling. That's why it's worth doing deep research.

"The reason value investing works in the long run is because it doesn't work all the time."

Interestingly, state-owned companies mostly have a greater degree of scrutiny. Though there are cases of corruption, with most state-owned firms, there are at least processes and probably more government oversight in the form of regular audits. The less regulated countries have potentially higher risk.

G&D: *India is often considered as the one emerging market where private-sector firms are of higher quality. In your experience, is corporate governance better in India than in China or Korea?*

ARK: Not necessarily. We don't think it's any better, or any different, in India. We can identify companies in Korea

and China that are as well-managed and have as good corporate governance as companies in India. Our view is that governance is company-specific, not geography-specific. Every part of the world, including China, India, Korea, and Russia, has outstanding businesses and outstanding managements running those businesses, along with attractive valuations.

G&D: *Have you ever run into situations where you find a good, undervalued company, but because of its location, you don't invest?*

ARK: At ARGAs, it's never a macro view. The only reason we won't invest somewhere is if we believe we'll never get our money back—if there's the risk that some country like Argentina expropriates our capital. Beyond that, our focus is owning attractively valued businesses.

Typically, the only time businesses get to the valuation levels that make them incredibly attractive is when there are all kinds of concerns at the country level. For example, a couple of years ago, we had 24% of our emerging-markets portfolio in Russia. That's a pretty significant weighting, especially given all the news you were reading regarding sanctions, or about Russia going into a massive recession for a year or two. Our research showed there were businesses in Russia that would survive a major economic downturn in very good shape, even if that downturn lasted for a couple of years. Further, when Russia would eventually recover, those businesses would

(Continued on page 11)

A. Rama Krishna

emerge stronger than ever because its peers would have been wiped out.

We embrace stress and uncertainty—not because we love them. Our investment process forces us to consider such businesses because they are probably the most attractively valued just when they're subjected to perceived or real stress of a significant degree. By the way, this process is not for everybody, as you can imagine. It is not fun for most people, even for us at times. The reason value investing works in the long run is because it doesn't work all the time. If it did, everybody would do it.

G&D: Could you give us an example of one of those Russian businesses that you felt was solid enough to weather the downturn?

ARK: Look at Russia's largest bank, Sberbank, which has close to 50% market share of Russian retail deposits and is also Russia's largest corporate lender. Pre-recession, this bank was extremely well capitalized and, in our view, could withstand a big increase in NPLs. Keep in mind, when you have a bank that has close to a 50% market share in retail deposits, chances are good that returns will be high. Sberbank had an average return on equity of 20% over the past decade.

As soon as Sberbank saw what was happening with the Russian sanctions and slowdown, the management made sure they could pull back every single loan or credit line possible. They went into a very severe damage assessment

mode. They were very methodical and prompt about this to get maximum money back, way before other Russian banks even thought about doing this.

The company was not only able to survive a massive Russian recession, but more crucially, it emerged stronger. It turned down the Russian government's offer of capital infusion because their view was, once you take that assistance—as some of the other weaker Russian banks did—the government could then influence you, like demanding you lend money to unappealing groups. Sberbank wisely wanted to stay completely independent. We think Sberbank management is as good as at any bank in the world today, maybe better. They've come out of the recession nicely. They're already making ROEs in excess of 15%. You can imagine how they'll perform when the Russian economy actually picks up. Most other banks are still burdened with problems from the recession.

G&D: We see that Sberbank still trades below consensus estimates of forward book value. Would you still think it's attractive?

ARK: It's still a good franchise. But the stock became less undervalued than it used to be. Valuation is always the driving force and there were better valuation opportunities. We did sell out of most of our Sberbank position last year and used the proceeds to invest in higher-return opportunities. Declines in the stock's valuation may make us reconsider the business again.

G&D: When you were looking at Russian investments, was there a focus away from, or towards, some of the natural-resource players?

ARK: We did have some natural-resource exposure, particularly Russian oil-and-gas businesses. These had U.S. dollar-denominated revenues, very clear agreements on tax and royalty payments to the Russian government, and fairly good transparency on capital allocation. If oil prices went down, their payments to the Russian government would also go down. They're less leveraged to oil prices than most other oil and gas companies worldwide and they're also fairly well-managed operationally.

A company like Gazprom has perhaps among the most undervalued energy assets you'll find anywhere in the world. It has decent corporate governance processes, despite concerns by some investors. Yes, capex is high because it's seeking ways to reduce dependence on Europe, so it is spending billions of dollars building multiple pipelines. The Russian government, as the controlling shareholder, has the same incentive as minority shareholders to ensure Gazprom pays dividends. The government wants those dividends too. We like that Gazprom's earnings are mostly in U.S. dollars. If the local currency weakens, there's little dollar impact. In contrast, local-currency earnings and dividends went up a lot when the ruble fell.

G&D: Going back to your lessons of being wary of leverage, would you

(Continued on page 12)

A. Rama Krishna

automatically reject companies that seem cheap because they are having issues with debt?

ARK: No, this depends on whether the business can handle the leverage under our stress case scenarios. Our stress scenarios help us assess whether, no matter how low profitability may go, the company we are considering can still support certain levels of leverage. You make sure the stress case truly reflects a worst-case scenario. You cannot forecast events, and there could be a situation where things get to that extreme worst-case scenario. You always want to make sure your companies can survive.

In the case of energy stocks, for example, when we built our stress case scenarios, we assumed \$30 oil prices for two years in a row, both 2016 and 2017. Consequently, we ended up dropping a lot of companies that looked really cheap on our initial screens because they wouldn't have survived at sub-\$30 oil prices for two years.

G&D: One dilemma for a lot of value investors is deciding when to exit an investment. Do you sell when it's successful, or when some negative news has come out?

ARK: Everyday, we get a list of exactly where every stock in the portfolio ranks on valuation with respect to our universe. In a very real sense, that's a daily reminder of the discipline we need in implementing our valuation-based approach. The moment a stock in the portfolio hits the valuation midpoint of the universe (depending on the strategy, the midpoint rank

could differ), it's sold from the portfolio. We don't even discuss it. We just sell it. We sell even if the stock has strong momentum at that time.

The reason we sell immediately is that our strategies are solely focused on owning the most undervalued businesses in their universe. No matter how great the stock price momentum at the time of sale, there should be other more attractively valued companies in the portfolio or in the universe that should do a lot better on a three-year view.

To continue the Samsung Electronics example, the stock hit the midpoint of the ranking in our universe in August of last year. At that moment, we automatically sold Samsung from our portfolios. We didn't even discuss it. We just sold the entire position.

G&D: Any advice for students who are trying to get into the investment industry? How would you suggest they develop their investment philosophy?

ARK: All of us at ARGA are gratified that many investors have entrusted us with the responsibility of managing their financial assets. Here's my parting advice to students interested in the investment profession. First, remember you are purchasing companies, not pieces of paper. Second, be patient—just because you figured out that a company is underpriced doesn't mean that the day after you buy it, all investors will agree. Third, be prepared to go against the crowd. If everyone thinks a company is attractive, it

probably isn't. As Ben Graham once said, "In the short run, the stock market is a voting machine. In the long run, it is a weighing machine."

At ARGA, we happen to favor valuation-based investing. That doesn't necessarily mean we think the value framework is any better or worse than momentum in terms of delivering investment results. There's a long history of value strategies and of momentum strategies performing well. They've performed almost identically over the last 45 years or so. It's more a question of you finding what you believe in and what you find most stimulating. So it's a question of temperament—how you look at data and figure out how a business might evolve in the future.

You need to determine what kind of an analyst you are. What do you like doing best? Is it trying to forecast whether a fast-growing business can sustain its momentum? Or trying to understand what the business should earn over the long run? A career in value investing can be stressful. The rewards of exploiting behavioral anomalies compensate for that stress over time, but do you have the patience to wait for them? Depending on that, find a place that can serve as a home for you to develop your industry expertise and analyze businesses. The great opportunity for Columbia MBA students is that you are in close proximity to a large number of firms in the New York area with a variety of investment approaches. Once you figure out your investment temperament, you can identify

(Continued on page 13)

A. Rama Krishna

a number of firms that are closely aligned with your objectives.

G&D: How did you figure out what your temperament is?

ARK: In my first corporate finance class in business school, the first thing the professor said was that the value of any business is the present value of future cash flows. As soon as I heard that, a light bulb went off. It became very clear how to value a business. From day one, my focus has always been trying to forecast what businesses should earn in the long run, then coming up with the present value of that.

G&D: Do you think other investors lose sight of this fundamental aspect, of having an idea of what the company should look like in the long run? Or is it apples and oranges because different people have different styles?

ARK: Even though there is convincing evidence that highly undervalued companies should do well over time, most investors are not interested due to the anxiety associated with owning them. This behavioral dynamic is why ARGA's disciplined process and deep fundamental research, which leads us to buy out-of-favor stocks, should yield good returns in the long run.

Time horizon is an important factor in investing. It depends on the clients you have and whether they share your time horizon. We know we cannot outperform every single year. We tell all our clients that upfront. ARGA is the right choice for clients who have a

three-five year horizon. If someone had a 12-month horizon, and that's how they're going to evaluate us, then we're probably the wrong manager for them. We know there will be some 12-month periods when we do poorly, by virtue of the fact that ARGA focuses on the most undervalued businesses. Value investing doesn't always work in the short run.

G&D: Thank you so much.

Cliff Sosin

(Continued from page 1)



Cliff Sosin

earned both a B.S. in Engineering (High Honors) and a B.A. in Economics from Swarthmore College.

Graham & Doddsville (G&D): Cliff, can you tell us about your background, and how that led to CAS Investment Partners?

Clifford Sosin (CS): I went to Swarthmore College and studied Engineering and Economics. I worked for two years at Houlihan Lokey focusing on restructuring. I wanted to be on the buy side because I didn't like being an advisor. I preferred seeking truth as opposed to seeking an argument. I went to a place called Silver Point, which is a distressed lending business. I was in a private lending part of the business, but negotiating private loans didn't suit my temperament. Part of it was environmental. It was 2006, so there wasn't a spread that was too thin or a company too risky. I found doing these private sales very frustrating. It wasn't a good fit.

A year later, I started to look for another job and found my way to UBS. There were 35 people in the group, mostly split into industry groups. My job was to look at high yield and distressed, but I also got to spend time looking at generalist stocks. Fast forward a year and a half and the group shrank from 35 to nine. I was fortunate to keep my seat. We also stopped investing in high yield and distressed so I focused on stocks. That's where I started thinking full-time about stocks and began, from 2008-2012, developing my investment philosophy.

I learned a lot at UBS, met some great people and really matured. I also was fortunate to have some very good investing results. At a certain point though it became clear that at a more traditional long-short business such as UBS I wouldn't be able to invest the way I want to; however, I was trapped at UBS because of my deferred compensation.

Eventually, the Volker rule required the bank to get rid of its proprietary investing business. They transferred us to UBS O'Connor. That created an opportunity for me to leave and continue getting my deferred comp based on the vesting schedule. I wasn't rich, but I wasn't poor, so I had space to start a business and know that if I didn't attract much in the way of assets, I could still eat.

I left UBS in July of 2012 and started CAS Investment Partners the week of October 9th. People ask, "Why the ninth?" The eighth was Columbus Day; we were aiming for the first, but we missed. We started with a very small amount of capital and have been fortunate to get bigger since then.

G&D: Could you walk us through the CAS philosophy and strategy in more detail?

CS: It's simple in concept. We try to invest in businesses that we can understand and that we can get for less than they're worth. We're not going to find a lot of them because we're not that clever. We find a few from time to time. Right now, we have five positions of size. Of those five, three of them date to the inception of CAS.

The key is finding businesses we understand, buying them for less than they're worth, and hopefully holding for a long time. We try to marry that long-term outlook with a degree of accountability. We try to identify why a business is going to be successful and try to formulate that idea into a clear hypothesis, enumerate the predictions of that hypothesis, and then we look for disconfirming evidence to kill the hypothesis.

To understand our approach, you must appreciate that in this framework a stock price going down never constitutes disconfirming evidence. We spend no time worrying about stock prices bobbing up and down in the short to medium term. We are indifferent to stock price volatility.

G&D: You have five positions. Is that the level of concentration you want going forward?

CS: There is no ideal. That's probably towards the higher end of concentration. I think about it in two ways. First, if you think about concentration in terms of how big a loss would you be able to withstand and not interrupt some decade-long performance, you can come up with a third or a quarter of your money, which is a lot. That puts an upper bound on individual position sizes if you recognize that no matter how much you think you know, there's always some probability of something you never imagined that causes that position to be a zero.

You can also analyze the problem empirically. I don't

(Continued on page 15)

Cliff Sosin

think that managing volatility is a worthwhile thing, but let's use this lens for a second. The idiosyncratic mark-to-market volatility declines proportionate to the square root of the number of positions you have. If you have four, you get half the benefit of having infinity. To get 90% of the benefit of infinite diversification, you need 100 positions. You get 50 points for the first four positions and it takes you another 96 positions to get another 40 points. It's just not worth it. A handful of positions is enough. It forces you to think hard about the trade-offs you're making and allows you to take advantage of the handful of truly good ideas you have.

G&D: How do you think about exiting a position and entering a new one?

CS: I consider opportunity cost. You want to own a position for the next five-to-ten years. What's a reasonable range of outcomes for both investments? Is it similar? If yes, then more diversification is better. If it's worse, then no. Why sell the good for the new? The basic idea is you think about how much money you make and how sure you are over a long span of time. You try to figure out the best portfolio. Easier said than done.

G&D: Is your approach different on the short side?

CS: The benefit of shorting is that the capital opportunity cost is very low. What I mean by this is that when we buy something, we need to sell something to make room so the wealth gains over time are

limited to the excess performance of the new idea over the old idea. There is opportunity cost.

Conversely, if we short something, we don't have to sell something so there isn't much opportunity cost. It's a very small opportunity cost from the balance-sheet perspective. To the extent that we can find things to short that go down, we stand to make money. The question is whether finding shorts is worth it from a time perspective. The jury is still out.

“A handful of positions is enough. It forces you to think hard about the trade-offs you're making and allows you to take advantage of the handful of truly good ideas you have.”

Our shorting is different because we're not doing it to hedge. We don't have to do it; it is intended to make money. Also, I think over time we have a pretty good shot at decent returns from the long side alone so I tend to be quite risk averse with regards to shorting because I don't want to muck up what should be good long-term performance on the long side.

We have a narrow window of things we want to short. We won't short dreams or pyramid schemes, nor highly shorted stocks. We're looking for some sleepy company

that's going to get hit by a truck. Something bond-like... or better yet a bond. The problem is that is really hard, so we don't find many. There's a certain amount of looking and not a lot of finding. To make matters worse, the positions we find tend to be small since you can only reasonably be short a small percentage of a company's shares without taking too much squeeze risk. We've made a little bit of money over time but it's certainly not been worth the time to date.

So why do we do it? The theory is that every decade or two, you might come up with a great short, a la the subprime short or something else with a skewed risk-reward. If you're not looking, you probably won't find it. If you can maybe make a percent every year or two nibbling on berries and then occasionally, come across an elk, it's worth it. Honestly, I don't know whether we'll get it right. We've never taken down an elk. I'm not wired to like shorts. It's hard for me to see them.

G&D: How do you think about risk and how do you try to get comfortable with a long time-horizon given your large exposure with each investment?

CS: Let's think about risk in two different ways. The risk I think you're thinking about is path dependency risk. It's this idea that, sure, the business flourished, but along the way you went broke. I am fairly averse to any significant degree of path dependency risk. It's not to say that we cannot have some investment in the portfolio that's over levered,

(Continued on page 16)

Cliff Sosin

provided it has the right risk-reward. You just can't have five of them. You certainly can't have a lot of portfolio leverage. You've got to make sure the investments you're making are resilient and your structure is resilient. If you think about our business, the whole business is predicated on the idea of finding investors who are looking for long-term compounding. They're willing to have volatility and not going to call me every day if we're down 20% in a month. You've got to attract the right investors and build the right economic model. We can't have an economic model where I'm struggling to keep the lights on if assets are down 30% or 40%. We've got to have an economic model that works in the worst of times. We've got to be flexible. Inevitably, there will be bumps in the road.

The second way to think about risk is the risk that the investment thesis was wrong. We try to be careful about that. We try to lay out our hypothesis in an unvalidatable form, outline what would constitute disconfirming evidence, look for that disconfirming evidence, enumerate, question and stress our assumptions. Pre-mortems are a good idea; writing down and revisiting any evidence that doesn't fit with your hypothesis is a good idea too. You also have to watch out for all the usual cognitive and decision-making biases. When you only have five positions and you're in them for a long time especially, all these biases come into play.

In the end you are going to make mistakes and you are going to get unlucky. Margin of

safety is key. Investing is hard. As it should be.

G&D: Holding positions over the long-term, how do you protect against thesis drift?

CS: It's a risk. You should update, refine and improve your thesis with time but you probably shouldn't allow yourself to come up with an ever-increasing litany of excuses for a business where your understanding is clearly not as good as you thought.

You can't judge the probabilities of something unless you can understand the underlying mechanism. You have to form a view of what would change your mind on the mechanism upfront and you look for that. If you find it, you shouldn't own that asset. But it is okay to refine and enhance your understanding of the mechanism and it is certainly okay to update your understanding as the business evolves.

G&D: Given your concentration, how much adjusting of positions do you do, particularly if things run or struggle?

CS: We reallocate capital so we have more invested in positions we think have a higher rate of return. Our margin of error is broad enough that 20% up or down doesn't matter here or there. If one stock goes up 30% and the other goes down 30%, there probably is something to do. We adjust for large movements, but not for small ones.

G&D: When you're looking at a new position, how much do

you want to know about the company before it even enters the portfolio?

CS: There's no sense in putting on a starter position.

I've been impressed over the years how I think I understand something well and then I learned something I never knew. But before we buy a single share I want to have a hypothesis I've exhaustively attempted to invalidate, and if our hypothesis is right, it's probable that the returns will be high enough to justify the opportunity cost of whatever we sell. I've found that with investing, there's one thing that must be true and everything else is just noise. There's one thing that matters. Once you nailed that, you can still learn a lot more.

G&D: Are there industries that you avoid or ones that your team focuses on?

CS: We try to think about mental models. Investing is the applied social science. We try to develop these tools to break down how complex social organizations perform and behave in our market-driven economy. We'll look at anything where we can use these tools but not at things where we cannot. The classic example of something we won't look at is biotech. The ability of some new compounds to cure cancer is just not something to which we bring any particular expertise. Whereas, an understanding of "loyalty effect economics" applies to a broad range of different industries, from wealth management to insurance brokerage to subprime lending. If you were

(Continued on page 17)

Cliff Sosin

to think about a circle of competency, if our tools explain it, then it's in our circle of competency.

I don't have a tool for making a lot of useful predictions about the future development of technologies. As far as I'm concerned, technological innovation is drawn out of a hat. My ability to forecast that is very limited, and so if your business is one predicated on how the web architecture works, it's improbable that we're going to figure it out. If on the other hand, your business works because people love coming to your meetings and being part of the organization socially, that's something that we can figure out.

G&D: We saw, in prior letters, that Herbalife is one of your biggest long positions. Can you walk us through the research process with that idea?

CS: It was always on my radar. If you did a "Magic Formula" screen, it always showed up cheap. It was this company that always grew and had great economics, but I had never bothered to grab the 10-K. I knew the name [Herbalife], and watched the Ackman presentation a week or two after it had been done for roughly the same reason people stop to stare at car accidents. I originally thought the Ackman presentation was great and I even wrote to one of my friends that I thought Herbalife was a pyramid scheme but a very profitable pyramid scheme.

However, there was something that bothered me. Ackman

spent a lot of time talking about the product and the \$100 MSRP. He showed that on eBay, the same product trades for 65% of MSRP. That sounds bad. He used that to show how there's no significant retail profits. The weird thing is that if you're a distributor and you have any volume, you buy at 50% of MSRP. So that seemed to imply that distributors were making money even selling on eBay.

"I knew the name [Herbalife], and watched the Ackman presentation a week or two after it had been done for roughly the same reason people stop to stare at car accidents."

If I told you that there was a loan and nobody wanted it and it was worth virtually nothing, what would the market clearing price be? The answer isn't 65 cents on the dollar. The answer is closer to two cents on the dollar. In the case of Herbalife, you can compare it to furniture. Used furniture trades at a much bigger discount at MSRP than Herbalife product. Herbalife's a food. When you're buying food on eBay, it's a little weird. There probably should be some discount. This bugged me. It was inconsistent.

You can't have a situation where large numbers of people are buying the product they don't want because they want to participate in a money transfer scheme. It doesn't

work if people try to sell, can't sell, become stuck with product and then eventually throw it in the garbage when, at the same time, there is a secondary market where the stuff trades above the wholesale price. People are not that ignorant. It's not like one dollar of the stuff trades on eBay; millions of dollars' worth is traded on eBay. Herbalife sells billions so it's this teeny little piece, but it's millions of dollars in a secondary market.

That was the string in the sweater that I started pulling at so to speak. I was also fortunate to have a friend who had done some work on it and believed it to be a good business, so he steered me the right direction. John Hempton also put out his somewhat famous blog post. He wrote about going to an Herbalife club and guess what? It was filled with customers. They're drinking shakes. I started to put it together.

I spoke to people who are experts in the space (lawyers and such) who say Herbalife's not just a legitimate company, it's the white gleaming example of multilevel marketers in the industry. They call it the gold standard. Herbalife's turnover is the lowest in the industry. People love it. It's been around forever. I started noticing all these things.

Finally, I sat down and revisited the section of Pershing Square's presentation where they were quoting this paper from the SEC's former economic consultant. I read the paper. The legal precedent from the Koscot case for multilevel marketers is that the

(Continued on page 18)

Cliff Sosin

companies must sell to ultimate users.

Dr. Peter Vander Nat tried to put some math to the legal standard. It's a very sensible paper. He says, let's imagine that we consolidated the economics of the distributors with the multilevel marketer. There'd be a certain amount of gross profit, there'd be a certain amount of overhead, and then there'd be a certain amount of sales and recruiting commissions. If the gross profits less overhead cover the sales commissions then the organization is clearly not a pyramid scheme – after all, it could work as a consolidated entity. Conversely, he posits that if the gross profits don't even cover the overheads then all the commissions paid are essentially wealth transfer among the sales people so it is a pyramid scheme. Somewhere in between, there'd be some percentage of the amount paid out to distributors that comes from gross profit and some percentage that comes from new distributors coming in and going out. He said 50% would be an interesting tipping point.

This is the way that Dr. Vander Nat tried to put some math to the legal standard, and there is an equation that falls out. In Shane Dineen's part of the Pershing Square presentation, he tries to fit Herbalife into this equation. Ackman's team used a bunch of assumptions and shows Herbalife's a negative number, ergo a pyramid scheme.

The problem is that the original paper starts with a bunch of implicit assumptions. Among the implicit assumptions is that the

product is either sold at the retail price or not sold at all. The problem is, we know for Herbalife that anyone can sell it on eBay for 65 cents on the dollar. That is different than the embedded assumptions in the model. If you were to just make that change you can't come up with any way that Herbalife is a pyramid scheme in the Vander Nat model.

Also, let's look at this in a Bayesian sense. Just ignore everything you know about Herbalife. Imagine some company that's lasted for 37 years, is publicly traded, exists in 90 countries, and has been in regulated markets all around the world. Is it or is it not a fraud? The answer is it may be a fraud but the prior probability that it's a fraud is quite low.

When I finished going through the Vander Nat paper, I added that to the mosaic of things and decided I was reasonably confident that it wasn't a pyramid scheme. I essentially looked at it in a Bayesian sense. The prior probability is low. Ackman presents evidence it is a pyramid scheme but we have determined that much of that analysis is faulty (and there were a lot of other issues beside the ones I mentioned). Then you layer the availability of returns, the high price on eBay and the perception of this as a class act among industry veterans, and you come away thinking it is vanishingly likely that Ackman is right.

At the time, I definitely did not understand why it was a good business, but I was willing to take the trend of 30 years of performance at face value.

It was also very, very cheap so there was enormous margin of safety, and conversely we were being paid very well for the risk.

G&D: *If multi-level marketing is successful and legitimate, why do so few brands choose to operate this way?*

CS: I spent a lot of time trying to understand why this business works. We are going to venture out on the bleeding edge of what I think I know. We are going to enter the realm of more conjecture where I have much less evidence. If you look at the sphere of human activity, there are some activities, such as buying a jet engine, that are very rational. There are other activities, such as participating in your local church, that economists would say should not exist.

I might argue that members of successful long-term multi-level marketing organizations are participating in a social group. They're identifying themselves as good people through the participation in a social group. They are doing it for other people and they are doing it for themselves. Volunteer fire departments, church organizations, and civic organizations are all organizations where people participate, but not in a strictly economic sense. What makes Herbalife special, and what makes a great multilevel marketer special, is that you build a belief system around these products.

Herbalife is not a purveyor of protein powder. Herbalife is an organization that people participate in because they

(Continued on page 19)

Cliff Sosin

view themselves as healthy, active people. They want to lose weight, be healthy and active, and share their experience, the lifestyle, and its benefits with other people. Think of it as analogous to a religious movement or to a political movement. It's very hard to build these things. In the early days, they die like fruit flies. Once they grow up, they last forever; but it takes a lot to get one up and running and you can't just start one... at least not easily.

“What makes Herbalife special, and what makes a great multilevel marketer special, is that you build a belief system around these products.”

We came to appreciate that, within Herbalife, while there's an economic incentive engine that motivates some, that only explains part of the phenomenon. If you think about Daniel Pink's work on what motivates people, it is purpose, independence, and mastery. In Herbalife, you give people a huge purpose. If you sign up for Herbalife and you help one person lose 50 pounds, the odds are good that you want to keep participating. You want to find the next person. That would be a big thrill.

If you think about it, social organizations are all over the place. It's only natural that through natural selection, companies would realize that these mental pathways exist and you can use them. Group

identification is fundamental to people. There's social cohesion.

Of course, there are varying levels of passion. On the lowest level, you've got people who don't know anything about the mission and lifestyle. They bought Herbalife products once and they used them. You've got a whole lot of people who make a little bit of money and spend some time doing it because they enjoy it. They like the people involved, they think it's important. Then there are the real money makers. For them, it's a job and a mission. It's like being the priest.

G&D: *People don't just join Herbalife to try to make money?*

CS: I think people join for a lot of reasons. The vast majority of members are really just discount customers. They join so they can buy the products at a discount. Some join because they like the social aspects, the fit camps, the nutrition clubs, the other members to support and reinforce their nutrition goals, etc. Some join with modest income aspirations in addition to their health and weight-loss aspirations, selling a bit to friends and family. Some join with the goal of building a big business. Some of them succeed and some of them, just like any other business, don't. Undoubtedly some people try to make a business out of Herbalife and fail, so some of them lose money but usually not very much. It helps a lot for those who are trying to build a business to also love the mission. It is hard to build a Herbalife business. There are

setbacks. If you focus on the good you are doing it helps a lot in terms of working through the setbacks.

The most common failure mode within Herbalife is for a happy consumer to try his or her hand at selling only to learn that it isn't for them. So, they stop selling and simply consume the inventory they might have purchased and go back to being a happy customer. It's like me buying five boxes of Cheerios because I thought I was going to sell Cheerios. Then I decided that selling Cheerios is not for me. I'll just eat the Cheerios.

Keep in mind Herbalife has a return policy. If you were truly duped in this manner—you bought \$5,000 worth of inventory, tried to sell it, and you couldn't—you could return it to the company. This is a big problem with the bear argument. It's like if a bank robber left a business card, “Please call if you want your money back.” Many hedge funds have bought Herbalife products and returned them. This has been well-tested.

G&D: *Does the stigma of multi-level marketing deter investors?*

CS: There are multi-level marketing scams that promise the world and die quickly. A new multi-level marketer is a risky proposition for an investor. What makes Herbalife interesting is that it has very low attrition, compared to other such firms, and it's been around a long time. Herbalife's results are going to be volatile, particularly in small, new markets. It can have attributes that look like

(Continued on page 20)

Cliff Sosin



Antonio Lequerica '18 speaking at the Pershing Square Challenge

the ice bucket challenge, where it takes off and then it collapses.

Let's say you and I both go into business. You decide that you're going to go on a diet and challenge your friends on Facebook to do the same diet. Let's say you have a virality coefficient of greater than one because you've got some hip twist on this idea. You're going to see this exponential growth. But then you're going to see this exponential decline. You stop your diet and run out of friends, then they stop and so forth. It's this flash in the pan business.

Let's say my business is to organize walks near where I live in Westport. I'm going to spend time every day inviting people to these walks, on social media but also any other way I can, especially in person. "We're meeting at 9am on Sundays and we're going to go for a two-mile walk." Then after the walk, which, say, costs \$5, I find a comfortable place and serve shakes. We're going to have a talk about nutrition and health. I'm going to have people who lost weight tell how they lost weight using the product. You can see how that is much more durable. People make friends with each other, come back week after week and do the walks. They buy product for home use. They lose weight and tell their friends. Eventually, I'll get the people who were doing my 9am walks to organize another one at 1pm because I can't make it. One of them starts walks in a neighboring town and so forth. So the model duplicates. You can see the difference between a durable strategy and a flash in

the pan.

You've got people who have been doing it for ten, twenty years. They have built real organizations with real customers that have real durability to them.

G&D: If someone in your family thought joining a multi-level marketer was a great business idea, what would you tell them?

CS: They should go for it. The only catch is, like any business: it is not easy. If you watch any Herbalife video, often the first thing they say is, "It's not easy. You've got to work really hard at this." I'd also encourage them to start slow. Make sure they like it and can do it before signing a lease on a nutrition club for example. That's just common sense but sometimes people can overcommit. That is the only way you can actually lose any real money in Herbalife. You quit your job, lease a nutrition club, then discover that you can't sell any. Not wise.

If you look at Herbalife people, they often start out selling to someone like their brothers-in-law. That's very common. If you look at Herbalife's four million members, three million basically just buy it for themselves. Of the remaining million, half or more basically just sell to people in their social circle.

The big step you make in Herbalife is talking to strangers. You need to talk to 40 people a day. Ask 40 people a day, strangers, of whom at least 39 are going to say, "No." If you do that every day, you could build a nice Herbalife

business over the span of ten years. You have to like it. You have to work at it.

A common Herbalife success story goes something like: "Hey, I started with Herbalife ten years ago because my friend had just lost 30 pounds on it and I knew I needed to lose weight. I lost 20 pounds and my wife lost 40 pounds.

Then I got into the business. I didn't think I could, but Joe told me that I could. I started talking to people. It was hard at first, but I learned how to do it and that I didn't have to be afraid. There were times I didn't think I could ever get there but eventually I did. Now I work full time at Herbalife, I have a big organization and make a great living. Last month my check was \$7,568."

That's not impactful when one person does it. But if you get a lot of people coming up it's very motivational.

There's a woman I met in Los Angeles. She was the sort of attractive, personable woman that everyone wants to be friends with. She knew the school bus schedule. She would go ahead of the school buses and chat up all the moms. Women would come back to her club and they would have a shake and gossip. A lot of the women wanted to lose some weight and would buy the product for home use. She would motivate and coach them. Some of these women needed extra money around the holidays so she was able to say, "Why don't you go and hit these bus stops. I can't do all of them." You can see how it turns into a nice business. You end up with this amazing group

(Continued on page 21)

Cliff Sosin

of dedicated, talented, gritty, sales people or entrepreneurs.

I think some of people's discomfort is a lack of familiarity. It wouldn't be uncommon for a Herbalife member to want to make an extra \$300 around the holidays selling retail to people they know.

G&D: What about the rest of your portfolio?

CS: Herbalife is our biggest position. Everything else is roughly equal. We own Cimpress N.V. (CMPR), Credit Acceptance Corp. (CACC), World Acceptance Corp. (WRLD), and two rental companies, predominantly Ashtead Group (AHT.L), which owns Sunbelt rentals.

G&D: Could you walk us through the WRLD thesis?

CS: WRLD gets a bad rap. Subprime lending, in general, gets a bad rap. I think that people tend to confuse their desire not to have a society with any desperate people with the fact that once people are desperate, WRLD is a "lender of last resort." I think the role of "lender of last resort" is extremely important. It gives people with nowhere else to turn an opportunity to borrow money to solve urgent needs. In performing on those loans, individuals can improve their credit scores, which will ultimately improve creditworthiness in the future.

It's an incredibly difficult, risky, and thankless business, but providing this ladder, from the very bottom to a notch or two above the very bottom, is incredibly important for social

mobility. Compare the role of these lenders in society to the importance of chewing gum manufacturers—I think subprime lending is a far more important business.

"It's an incredibly difficult, risky, and thankless business, but providing this ladder, from the very bottom to a notch or two above the very bottom, is incredibly important for social mobility."

Some people don't like the industry because the interest rates are high. But as an industry, there are not reams of profits to be made. If you look at a typical installment lender, they are not making money hand-over-fist. The prices are covering their costs and their losses and create a modest profit. These loans are expensive to originate and service, and they have a lot of embedded loss due to the risk. They're also small and have short duration. To make a reasonable dollar profit, you need to have a high implied rate.

Another way to think about WRLD is to consider 200 people, all of whom have large problems. They need to repair their water heater, or fix their car or, less practical but emotionally important, they can't buy Christmas gifts or travel to a friend's funeral, etc. All come to WRLD's office and WRLD sends half of them packing. Those are the people

who really suffer; nobody lends to them.

Then, WRLD makes a loan to the remaining 100 of them. Those people get money and solve their problem. Sure, they pay for it with an interest rate of 60% on average. But that is a lot better than the alternative of not having a car to go to work. Over time, some people will renew that loan. The average person renews twice and is in debt for 24 months. Almost 80% of them will eventually exit the repayment door as opposed to the charge-off door and their credit is improved.

Who are the victims here? When the customer repays, WRLD makes a healthy profit but the customer got the cash he or she needed and his or her credit improved. Tough to argue that those borrowers are victims.

When customers default, they experience the discomfort of having debt collectors call them and further degradation to their credit score. But otherwise, they are better off. WRLD gave them more money than WRLD received back. This is different than many payday transactions where the lender can often profit even when the borrower defaults. It's hard to argue that the borrowers were victimized. And even if you could, you can't make the other 80 loans without experiencing the twenty who don't repay although they sure do try.

I'll add one more piece. WRLD is an installment lender, which is fundamentally different than a payday lender. Payday

(Continued on page 22)

Cliff Sosin

lenders charge very high interest rates, typically 400%, for very short-term loans, two weeks on average. Payday lenders have an ability to reach into someone's bank account and pull money out. With these two features, payday lenders can and often do make money on loans where the borrower defaults. WRLD is an installment lender. They give people longer-term loans with fixed payments. A typical loan might be \$900 payable in twelve \$100 installments. WRLD has no ability to enforce repayment if the person doesn't voluntarily repay.

G&D: How does WRLD collect from customers?

CS: The most common method is paying in cash in person. WRLD has expanded the payment options, and there are people who pay with check. The customers are not all under-banked. There are people who pay by phone. There's debit card. But WRLD has no ability to take money out of people's accounts.

In the vast majority of charge-offs, WRLD loses money. The incentives are well aligned. WRLD wants to make loans that people can repay. The only way WRLD can get people to repay them is if the borrower's income less expenses is enough to service the debt.

G&D: How long are the loans on average?

CS: The average loans are twelve-month, but they're monthly installments. The average duration of a twelve-month loan is six months. The

average duration of a portfolio of twelve-month, linear amortized loans is three months.

G&D: What do you think about increased political scrutiny and regulation of the industry?

CS: A variety of politicians will paint these guys as evil. It's not hard to find someone who had some really bad experience. Yet WRLD's net promoter score is 68%, which is amazing. WRLD is very popular with its customers.

The academic work on payday loans is mixed. There is a wonderful piece by John Caskey that summarized all the academic work and makes this point nicely.

On the negative side, there is work that shows that the career performance of Air Force members stationed at places with access to payday loans is worse than ones without access. Of course, that's bad. There is also evidence that different disclosures about sustained use of loans by borrowers can importantly reduce their propensity to borrow. So those would indicate that perhaps payday loans are bad.

But there is also research that shows that counties in California with access to payday lending have reduced rates of suicide and robbery after earthquakes than other counties which have banned the product. Similarly, when Oregon put in place a ban on payday loans, economists used the occasion to study how the change impacted people right on the border of Oregon and

Washington. They found that indicators of financial suffering, including phone disconnections and job loss, were higher after payday and installment lending were removed on the Oregon side of the border than just a few miles away on the Washington side of the border where payday loans were available. So these studies support the idea that payday loans are good for society.

Evidence supports both sides. What I think is clear from the research is that whether payday lending is good or bad, it is not very good or very bad. Economists have studied this too closely and had too many conflicting findings for the impact to be very strong one way or another.

Installment lending is far more user-friendly than payday lending. So if payday lending is at worst a little bad for social welfare, I think it's highly probable that installment lending is very good for society. All those people who need cash are served by these businesses.

Still, obviously, despite the logic and evidence this is an industry that is under a lot of scrutiny. The CFPB is clearly of the view that high-cost short-term consumer loans are probably bad for consumers. There is a very lengthy legal discussion we could have about all this but it is too involved for this interview. I think though it would leave you thinking the risk isn't as big as it might seem. But it is a big risk.

G&D: What evidence would indicate that your investment is wrong?

(Continued on page 23)

Cliff Sosin

CS: Not an easy answer. Let's start with what the economic mechanism is.

Our hypothesis is that the business has what we call "loyalty effect economics." It's an economic phenomenon in *The Loyalty Effect* by Fred Reichheld. It describes how in some industries a business in the upper-right of a 2x2 matrix of customer retention and employee retention is the most lucrative. If you can establish an organization with long-tenured employees and long-standing customers, you will be much more profitable than your competitors.

"Installment lending is far more user-friendly than payday lending. So if payday lending is at worst a little bad for social welfare, I think it's highly probable that installment lending is very good for society."

Now let's look at the installment lenders. WRDL has been very successful at this. WRDL's average branch employee has five years' experience. This is tremendous. Way higher than most other front-line employees in most companies or industries. These aren't big communities. They know who is who in town. They know your mother. They go to church with you. People come in and if they're good at it, WRDL's people have some reasonable ability to underwrite your loan and

avoid getting ripped off.

The managers are also likable people because they treat you well. If you are in a Walmart break room and someone says they have a problem, someone else in the Walmart break room might say, "You should go to WRDL. They treat you well. They're friendly. They treat you with respect."

When customers have trouble paying, WRDL managers treat them well. WRDL runs on kindness. The way they collect is to call repeatedly until they get the client on the phone. Eventually, they'll get through and say, "Come in. That's all I ask." You'll come in and they'll say, "Tell me about what happened," and you tell your story.

Depending on the circumstances, they can often say, "I'm looking at your file and because you've made three payments you have some equity in your loan. If you renew today, you'll be current with us, you can walk out of here with \$50 and you won't have any negative impact on your credit score."

They don't force anyone to take out a new loan, but it sounds like a pretty good option for many. The whole business works on friendliness. The branch manager has been there a long time and knows the community. People trust you as someone to borrow from because they know that if something goes wrong you will be reasonable. You get this whole base of former borrowers who are your referral sources. They also come back because they might have some sort of cash flow

issue two years later. Half of their new customers are former borrowers who return. The largest source of first-time customers is referrals.

The key to making the business work is having this branch manager who's ensconced in the community and can underwrite carefully. Knowing the community is a big advantage because you know who to avoid. You also have this big base of former borrowers who are both your best customers when they have a need and a great source of referrals. It sounds so simple but these are the "loyalty effect economics." WRDL's financial performance over the past 30 years is unbelievable.

So, how would we know that this thesis is wrong? Well, when we first postulated it, we didn't have all the facts I shared above, but I learned about the importance of manager tenure and of referrals and so forth when we looked for these attributes as part of attempting to invalidate our hypothesis. At this point, I can't think of any more ways to test the hypothesis. So if we are wrong or things change, we'll probably first detect it if the financial performance got worse. A decline in repeat business or an increase in employee turnover would be concerns. Most likely though, to the extent that the economics break down, we would see it in the financial performance.

G&D: In terms of performance, WRDL's traffic is declining. How much of this is related to competition, especially online?

(Continued on page 24)

Cliff Sosin



The winning team, Windsor Cristobal '18, Anji Lin '18, and Isabella Lin '18, pitching Yum China at the Pershing Square Challenge

CS: Declining traffic is a problem. There are two key risks with WRLD. One is the regulatory risk. We talked about that a bit. The other is declining new customers per branch. If you look at number of new customers per branch, it declined from 2011 to 2015 although it has recently been increasing. There are two possible arguments for the cause of the decline.

One is that instant-decision online lending is winning in the marketplace and store-based lending is losing. This would be a secular disintermediation. The other argument is that WRLD hasn't been run very well and thus is underperforming.

Two and half years ago, the company didn't have a website. It had an IR site, but that was because the SEC required it. If you were a retail customer who wanted to find a branch and went to the Internet, that information wasn't there.

The lack of a website was just the tip of the iceberg. The business was undermanaged for years. It was basically running in 2015 exactly the same way it was run in the 1990s. In some sense, its success without evolving at all for two decades is a testament to the quality of the business. But it started to catch up with WRLD, and starting a few years ago, new customers per branch began to fall.

Importantly, we think that returning customers, referrals and quality underwriting and collections by seasoned employees in the branches, the economic engine, continued to be a source of strength, the

issue was primarily attracting new customers who had never done business with WRLD before.

Now there is a new CEO who is making a lot of progress turning things around. The first initiative was building a website as a driver of branch traffic. Half of customers at some competitors find the company through the web, fill out an application online, and finish the transaction in the store.

So WRLD put up a website and it helped. Month over month, it gets better, but it hasn't been a panacea.

Then management evaluated direct-mail, historically WRLD's only form of advertising. Management experimented and found that shutting off the direct mail in certain geographies had no impact on new customer applications. That's how bad it was.

How could this be? Well, it turns out that the direct-mail program was completely outdated. I won't bore you with the details, but WRLD was sending the wrong letters to the wrong people at the wrong time of the month. Management revamped all of WRLD's direct marketing, and it helped a lot.

Now between the web and enhanced direct mail, it looks like WRLD has turned the corner. It looks like it is bringing in more customers than it is losing so it should be returning to growth. But we will see. The good news is there are a whole host of other initiatives that it is in the middle of which should also

help to drive a lot of volume. They haven't been tested yet, but there are a lot of shots on goal so to speak, a number of which have been meaningful for competitors. I am optimistic that WRLD can return to some of the robust growth of their past. It looks like by modernizing its operations, WRLD has been able to restore volume, so this is inconsistent with the secular disruption concern.

WRLD is the only industry participant I am aware of with volume problems. Everyone else is doing fine. This is consistent with the theory that it is not an industry problem but a WRLD problem.

Also, I think it is likely that online underwriting is still a lot worse than in-store underwriting. If you look at any online subprime lender, the rates they charge are far higher and their charge-offs are far higher. The Internet has some speed and convenience benefits, but as of now I don't think it is nearly as good at underwriting or collecting.

All of this is evidence that's inconsistent with the thesis that the Internet's killing the business. At least today.

G&D: How sensitive is the WRLD business to macroeconomic changes?

CS: We think about economic sensitivity with everything. People think a lot about economic sensitivity when they think about credit. Let's start with that mental model for credit. You start out with everyone. You use reputation data to get two thirds of people that are prime credit.

(Continued on page 25)

Cliff Sosin

What does it mean to be prime credit? What it means to be prime credit is your probability of defaulting is almost entirely a function of whether you get sick, divorced, or lose your job.

Sickness and divorce occur steadily. Losing your job is cyclical. As a consequence, lending to the two thirds of people with good credit, is effectively an actuarial exercise. It's like insurance. Companies compete price down as low as possible, make a modest spread. Whether prime lenders make or lose money on the vintage is largely driven by whether there is something that causes the job-loss expectations for that pool to be meaningfully different. Namely a recession. It's pretty analogous to P&C insurance and catastrophe risk.

The subprime population is, by definition, hard to underwrite. So you can create loans with substantial margin of safety if you do a good job underwriting. Also the loans are short in duration so you replenish the portfolio with new loans fairly quickly if your original assumptions prove faulty. So the net of this is that when unemployment rises, WRDL's credit worsens but the impact is small compared to its overall economics.

Interestingly, a shared common factor for WRDL and its customers are the prices of food and energy. WRDL's borrowers are on the haggard edge and that's the whole reason why they're coming to the company. Adding \$50 a month to their expenses from rising gas and food prices impacts all of them. That can

increase charge-offs across-the-board and is probably a bigger risk than changes in employment.

G&D: Can WRDL potentially benefit in a downturn, especially in increased loan volumes?

CS: Potentially. If I were to give you WRDL's earnings-per-share growth numbers through 2012 but scramble the order, you would not be able to detect the financial crisis. There was some harm from rising fuel and energy prices in 2008, but there was good volume.

All told, it was a non-event. In fact, if I gave you quarterly year-over-year EPS growth from the IPO in the early 1990s through 2012 you wouldn't be able to pick out any macroeconomic events.

Normally, the business is very under-levered and right now they're profoundly under-levered. WRDL normally runs with three dollars of assets and one dollar of equity. At present, they're running with three dollars of assets and two dollars of equity because they haven't bought as much stock as they usually would.

G&D: How do you assess management? When you're looking at ideas, how important is the management team?

CS: I'm not very good at judging people. I haven't thought much about management, historically. I've watched a lot of investors come to very strong opinions about management teams. I've never understood how they had such conviction and I've

seen mixed performance from this.

For a long time, that governed my thinking. On average, teams are average, but certainly don't invest in crooks. I thought about the business first, price second, and then management a distant third. That is changing a little bit. Through experience, I discovered that it matters more than I appreciated.

“I thought about the business first, price second, and then management a distant third. That is changing a little bit. Through experience, I discovered that it matters more than I appreciated.”

If you read Daniel Kahneman's book, *Thinking, Fast and Slow*, he explains why you can better judge people, in fact any complex issue, by subdividing it into smaller pieces. The Israeli military subdivides personal performance into smaller bits in order to find officer candidates and that works a lot better than making overall assessments, in fact making overall assessments doesn't work at all.

I've tried to use this approach in assessing managers. I want managers who are smart, energetic, honest, humble, and good capital allocators. Those are the five sub-attributes of a good manager that I want. So I try to assess them along each

(Continued on page 26)

Cliff Sosin

dimension. The resulting assessment is becoming more of an important factor. I put more weight on it now than I used to because I've watched good investments do worse than I hoped because bad decisions were made. But I am still a business- and price-first investor.

I should add, that I have increasingly focused on overall culture within a firm. By that I mean the combination of organizational habits, social norms and incentives that dominate day to day life and decision-making within an organization. Senior management influences culture but is also an expression of culture. So you have to assess them as guiding the system but also a product of the system.

You want an organization that prizes frugality, where individuals feel safe sharing their views and making mistakes—called psychological safety—and where people freely help and support each other. You also want to know what a firm is optimizing. Sometimes great things emerge when an organization centers itself entirely around optimizing one thing.

G&D: Any advice for students or other young people trying to build careers in investment management?

CS: If you really, really like it and you're nuts, you can get into this business. I, for one, enjoy it despite its difficulty, but it's really a waste of your talents. This is the Charlie Munger view on this. He's right. He's so frustratingly right. Every time I think I've thought of something brilliant,

it turns out he said it 40 years ago.

It's brutally hard to come in every day, do a lot of work and then throw it out. You can make money investing because it doesn't suit people's temperament. It's not natural. If people really want to do it and they recognize how difficult it is to do, then God bless them, but it isn't for most people and I have no useful advice if you want to do it.

But, if I were to allocate the resources of society, we'd have way fewer people doing what I do. We'd have lots more people doing useful things. It's a huge waste. The fundamental issue is this: there are limits to the amount you can forecast the future. Nonlinear dynamic systems are subject to inherent forecasting limitations. Think of weather forecasting, because it is nonlinear you just can't forecast accurately more than a few days in advance even as the amount of computing power and the data quality explodes. The economy and businesses are even worse because they are under-specified nonlinear dynamics systems. It's totally impossible to refine your predictions past a certain pretty rough point.

If you have a million, brilliant people trying to predict the future of a nonlinear dynamic system using all kinds of computers the outcome you get won't be much better than if you just had a few thousand. For the purpose of capital allocation, connecting savers to investments, we only need a few thousand. But we have tons more. We have armies of our best and brightest wasting their time in what is basically a

giant game where they are just betting against one another.

Nor does it do anything for social welfare to connect Chicago and New York with a perfectly straight fiber line, like Michael Lewis describes in *Flash Boys*. My advice, which I give to everyone and nobody listens, is don't do what I'm doing. Go do something really useful for the world.

“We have armies of our best and brightest wasting their time in what is basically a giant game where they are just betting against one another.”

There's a great book you can read about entrepreneurship through acquisition called *HBR Guide to Buying a Small Business* by Ruback and Yudkoff. For a young person coming out of business school, that's just a brilliant idea. I think it's perfectly reasonable not to want to work in a big corporation. I can also understand why people don't want to go work for some new startup. It's too uncertain. But you can raise some money to buy a small robust company and then create value by using your immense talents to run it better. One of the best examples in this book is the acquisition of the leading fire-hose testing company. Using your brilliance to figure out how to do a better job testing firehoses helps society use fewer resources and is an incredibly important and essential task. If you are

(Continued on page 27)

Cliff Sosin

successful, of course you can expand the business and bring your talents to making society more efficient in even broader ways.

You guys could be very competent at almost whatever it is you choose. If you choose a small enough niche, you could be the best in the world. My point is that if you pick a small niche and bring your talents to it, you can do well and make the world a better place. You can earn a fantastic living and hop, skip, and jump to work every day.

G&D: Great. Thank you so much for the time.



Windsor Cristobal '18

Windsor Cristobal is a first-year MBA student at Columbia Business School. Prior to CBS Windsor worked as a Senior Representative in the M&A and Investments team of Wesfarmers Limited, Australia's largest diversified conglomerate.



Anji Lin '18

Anji (Andrew) Lin is a first-year MBA student at Columbia Business School. Prior to CBS, Anji had two years of experience in investment banking and more than four years in private equity in China. Anji holds a Master's Degree from Peking University, China.



Isabella Lin '18

Isabella is a first-year MBA student at Columbia Business School. Prior to CBS, Isabella was an Associate at CIM Group, a \$20bn real estate private equity firm. Before CIM, she worked at Duke's endowment office, responsible for fund investments and co-investments in private equity globally.

Yum China Holdings, Inc. (NYSE:YUMC) - Long 2017 Pershing Square Challenge - First Prize

Windsor Cristobal, CFA
wrcristobal18@gsb.columbia.edu

Anji Lin
alin18@gsb.columbia.edu

Isabella Lin
ilin18@gsb.columbia.edu

Recommendation

We recommend a long on Yum China Holdings (YUMC) with a 2-year price target of \$45, offering 35% upside from today's price of \$33. We see a bull-case upside of 61% and an attractive upside/downside ratio of 2.7x. We project a 64% EPS upside in the next three years driven by sustainable comparable sales growth and margin expansion opportunities.

Business Description

YUMC is the leading operator in the \$150B Chinese QSR market. It was spun-off from Yum Brands in October 2016 following a recommendation from the activist fund Corvex Management. The company operates the KFC, Pizza Hut, Taco Bell, Little Sheep and East Dawning brands in China across 7,663 restaurants in over 1,000 cities. YUMC owns and operates 80% of their network and pays a 3% royalty on net sales to Yum Brands.

Investment Thesis

1) Ample Growth Runway in an Underserved Market

China's restaurant industry is highly fragmented with Chained QSR formats accounting for only 9% of the market. This is compared to an Asia Pacific average of 18% and Taiwan's average - which we view as comparable market with China in terms of culture and food - of 39%. QSR store penetration also remains low in China: in 2016 there were approximately 270k people per KFC store in China compared to ~180k in Taiwan and 110k in Hong Kong.

We believe there is also a large opportunity to expand into lower tier Chinese cities given the significantly lower QSR penetration in those markets. Taking KFC stores as an example, lower tier cities average around 500k people per KFC store compared to 73k and 110k in Tier 1 and Tier 2 respectively. We believe further penetration into lower tier cities present an opportunity for YUMC to almost double its current store base of 7,663 stores in the long-term.

In addition, major transport hubs are also a high growth area and according to discussions with QSR executives in China, YUMC's national brand status allows them to secure the most critical sites. With the number of major transport hubs in China growing at approximately 25% CAGR in the next five years, YUMC has an opportunity to add 700-900 additional stores in these locations, based on our estimates.

Stores in major transport hubs also typically have sales per store that are double the network average.

2) High-Return Cash Cow with Attractive Unit Economics

YUMC has strong unit economics in both of its major brands. For new unit builds in 2016, KFC and Pizza Hut cash-on-cash returns were 40% and 26% respectively. Management has done a solid job of keeping returns high despite difficult operating conditions - namely following successive food scandals in 2013 and 2014.

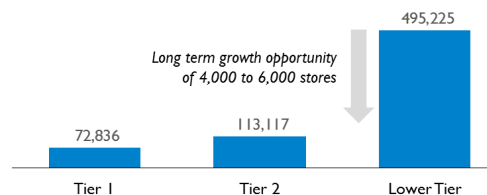
YUMC's strong cash generating ability has also allowed it to maintain a high ROIC in difficult times. ROIC in 2013 and 2014, when comparable sales declined to as low as negative 20% in some quarters, was 17% and 19% respectively. In addition YUMC was able to completely self fund its capital expenditure requirements during this time.

Key Financials			
FY16 Result		Trading Statistics	
In USD millions		Share price	\$32.99
Revenues	\$6,752	Market Cap	\$12,678
Rest. Margin	15.3%	Net Cash	\$964
EBITDA	\$1,112	EV	\$11,714
EBIT	\$640	Target 2019 P/E	20.0x
EBIT (%)	9.5%	19E EPS	\$2.23
FCF	\$428	2Y Price Target	\$44.64
ROE (LTM)	22.7%	Upside	35.0%

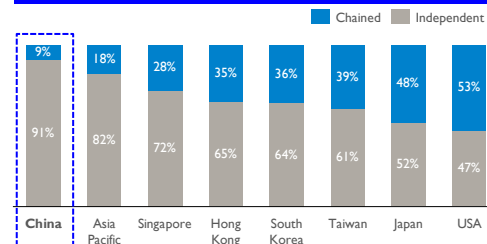
Key Financials			
	Bear	Base	Bull
SSSG (Average Next 3 Yrs)	(2.8%)	3.6%	4.6%
Unit Expansion (Avg Next 3 Yrs)	3.5%	4.5%	5.5%
Restaurant Margin (2019E)	15.1%	17.0%	17.8%
EBITDA Margin (2019E)	19.4%	19.8%	20.7%
EBIT Margin (2019E)	10.4%	12.4%	13.4%
EPS 3-Year CAGR	1.2%	17.9%	21.1%
2019 EPS	1.41	2.23	2.42
P/E	18.0x	20.0x	22.0x
Price Target	25.41	44.64	53.18
Upside / Downside	(23.0%)	35.3%	61.2%
Implied EV/2019E EBITDA	6.6x	8.6x	9.5x
Implied P/E (excl. Cash) ¹	14.8x	15.8x	18.0x

Note: 1) Includes Balance Sheet leverage upside

Population served per KFC store



Chained vs Independent Food Service Stores



Yum China Holdings, Inc. - Long (Continued from previous page)

The company's scale is another driver for continued high returns. Our primary research suggests that YUMC has a distinct cost advantage to McDonald's due to its scale (3x more stores than McDonald's). We estimate YUMC as having a ~700bp advantage in costs as a percentage of sales relative to McDonald's in Food and Paper, the largest cost item, and believe this will continue to drive high returns in the future.

Post the spinoff management is now 100% aligned to YUMC, and they are incentivized to focus on KPIs that will drive returns such as same store sales growth and profitability. We are also very encouraged by the CEO buying ~\$3M worth of YUMC shares after the Q1 2017 results and after the share price rose by ~20%.

3) Unique Buying Opportunity to Capitalize on Same Store

Sales Growth Recovery

We believe the company is at an inflection point and presents a unique buying opportunity. After four years of volatile performance, recent quarters show a stabilizing trend for SSSG. We project faster recovery relative to the street for three main reasons.

i) Reduced Risk of Future Food Scandals

From our conversations with supply chain experts at large QSR companies in China, we are comfortable that YUMC now has the best processes and systems in place to prevent future food scandals. YUMC has tightened their supplier selection, cut the number of suppliers by half and introduced more transparency giving them direct line-of-sight to primary producers. They have also built an independent team of 200 quality control experts and a dedicated PR team in each city to reduce the risk of future outbreaks.

ii) Strong Consumer Brand and Loyal Customer Base

We believe that customer loyalty to YUMC's brands remains high. Our primary research survey with over 700 respondents suggest that customers continue to return to YUMC banners for its convenience, taste and safe food. We think its reputation makes it resilient to short-term fads and trends and will support its continued SSSG recovery.

iii) Secular Tailwinds from Delivery and Digital

Digital and delivery trends will be a major driver for comparable sales growth. Delivery as a percentage of online sales for Chinese QSR overall was 8% in 2015 and 11% in 2016. During the same period KFC's digital sales percentage moved from 7% to 10% and Pizza Hut, by our estimates, moved from 14% to 18%. With YUMC targeting a 25% overall digital share of total sales, this new channel will continue to drive SSSG. We also believe that YUMC can leverage its 100M loyalty members and the data they generate to drive SSSG in a similar way to Domino's Pizza (DPZ).

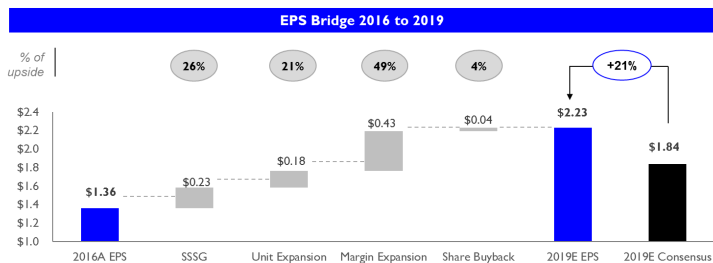
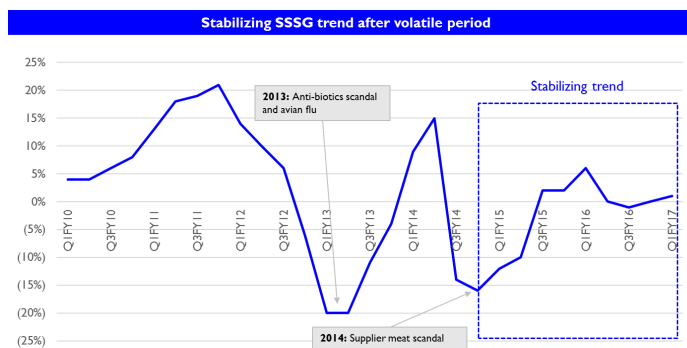
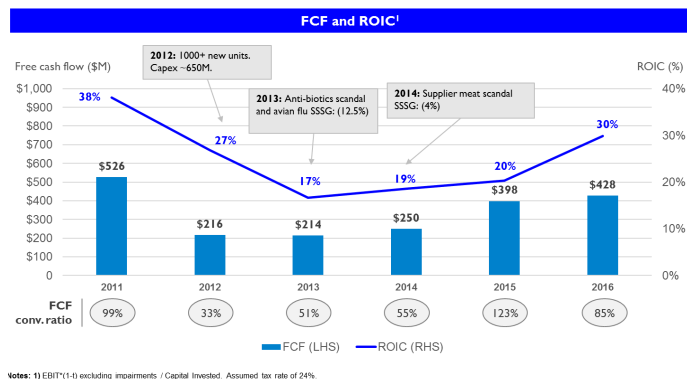
Valuation

Based on our 2019 EPS estimate we believe that YUMC remains undervalued and offers an attractive risk / reward. Our 2-year base-case price target is at **\$45, offering a 35% upside**.

We have assumed no P/E multiple expansion from the 20x level today. As the company has almost \$1B of net cash, we believe that excluding cash and adding moderate leverage (~2 turns debt to EBITDA) the P/E ex cash is around 16x. We have a **bull-case upside of 61%** and a **upside/downside ratio of 2.7x**.

Key Risks

Key risks to our thesis includes future unforeseen food safety scandals; shifting consumer preferences to new healthier concepts; labor and rent cost inflation; and a failure to turnaround the Pizza Hut brand which has been in SSSG decline in the last 10 quarters (except Q1 2017). We are comfortable that these risks are being addressed by the company and we have run downside scenarios that support our view that the risk-reward profile remains attractive.





Chris Waller '18

Chris is a first-year MBA student at Columbia Business School and the Co-Founder of plural, a small hedge fund. Prior to CBS, Chris worked in a global equity fund at Goldman Sachs Asset Management. He graduated from Oxford University with degrees in Economics and Management.



Seung-Kwang Lee '18

SK is a first-year MBA student at Columbia Business School. Prior to CBS, SK worked as an auditor at PwC New York, covering companies in financial services in the US, HK, and the UK. He graduated from NYU Stern School of Business with degrees in Finance and Accounting.



Hyung-kyoon Kim '18

HK is a first-year MBA student at Columbia Business School. Prior to CBS, HK worked as an investigator at Korea Stock Exchange, evaluating corporate disclosures and delisting distressed companies. He graduated from Korea University with degree in Business Administration.

Alaska Airlines (NYSE: ALK) - Long 2017 Pershing Square Challenge - Finalist

Chris Waller
CWaller18@gsb.columbia.edu

SK Lee
SeLee18@gsb.columbia.edu

HK Kim
HKim18@gsb.columbia.edu

Recommendation

We recommend a long position with a 5-year price target of \$218.1, giving 154% upside.

Business Description

ALK operates Alaska, Virgin America, and Horizon Air, making it the 5th largest carrier in the US. Its strategy is to be the national carrier for west coast customers. Along the west coast, they have 57% passenger share in Alaska, 52% in Washington, 39% in Oregon, but just 11% in California. California is a huge opportunity, with 2.4x annual passengers than the other 3 states combined. ALK's low cost structure gives it the highest ROIC and EBIT margin among its peers.

Investment Thesis

The street underestimates how much market share Alaska will profitably gain in California over the next 5 years as it becomes the dominant west coast carrier. We think this is an up to \$3bn incremental revenue opportunity on current company revenues of \$7.6bn.

- Alaska's costs for the same economy class seat are lower than the street realizes and this will enable it to gain more market share.** Reported Cost per available Seat Miles (CASMs) are misleading: Our 'Normalized CASM' figures include only mainline flights and adjusts for flight length and space allocation to first, business, and economy classes. This shows that for the same economy class seat on the same distance flight, Alaska has a 7% cost advantage over Southwest, 22% over American, 33% over Delta, and 37% over United. We have not seen any research that adjusts for all of these, particularly allocation to different classes. We think this is because this allocation adjustment has to be estimated due to the lack of comparable data. Nevertheless, it is crucial and is why the street misunderstands Alaska. For example, Alaska typically allocates 74% of its space to economy seats, while Southwest allocates 93% of space. Since First and Business class seats take up more space, Alaska's cost *per seat* will naturally be higher. This does not necessarily reflect an input cost disadvantage. Our 'normalized' CASM adjusts for this and shows that Alaska actually has a cost advantage for the same economy seat. Comparing economy ticket prices for different airlines on the same routes shows that Alaska is indeed able to undercut its rivals and take market share.

Alaska's cost advantage is sustainable and comes from its homogeneous and young fleet, which order books show will actually increase, as well as its labor deals and higher productivity. These give it lower 'Normalized' CASMs vs the Big 4 carriers of 0.8¢ on fuel, 1.7¢ on crew, 0.3¢ on maintenance, and 1.0¢ on others.

RECOMMENDATION

Recommendation	LONG
Price Target (5 years)	\$218.1
Return Target (5 years)	+154%

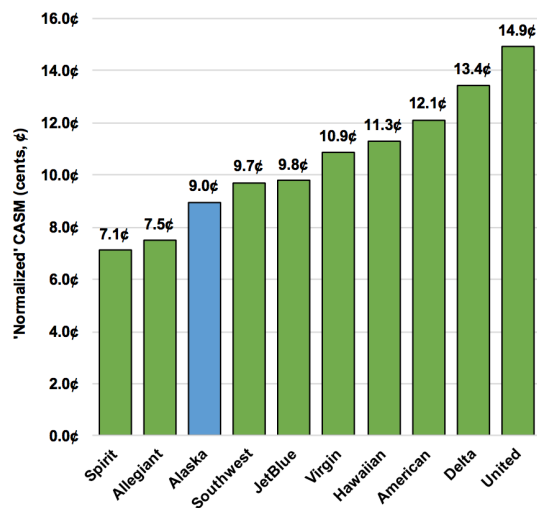
VALUATION SUMMARY

BASE	EBITDAR = \$3.7bn EV/EBITDAR = 6.3x	▶ +154% upside
BULL	EBITDAR = \$5.1bn EV/EBITDAR = 6.3x	▶ +274% upside
BEAR	EBITDAR = \$2.0bn EV/EBITDAR = 4.8x	▶ 16% downside

CAPITALIZATION

Share Price (as of 4/16/2017)	\$85.7
Diluted Shares Outstanding	124.4M
Market Capitalization	\$10,679M
Plus: Net Debt	\$1,384M
Enterprise Value	\$12,063M
Current EBITDAR (FY16)	\$2,131M
Daily Volume (90 Day)	\$114M
EV/EBITDAR	6.3x
EV/NOPAT	14.8x
P/E	13.2x

'Normalized' Cost per Available Seat Mile (CASM)



Alaska Airlines (ALK) - Long (Continued from previous page)

2. The street underestimates how much capacity Alaska could gain at key airports (LAX and SFO).

Our primary research reveals that while LAX is considered “gate-constrained”, Alaska is in Terminal 6 and it would make sense for them to lease Delta’s 4 remaining gates in T6 or the 3 gates American has temporarily leased from United in T7 as it undergoes its own renovations. Both Delta and United are struggling because of their higher cost structures, and this is how Alaska’s lower costs translate into higher market share. Our Base case includes one of these and is worth an additional \$511M revenue over the next 5 years on top of \$256M organic growth. In our Bull case, Alaska secures 13 new gates by building the ‘Terminal 9’ that LAX is looking for over the next 5-6 years.

(Revenue in \$MM) Airport	2021 Revenue Estimate	2016 Gates/ Share	2021 New Gates/ Target Share	2021 Additional Revenue	Increase from Airport Growth	Total 2021 Revenue Increase
LAX (Los Angeles)	1,149	9 Gates	4 Gates	\$511	\$256	\$767
SFO (San Francisco)	1,162	10 Gates	3 Gates	\$349	\$235	\$584
SAN (San Diego)	452	10.6%	15.0%	\$188	\$71	\$258
SJC (San Jose)	201	12.2%	15.0%	\$45	\$40	\$85
OAK (Oakland)	120	5.1%	10.0%	\$116	\$28	\$144
Total Potential Revenue Increase from CA						\$1,838

+5pp Load Factor Drops Through to +37% EBIT

At SFO, we model Alaska gaining 3 gates by 2019 at the expanded T1 based on our primary research. This adds \$349M of incremental revenues over 5 years on top of \$235M of organic growth.

3. Railroads Mark II: Industry consolidation and growing demand could lead to much higher profitability.

Like in railroads, 9 major carriers have consolidated down to 4. In our Bull case, we model less capacity meaning industry load factors (utilization) increase by 5pp over the next 5 years from 84% today to 89%. The higher revenues drop through to a 37% increase in EBIT. Costs are fixed as the margin cost of an additional passenger on an empty seat is close to zero.

We also think that while Alaska was too small for Buffett, it is the natural acquisition target for American or Southwest.

	Current Industry Average	Bull Case (in 5 years)
Load Factor ¹	84%	89%
Revenue	\$100	\$106
Opex	\$(84)	\$(84)
EBIT	\$16	\$22
EBIT growth		+37%
EBIT margin	16%	21%

4. An activist investor could help Alaska realize its unique potential to become the dominant West Coast player.

Alaska has hinted they are looking to expand the east coast. This is a mistake as they do not have as big a cost advantage there. Focusing on California should be the top priority. There is the opportunity to: i) Swap gates - Gates in California are more valuable for Alaska than other airlines, and the opposite is true on the east coast where other carriers fly routes like New York/London. United, for example, recently gave 3 gates at LAX to American in return for gates in Chicago. Alaska should look to do these types of deals now that it has gained 50 slots in a very slot-constrained New York through the Virgin America acquisition. ii) Alaska now has slots at 3 New York and 3 Washington airports. It is more cost efficient to have these at one airport. iii) Alaska should explore opportunities to feed Delta in Seattle.

Valuation Scenarios

Base Case: +154% Upside

6.3x EV/EBITDAR. \$1.8bn incremental California revenues driven by 4 new gates at LAX and 3 new gates at SFO. EBIT margins decline to 18.9%.

Bull Case: +274% Upside

6.3x EV/EBITDAR. +5pp load factor. \$3.0bn incremental California revenues driven by new terminal at LAX.

Bear Case: 16% Downside

4.8x EV/EBITDAR. Now new gates at LAX and SFO mean sales are inline with consensus. EBIT margins decline severely to 6.9%.

Summary

Alaska is the low cost provider in a commodity industry. It has the unique opportunity to become the dominant player on the west coast. Risk/Reward is skewed very much in favour of a long position.



Joseph V. O'Hara '18

Joseph is a first-year MBA student at Columbia Business School. Prior to CBS, Joseph spent four years working at T. Rowe Price as a US Equities Associate Analyst. He graduated Swarthmore College with a B.A. in Political Science and Ancient Greek.



Vikas Patel '18

Vikas is a first-year MBA student at Columbia Business School. Prior to CBS, Vikas spent three years as a Senior Analyst at Millennium Management. He earned his B.B.A. from the University of Michigan with concentration in Finance & Accounting.



Griffin Dann '18

Griffin is a first-year MBA student at Columbia Business School. Prior to CBS, Griffin worked as an Analyst at Birch Grove Capital and in the Financial Restructuring group at Houlahan Lokey in London. He earned his B.S.C. from the Wharton School with a concentration in Finance.

Corning (NYSE: GLW) - Long 2017 Pershing Square Challenge - Finalist

Joseph V. O'Hara
JOhara18@gsb.columbia.edu

Vikas Patel
VPatel18@gsb.columbia.edu

R. Griffin Dann
RDann18@gsb.columbia.edu

Key Statistics	
Monday, April 17, 2017	
All figures are Core accounting except where noted	

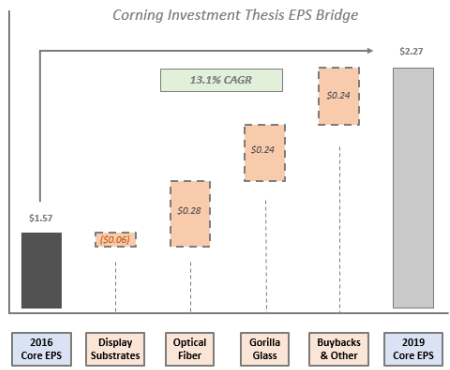
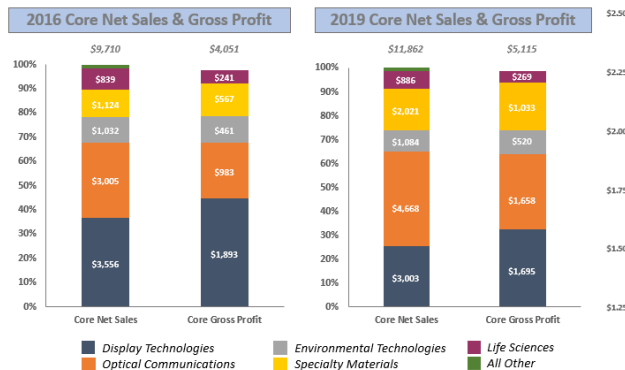
Fiscal Year-End	December
Ticker	GLW
Current Price	\$26.32
Diluted Shares Out	1,020
Market Cap	26,846
Cash & Equivalents	(5,291)
Total Debt	3,941
Enterprise Value	25,496

2-year Price Targets & Total Returns	
Base Case	\$38.50
Total Return	51.4%
Bull Case	\$49.50
Total Return	93.2%
Bear Case	\$19.50
Total Return	-20.8%

	Actual				Est.					
	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Revenue	\$ 7,948	\$ 10,076	\$ 9,800	\$ 9,710	\$ 10,264	\$ 11,132	\$ 11,822	\$ 12,522	\$ 13,481	
Gross Profit	3,368	4,348	4,212	4,128	4,434	4,778	5,115	5,474	5,875	
EBITDA	2,509	3,349	3,262	3,187	3,355	3,632	3,945	4,221	4,484	
Operating Income	1,507	2,149	2,078	1,992	2,111	2,291	2,506	2,715	2,910	
Net Income	1,797	1,976	1,882	1,774	1,834	1,995	2,199	2,402	2,584	
EPS	\$ 1.23	\$ 1.44	\$ 1.41	\$ 1.57	\$ 1.70	\$ 1.95	\$ 2.27	\$ 2.60	\$ 2.93	
Adj. Op. Cash Flow	2,879	4,944	3,461	2,732	3,550	3,800	4,112	4,424	4,771	
Capital Expenditures	(1,019)	(1,076)	(1,250)	(1,130)	(1,500)	(1,500)	(1,600)	(1,600)	(1,600)	
Adj. Free Cash Flow	1,860	3,868	2,211	1,602	2,050	2,300	2,512	2,824	3,171	
P/E	21.4x	18.3x	18.6x	16.8x	15.5x	13.5x	11.6x	10.1x	9.0x	
P/FCF	20.2x	9.5x	16.0x	18.8x	13.9x	11.7x	10.2x	8.6x	7.3x	
EV/EBITDA	10.2x	7.6x	7.8x	8.0x	7.6x	7.0x	6.5x	6.0x	5.7x	
Revenue Growth	4.5%	26.8%	-2.7%	-0.9%	5.7%	8.5%	6.2%	5.9%	7.7%	
EPS Growth	16.0%	16.8%	-1.5%	10.7%	8.3%	15.3%	15.9%	14.7%	12.8%	
FCF/Share Growth	36.9%	111.2%	-40.3%	-14.9%	35.4%	18.9%	14.9%	18.1%	17.7%	
ROE	8.5%	9.2%	10.0%	9.9%	10.5%	11.8%	13.2%	14.4%	15.5%	
ROIC	6.7%	13.7%	8.0%	6.2%	8.3%	14.9%	11.0%	12.7%	14.3%	

Recommendation

Corning is a high-conviction long because the market is undervaluing the core earning assets of the enterprise, misunderstanding the drivers of returns on capital, and overlooking the organic growth potential in optical fiber and Gorilla Glass. Sector-dedicated analysts on both the buy and sell-side routinely undervalue Corning at moments of product cycle inflections — with a mature display market, secular growth in optical, and new markets in Gorilla Glass, Corning is at an inflection. Corning has \$2.27 of 2019 earnings power of per diluted share and should trade at 17x that number for a \$38.50 price target for a 51.4% total return over two years.



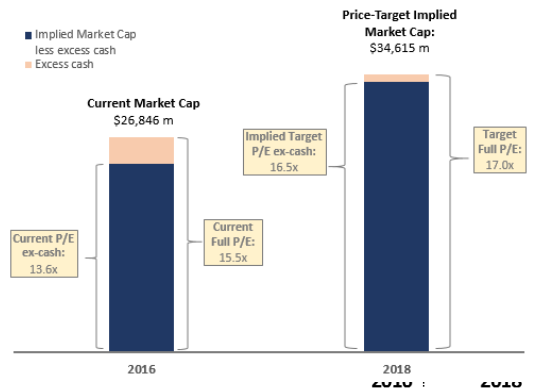
Investment Thesis

1. The market's valuation of Corning's cash-generating assets is cursory and indefensibly low

Corning has publicly committed to returning its excess cash over the next 3 years via a capital allocation plan announced in 3Q15. From FYE 2016 through 2019 Corning is set to return \$7.4bn through share repurchases and double-digit annual dividend increases — in total, GLW is returning over 27% percent of the current market cap.

Cash on a balance sheet is less valuable than earning assets — this is not a revolutionary statement. A private equity buyer could pocket Corning's cash and realize a purchase multiple on the actual cash-generating assets of just 13.5x. This approach is still justified for public market investors because of management's commitment to returning their excess cash. Because we know excess cash will be returned, we also know that the market will be forced to re-evaluate the multiple it is putting on Corning's cash-generating assets.

2. Corning's ROIC is inflecting upward and justifies a P/E



Current Stock Price	\$ 26.32	
NTM Earnings per Share	\$ 1.70	\$ 2.27
Market P/E	15.5x	17.0x
Market Cap	26,846	34,615
Excess Cash	3,291	922
Market Cap less Excess Cash	23,555	33,693
Implied ex-cash P/E	13.6x	16.5x

Corning (GLW) - Long (Continued from previous page)

multiple in the high-teens

Based on our expectations for a continued ROIC inflection and the historical relationship between GLW's returns and its P/E multiple, we believe GLW deserves a multiple in the high teens.

This ROIC expansion has three core drivers. On the balance sheet side, returning cash and earning into the DTA account for roughly a third of the expansion. The remainder is driven by Corning's unique ability to grow sales without incremental capex spend. For example, Corning's first \$400m in auto glass sales require no capital investment in new tanks due to their patented fusion manufacturing process.

3. The market is overlooking significant secular growth opportunities in optical networking and Gorilla Glass

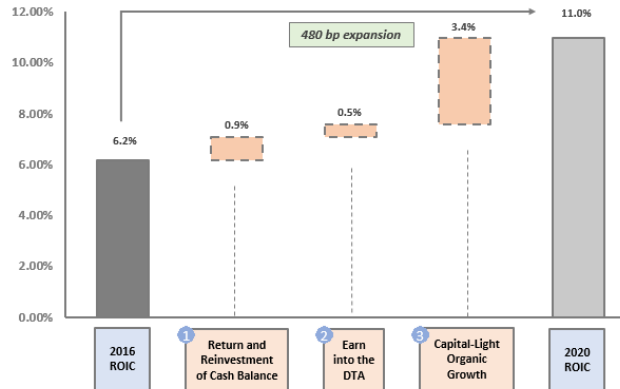
Secular growth in demand for optical fiber:

Corning's first fiber opportunity was long haul — that passed in the 90s. As the creation of data and demanded speed of access have grown exponentially, there is significant demand for back haul fiber to replace copper wiring. As you can see in the bottom right of this slide, Corning's value proposition in back haul is powerful. For a higher up front cost, Corning offers a lower total cost of ownership, a longer life-cycle, vastly improved network security, and virtually unlimited bandwidth. Based on widespread market commentary, carriers will continue to shift their mix of capex spending toward Corning's value-added product offering. As this has happened historically, Corning gained market share among carriers like Verizon, AT&T, and others. We believe this trend will only accelerate going forward because Corning is the high-quality supplier in a highly inelastic market with little spare capacity. Validating this non-consensus view, Corning recently announced a major deal with Verizon to supply 12.4 million miles of their optical fiber for a \$1.05bn minimum commitment as an initial stage in their 5G rollout.

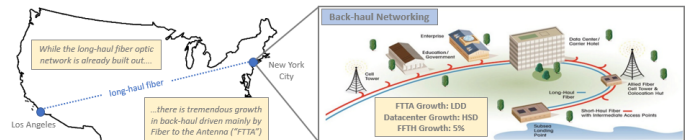
Free-option in Gorilla Glass for autos: We believe the market has not factored this into their estimates at all because of the sheer size and complexity of the opportunity. The auto glass market has not seen major innovation in over 65 years and Gorilla Glass is vastly superior vs. traditional soda-lime glass — it can cut a car's weight by 1.5%, double window strength, and triple clarity and visibility for the driver. Gorilla Glass is already in 6 cars, and OEMs have been actively considering where to add it in their lineup for a number of years. Full penetration will result in a doubling of Corning's total consolidated revenues. While that sounds like a mind-boggling statement, there are two key things to remember: (1) auto glass is a free-option for current investors, and (2) everyone we spoke to throughout the entire auto supply chain expected Corning to ultimately succeed in penetrating this market. If you're only focusing on the display market and iPhones, you'll never see this coming.



Corning Investment Thesis ROIC Bridge



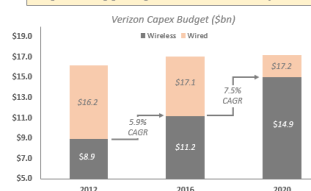
- Cash Return & Reinvestment**
 - Committed to returning \$3.3bn of excess cash balance by FYE 2019
 - Cash is being returned to investors via buybacks, low/mid-double digit dividend growth
 - Reinvested via M&A and R&D spending
- Earn into DTA**
 - In 2008 Corning reversed the valuation allowance on its optical fiber business write-downs from the tech bubble in 2000 & 2001
 - Since then they have been slowly earning into the DTA.
- Capital-light growth**
 - Corning patents its manufacturing processes as well as its science.
 - Panel-makers are paying 2/3 the cost of any new substrate capacity
 - The first \$400m of auto sales do not require capital investment



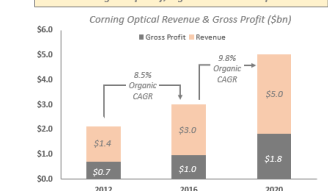
- | Historical TelCo Capex Spend | Future TelCo Capex Spend |
|--|---|
| <ul style="list-style-type: none"> Copper as the material of choice for back-haul because of low upfront cost Fiber only used for long-haul networks | <ul style="list-style-type: none"> Proliferation of mobile devices has increased the amount and speed of data needed to travel across the network Carriers now focused on building out the edges of the network necessary to deliver bandwidth to consumers |

	Optical Fiber	Copper
Relative CapEx cost	1.0x	> 3.0x
Life cycle	30 – 50 years	5 years
Distance	12 miles	300 ft.
Weight	4 lbs.	30 lbs.
Energy Consumed	2 watts per user	> 10 watts per user
Max Bandwidth	69 Tbps	10 Gbps

Carrier spending on wireless & fiber growing high-single digits; Corning growing market share and share of wallet



Carrier wireless and fiber demand is highly inelastic; Corning sells the highest quality, highest value-added products



"4G spending started off being predominantly [spectrum] and has moved toward adding capacity... as we go forward, fiber is more and more important and you should see that in [capex] as well."

Matt Ellis, CFO, Verizon Communications

"Integrated solutions gross margins vs. fiber-optic cable are ~10% higher... should boost projected margins as [carriers] move away from long-haul-centric products."

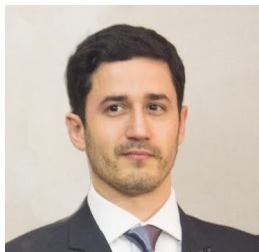
Clark Klein, EVP, Optical Communications, CORNING Optical Fiber

Exterior Automotive Gorilla Glass TAM

High-End Vehicle Production	10,952
Mass-Market Vehicle Production	88,148
Total Global Vehicle Production	99,100
Assumed High-End Market Share	50.0%
High-end applicable sq. ft. estimate	65
Assumed Mass Market Share	33.0%
Mass-market applicable sq. ft. estimate	58
Total Gorilla Glass Opportunity (sq. ft.)	2,252,716
ASP to OEMs per sq. ft.	\$4.50
Gorilla Auto Glass Revenues	\$10,137,222
Gorilla Auto Glass Gross Profit	\$3,379,074

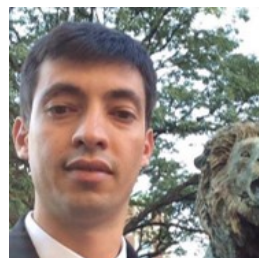
Relative Growth	
2016 Total Core Net Revenues	\$9,710,000
2016 Total Core Gross Profit	\$5,582,000
Growth over 2016 Revenue	104.4%
Growth over 2016 Gross Profit	60.5%

*Units in '000s excluding per vehicle square footage amounts



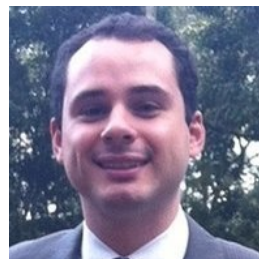
Gustavo Campanhã '18

Gustavo is a first year MBA student at Columbia Business School. Prior to CBS, Gustavo was an Equity Trader at Verde Asset Management, a US\$ 10 billion hedge fund based in Brazil. This summer he will be interning at Somar Capital Partners in New York.



Gilberto Giuzio '18

Gilberto is a first year MBA student at Columbia Business School. Prior to CBS, Gilberto worked with Oil & Gas for Schlumberger Business Consulting and worked in the treasury department of Itaú. This summer he will be interning at BofA Merrill Lynch in São Paulo, Brazil.



Thiago Maffra '18

Thiago is a first year MBA student at Columbia Business School. Prior to CBS, Thiago was the Proprietary Desk Manager at XP Investimentos, the largest independent broker-dealer in Brazil. This summer he will be working at XP Investimentos office in New York.

Dollarama (TSE: DOL) - Long 2017 Pershing Square Challenge - Finalist

Gustavo Campanhã, CFA
GCampanha18@gsb.columbia.edu

Gilberto Giuzio, CFA
GGiuzio18@gsb.columbia.edu

Thiago Maffra, CFA
TMaffra18@gsb.columbia.edu

Recommendation

We recommend a long on Dollarama (DOL) with a price target of \$225 (92% upside potential in 5 years, 14% IRR), a compelling investment opportunity with 5 times reward to risk. We believe EPS can triple to ~\$10 over the next five years due to new store openings, same-store-sales (SSS) increase from higher priced products introduction, and buybacks from the strong cash generation from legacy stores; at 19x forward EPS – contracting from current 26x – DOL is worth \$225 in YE 2021.

Business Description

DOL is a high-growth Canadian based discount retail chain with 1,100 stores, C\$ 3 B in sales, that compounded EPS at 32% CAGR over the last 5 years. DOL stores are appealing to both low and middle-class consumers, with clean and well-stocked stores, selling products priced from C\$ 1.25 to C\$ 4.00 with a low reliance on lower-margin items such as consumables, a key component of the American dollar store model. DOL has consistently doubled sales and tripled EPS every five years since it was founded in 1992.

Investment Thesis

1) DOL has a superior business model that is misunderstood by many, who label it as another dollar store. DOL has a 15% net margin, vs. 5-7% of Comparables, explained by (i) upstream integration: product developer, importer, and retailer; (ii) operational efficiency, with focus on the finest details; (iii) price points of up to C\$ 4.00 allow inflation pass-through plus a more flexible mix to drive traffic. During our field trip to Canada to visit stores, competitors and talk to customers, DOL's efficiency was visible: taller shelves, inventory on top of them, frequent restocking, consistent shopping experience, and convenient locations. Margins are driven by such details. American dollar store chains make \$15 EBIT/sqft on average while DOL makes \$56 EBIT/sqft.

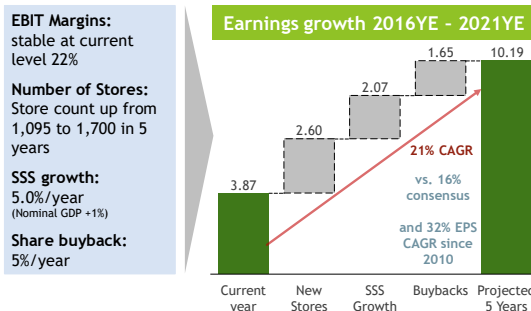
2) Market underestimates DOL's growth runway, focusing on aggregate Canadian demographics instead of local statistics. Our variant view is 3,000 stores in the long run vs. the 1,700 long-term store guidance. Worth noting, this target was raised by the company from 1,400, in the last week of March. Management has been consistently guiding conservatively along company's history. Canada has half the number of dollar stores per capita compared to the US and the market thinks this difference cannot be closed entirely because Canada has a lower population density, but this lower density is due to its huge non-populated area with people concentrated in four small regions. The US, on the other hand, is more of a "small town country" as only 52% of the US population lives in cities larger than 20 thousand people, whereas in Canada this number is 67%. Given how the Canadian population is distributed, you need logistics and scale to cross the distance among urban agglomerations, but you could operate even more dollar stores per capita than the US penetration suggests (an assumption we do not factor in our thesis). We believe management can reach 1,700 stores in 5 years, a level that would represent an increase from 50% to 70% of comparable US penetration levels. Aside from new store openings, for the next 5 years, we are confident on a 5% SSS growth. Historically, management has delivered from 4 to 7% SSS and we believe they will continue to do so, by improving product mix.

3) High barriers to entry due to double cost advantage (on scale and sourcing) protects DOL's cur-

KEY METRICS

Price as of 04/14	C\$ 117.00	Div Yield	0.4%
52w range	C\$ 86.57-118.11	Buyback LTM	5.4%
ADTV	\$43 M	Consensus P/E (NTM)	26.7
Market Cap	C\$ 12,523 B	Our Estimated P/E (NTM)	22.8
Debt	C\$ 1,328 B	3y average	25.2
EV	C\$ 13,851 B	EV/EBITDA (NTM)	17.9
		3y average	17.3

HIGH STORE COUNT AND SSS GROWTH COMBINED WITH STOCK REPURCHASE ENABLES EPS TO CONTINUE TRIPLING OVER THE NEXT 5 YEARS



Dollarama has almost a monopoly: big-box retailers don't carry the same cheap but good assortment, and other dollar store chains are dwarfed by its scale and don't carry many categories due to pricing



Dollarama (DOL) - Long (Continued from previous page)

rent high profitability. It would be hard for other players to compete DOL's margins away without enduring a long period of pain. Any contenders would have to deal with an 800-pound gorilla that has: (i) 1,095 stores across all Canada's provinces, almost an oligopoly if you factor that the second player, Dollar Tree, only sells C\$ 1.25 products and has around 224 stores (up only from 210 last year, not a significant growth given their more aggressive plans some years ago); (ii) international direct sourcing of more than 50% of merchandise, that avoids the middlemen, combining margins along the chain; and (iii) five distribution centers to support efficient inventory management.

Even for an established American chain, the barriers to entry in Canada would still be high, as one must: (i) relabel all its product assortment to include French; (ii) adapt its assortment to please the educated but relatively low-income Canadian consumer (even Walmart is a little fancier in Canada); (iii) find convenient real estate locations as DOL has; and (iv) establish cross-border logistics. For instance, Dollar Tree still uses third-party distribution centers, leaving margin on the table. Expanding to Canada would take a long time and would burn a lot of cash (let's remember how Target failed miserably trying to accelerate its expansion in Canada). About some more differences, US chains have different mixes, with a higher proportion of consumables to (i) attract traffic, and (ii) comply with food stamps "SNAP" rules (50%+ consumables or carrying select products including perishable foods). More consumables "artificially improve" metrics as SG&A as % of sales, but weigh in more square feet needed to carry these lower margin items.

4) Meaningful downside protection with compelling cash flow generation provided by strong new stores unit economics, which have 38% IRR and a 3-year payback. We still see ample room to further increase store count while maintaining profitability. In addition to the new stores unit economics, DOL has an efficient capital allocation: with such high returns, it is not surprising that the company has been able to grow while generating solid cash flows, which have been returned to shareholders via stock buybacks, as evidenced by the 22% reduction in shares outstanding since 2011. DOL grows with low capital needs, and if the company halts expansion, the legacy stores would continue driving sales and profits with very low CAPEX.

Valuation

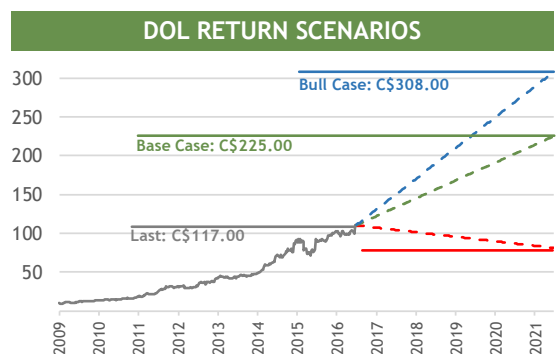
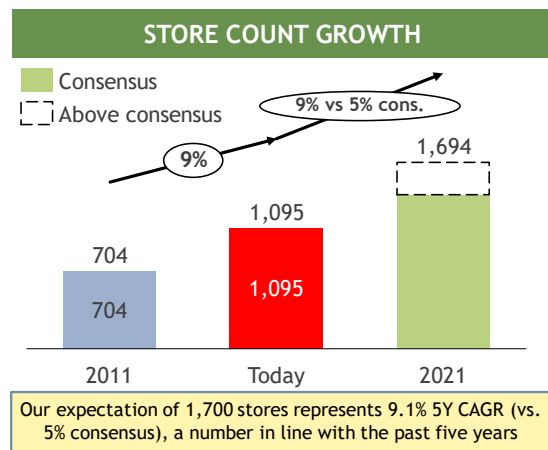
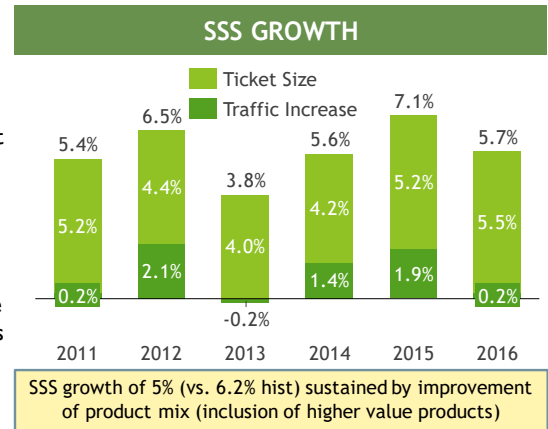
Given the high cash flow conversion, we valued the business based on earnings multiples. We modeled our Base Case with 1,700 stores in 2021, what still holds room for growth in the future, as we have a 3,000 stores TAM. This growth represents 9.1% 5Y CAGR (vs. 5% consensus). We also assumed a SSS growth of 5% (in line with the 6.2% historical average) and kept EBIT margin constant at 22%. Even with a good long-term growth perspective, we compress the exit forward PE from 26x to 19x, a conservative assumption given the compounding nature of this stock. For our BULL CASE we considered 2,000 stores in 2021, with a SSS growth of 6% (which is still below historical level) and a multiple compression from 26x to 21x. In the BEAR CASE, we model a 30% downside. This is with forward PE coming from 26x to 16x, and cutting EBIT margin from 22% to 18%, with zero store count growth, and only 2% of SSS growth (GDP nominal growth is projected at 4%).

Key Risks and Mitigants

Competition from dollar stores & big-box retailers: DOL has 4x the combined number of stores and lower COGS compared to other dollar stores who have not shown capacity to grow facing DOL's competitive advantages. Also, DOL has a relatively low product overlap with big-box retailers and better price for the small number of similar products.

Competition from online retail (e.g. Amazon): DOL's products have a low unit price, making it more difficult for online retailers to compete. Its average basket is C\$ 13 while Amazon requires C\$ 35 per purchase to qualify for free delivery (C\$ 25 for Prime members). Besides that, DOL has been increasing its low-cost white label merchandise from 20 to 25% of SKUs, making it difficult for customers to find similar products elsewhere with competitive prices, even online. Moreover, DOL's brick & mortar locations are a key defense from online competition as they have convenient locations that attract high levels of foot traffic.

Other risks: Vulnerability to FX fluctuations (that DOL hedges the next 12 months of imports, and for permanent level shifts, DOL has the ability to increase prices due to its multiple price points); Labor cost increases; Import taxes (that would impact all other retailers, and DOL could pass through via price points flexibility); Key managers leaving (what is a low risk given managers have a lot of skin in the game, owning 10% of the company, with the Rossy family having 50% of their C\$ 2 B wealth in stocks of Dollarama).





Chris Begg

Chris Begg

(Continued from page 1)

Trustee of the Trustees of Reservations and co-founder of Humans for Oceans (H4O), a nonprofit organization created to support ocean conservation.

Graham & Doddsville (G&D): Can you tell us a little about your background and what led you to where you are today?

Chris Begg (CB): I got into the investment business in 1994, after undergrad. I started working for a small investment firm in Cape Cod, where I grew up, and I knew right away that I loved the challenge of investing and solving puzzles, but I wanted to find an analyst position somewhere near Boston.

I had an opportunity to join a firm called Boston Research and Management where I spent ten years. It was a great opportunity and afforded me the time to read a lot, study businesses and business models, and most importantly learn what kind of investor I was. During those formative years, and this is advice I always give my students, it is important to have a mentor and/or great heroes. If you don't have the former, the latter is really important. Pick the right heroes in investing, and in life, and then learn as much as you can from them. Over my career, I have been lucky and grateful to have mentors, but heroes are available to everyone and the reservoir of their wisdom is infinite.

As for heroes to emulate, Warren Buffett has and continues to be that light for

me. I read and reread everything I can that both Warren and Charlie put out there. There were probably ten to fifteen other investors that were instructive and I would attempt to reverse engineer what they did, and try to understand how they achieved their superior results. What was their edge? What was the one thing that they were particularly good at? I tried to get to the point where I was able to deduce, "Okay, I see how their thinking produced that investment idea and does that align with the way that I think?" That was my process. I spent ten years just honing my temperament and all the while figuring out what kind of investment philosophy and process made sense for me. Certainly, value investing was the logical outcome of that, and then more specifically, what made a lot of sense to me is buying great businesses that you can own for a long time, and allow compounding to do the heavy lifting. That was an important realization.

I eventually wanted to move on to keep learning and growing so I was looking to take the next step. I was introduced to a company called Moody Aldrich Partners. They were looking for someone to work with Amory Aldrich as part of a longer-term succession plan on the strategy he had stewarded for over thirty years. Amory is a great investor with an impressive long-term track record so the opportunity to learn from him was a logical next step.

However, after a little over a year it was clear that I was

ready to take a leap and start a company in order to be more in control of my own destiny. I had assets that were willing to come with me from my earlier relationships, and Amory really supported my decision, so in 2008 we launched East Coast Asset Management, and it's been almost nine years now.

G&D: I know you said you had assets that were willing to move with you, but in taking the plunge and starting your own fund, how did you know you were ready?

CB: I guess the hardest part of starting, whether it be a fund or an investment management firm, is having trusted partners, clients, and assets that are going to support your effort. There are a lot of great investors that just don't have the track record or the assets to make that leap. I am grateful that my circumstances leading up to the launch helped pave the way. I had worked with a handful of partners and clients for over ten years and as soon as I was ready, they said, "We're coming with you, wherever you end up." That was really the added comfort level that I needed, and I felt in my heart I had the investment management background to run what I thought would be an intelligent strategy. Looking back it has really been the journey that continues to be the reward. Even the challenges have enriched the path—I remember that first year in '08/'09 was pretty harrowing—both to get things set up operationally just as the market was dropping precipitously everyday. So my advice for students that feel this is your calling—stay lean

(Continued on page 37)

Chris Begg

and as Joseph Campbell has said, “Follow your bliss.”

G&D: Can you talk about your investment philosophy?

CB: There are three categories of investments that I've thought about, and it's how I've structured the Security Analysis class that I teach at Columbia. They are compounders, transformations, and workouts. Two-thirds of our investment ideas have come out of the compounder category. What we're looking for are businesses that are getting better, where they have some type of model that's sustainable for a long period of time, and where the moat is going to widen. Because of that moat, they earn high returns on capital that we think will be sustainable in the future.

What we're looking for with compounders are upstream, often invisible and intangible advantages that lead to a visible downstream propensity to achieve superior economic returns. The upstream advantages we focus on are five-fold. In *The Art of War*, Sun Tzu rote that the five most important parts of assessing the potential of an army on a battlefield are the topographical advantage, the morale advantage, the meteorological advantage, the system advantage, and the commander advantage. Those five are perfectly suited for what we're looking for in a business.

The topographical advantage is the moat. The morale advantage is the culture. The meteorological advantage is resilience—how have they done and will they do in a

tough environment? The fourth is the system advantage: Is it adaptive? Does it foster persistent incremental improvement? The fifth is the commander advantage. Ideally, we want a founder. We want a founder or a founder-like leader that's running the business, and running it like an owner. We found most success with founders, but if we find a leader that has been groomed to steward the advantaged business and act like an owner, that works too. The ownership leadership trait needs to be deeply imbedded in the culture and is not always portable.

We find that most companies are either playing a finite game or an infinite game. James Carse wrote a wonderful book on this very topic called *Finite and Infinite Games*. The infinite game is where the time horizon is very long, if not eternal, for the way the business is being run. It's being run for the next generation, versus some quarterly or five-year objective. Certainly, there is a plan and there are goals, but there's a big difference both in the culture and how they think about the business when the business is run for the infinite game. Think Berkshire, Colgate, and Danaher. There's something very different about those businesses than what you'll find where the leaders are trying to solve something over a shorter horizon. That's what we're looking for in the compounder category.

With transformations, these are businesses that are going through an inflection point of change. Our best transformations eventually turn

into compounders, but they currently are average businesses that have an average return on invested capital. Something is changing or transforming in the business or the industry, however, and we think it is going to produce better returns that aren't currently priced in.

“What we're looking for are businesses that are getting better, where they have some type of model that's sustainable for a long period of time, and where the moat is going to widen.”

We focus on three types of transformations. Secular transformations are going to be where you have a post-industry consolidation, where the remaining players are going to enjoy better pricing power and more rational decision-making around competition, and the returns are likely to get better. The market struggles to see around these corners and struggles to value them effectively. Systemic transformations are where there's a true system change in the organization, typically driven by a new process or new leadership. Like Danaher with their Danaher Business System. The third is separations. Separations are de-mutualizations or spinoffs, where there's a real inflection point in both how the owners are being incented and how capital is being allocated. Usually, there's a real mispricing that exists with

(Continued on page 38)

Chris Begg

separations where there are some forced sellers because the company is too small to be owned by a large institutional owner. We saw this recently when LiLAC Group came out of Liberty Global, which was a forced sale for a lot of institutions.

Workouts are what we call, “60-cent dollars.” This is not just about grabbing net-nets, where there is a true value proposition and existing margin of safety, but where we can’t definitively answer if the dollar is growing. We don’t do a lot of workouts internally. They’ve always been a small proportion of the portfolio, and now they’re almost non-existent in our concentrated portfolio, because it’s harder to get the time horizon right on businesses that aren’t getting better. Also, the declining businesses are likely to get worse more quickly.

Many of our mistakes have been where we thought we bought something with a significant margin of safety while knowing that it might be a melting ice cube. We thought it might weaken, but not for a long time out. But then it accelerated a lot faster than we thought it would. That’s one of the big lessons we’ve learned over the last five years. We don’t play much in that space, although it’s a well-travelled space for the hedge fund community as often there can be the perception of catalysts that help serve investors looking for shorter-term payoffs. We find “three-decision stocks”—buy, sell, and then figure out what to do with the proceeds—are not as ideal as finding businesses that we can thrive with over many

years. The frictionless ideal is the one-decision type.

G&D: *In your 2015 letter, you spoke about the power of compounding, and the difference between logarithmic growth and linear growth. Do you think that compounders are underappreciated? Do you think there is a market misperception there?*

CB: In that letter, I talked about what we call the “twin lights” of the investment process: the quality of the business and the quality of the investment. We’re always looking to understand the best businesses in the world, regardless of price. We want to know them well so that when there is a potential opportunity, whether it be an overall market sell-off or something specific that might be temporary, we’re aware.

“We find ‘three-decision stocks’—buy, sell, and then figure out what to do with the proceeds—are not as ideal as finding businesses that we can thrive with over many years.”

Now, the quality of the investment has a lot to do with price. The price you pay will determine your rate of return. But also, with the twin lights of the quality investment, we’re looking at margin of safety. We’re looking to understand why it might be mispriced. What do we understand that

maybe everyone is ignoring? Why is this business hiding in plain sight? That’s the hardest one to answer because sometimes we don’t know, but we try to understand why we have this opportunity to own this mispriced asset. Or maybe we don’t and we’re wrong.

I think it’s important to our efforts that we’re constantly learning and building our reservoir of knowledge on great businesses, businesses that are transforming and getting better, so that we can value them on a process-driven basis. If we’ve done the work on the business quality side we can act when the price is there.

To answer your question as to if I think compounders are underappreciated and do I think there is a misperception there—the short answer is yes. I think many investors focus where there is a strong contrast and ignore businesses that are getting better incrementally without a lot of noise.

G&D: *Is there a company that fits the situation you just described?*

CB: Well sure, we have been talking recently internally about Sherwin Williams, which after reviewing some of the numbers continues to impress me. Sherwin Williams is a great company that has compounded at 22% or so since the recovery of 2009. You go back over, say, a thirty-year period, you’re looking at a company that’s compounded at around 15.5%. High returns on invested capital of 30% or better, and a great distribution system. A product where

(Continued on page 39)

Chris Begg



Nick Briody '18, Fernando Concha Bambach '18, Vy Huynh '18, and Daniel LeBlanc '18 posing after the Pershing Square Challenge

regulation makes it difficult to transport impedes e-commerce players from entering the competitive landscape. They are a local champion as Bruce Greenwald has written about in *Competition Demystified*. They continue to win with the professional painter in the local market.

That should be in your universe of great companies, and it's just that valuing it today is a challenge when you look at a company that's grown earnings from \$4 in 2009 to \$12 now. Where is that \$12 going to be in that next year or so, now that we're nine years into a recovery. Valuing companies deep into a recovery, particularly if they're cyclical, becomes more challenging right now.

The questions for me on Sherwin have a lot to do with where are we in the cycle, and what's this look like? Are we buying something at more than 20x earnings? Are earnings peak earnings? Or are we mid-cycle, and with this acquisition of Valspar, the company can gain more synergies and extract the next five-to-ten years of additional growth? It's an interesting one to solve. Recently, some of my students pitched Sherwin Williams and I think this is just the kind of compounder business we love, one that is found hiding in plain sight.

G&D: Earlier you mentioned waiting for the right price. As a corollary, when do you think about selling these great businesses?

CB: If I could have one superpower as an investor, it would be revealing IRRs. There's an inherent IRR for every single investment that you can look at based on your time horizon. That is the target investment's essence. The job of the analyst is to reveal that return expectation within some type of acceptable probability range.

The job of the portfolio manager is to allocate capital to those IRRs that are most deserving—meaning most asymmetric. It's just as simple as that. Now, in practice, this proves very difficult because you're dealing with lots of unknown information. We're not talking about deterministic outcomes. We're talking about probabilistic outcomes. But you can build a range of probabilities, a range of IRRs that are within your comfort level and that can prompt you to take action or not.

Back to your question about sell discipline. If we're revealing the IRRs, and a true IRR of anything we own is sub-optimum, meaning it's appreciated to a point where the future IRRs will be low, or below something else we can own, it might be deserving of a sell. With companies that we like and we've been involved in for a long time, we'll allow them to stay in the portfolio a bit longer. In other words, we're comfortable with some lower IRR investments that we know and like as anchor positions. For example, Colgate may get expensive from time to time, but it provides some asymmetry to the portfolio, meaning very little downside despite the upside not being our best IRR

idea. Price is going to determine that rate of return, which is going to drive our sell discipline.

Most of our sales are where a compounder that was playing an infinite game becomes more finite and their moat appears to be weakening because of sector-related and environmental-related innovation. Maybe a competitor is reducing the entropy and friction costs that exists in their vertical and they are going to be exposed to a threat that they cannot compete effectively against. Think of brick and mortar retail; anything that a scaled e-commerce player can do will likely be at a lower cost. GEICO has been devouring the entropy of higher-cost auto insurance sold through brokers for over 80 years.

G&D: You had mentioned that so much of finding a great compounder is related to qualitative and intangible features. How do you assess them and test their resilience?

CB: As we take an idea through the process, the first thing we do is a first-principle exercise of trying to understand what the business is solving for. What entropy exists today that they are going to reduce for the benefit of their customers and all counterparties of the organization? MasterCard and Visa have been devouring the entropy of cash toward more efficient credit and debit transactions. That's the number one thing that we ask ourselves.

If the company we are looking for is the entropy point and

(Continued on page 40)

Chris Begg

has a fortunate pricing umbrella, we typically will start right there and focus on why this advantaged moat should persist. We prefer to own businesses that deserve the right to win because they are fostering a win with all their counterparties, including society at large.

Now, the second thing we do is gather evidence through primary research. Here we talk to counter-parties to get answers around business quality. Customers, former employees, competitors, people that are somehow involved in the vertical in some way. It's all very important. They can be anecdotal, but I think collectively once you've done all your work, it fills in a very clear picture. At that point, we're building a model. We're also reading the typical 10-Ks and 10-Qs. You're starting to build the bottom-up picture of the company.

The third thing we do is categorize the investment. Does it look like anything that we've looked at in the past? Then we take it through the steps of our twin light process, looking at the quality of the business and the quality of the investment, to finally arrive at some range of IRR that we have confidence around.

G&D: You're typically looking five to ten years out. Does that depend on whether managers are playing a finite game or an infinite game?

CB: Yes. Although we assess IRRs at the five-year duration, we're looking at the qualitative factors that we think are going to drive the long-term success of the business. We're looking

much further out. Ideally, we've found a business that thinks outside of time. Managers feel like they're stewards of the organization and they're going to hand it off to the next stewards. It's a very different mindset. Look at Berkshire, or Danaher, or the Liberty businesses, or Amazon. Bezos said it recently, it makes a huge difference when you're talking seven-year numbers versus the time horizons on which competitors focus.

“...we're looking at the qualitative factors that we think are going to drive the long-term success of the business. We're looking much further out. Ideally, we've found a business that thinks outside of time.”

G&D: Are there any names that you would like to explore? You've discussed TransDigm in the past, there is a lot of tension in the stock right now, and we'd love to hear your thoughts.

CB: Sure. We got involved in TransDigm in 2009. We were fortunate enough to speak with someone that had been involved in bringing TransDigm public and knew the business well; we understood the business model. We owned it through 2012 with an extraordinary return, but we sold in 2012 because we felt it was fully-priced. In hindsight,

we underappreciated how big the market opportunity was for what they're doing, but we continued to follow it.

We got back involved in 2014, but over the last year, we've been increasingly uncomfortable with our checks regarding the company's focus on shorter-term profitability at the expense of long-term resilience. The culture felt like it was getting more fragile in the sense that they were being more vocal around their leverage and their pricing power. Today we feel there is a large observation effect that exists and creates additional fragility that was not there in 2014. We still believe this is a great business run by competent management, but we have chosen to step aside. Given the polarization on both sides of this argument, I would prefer not to say much more. We are fortunate as investors, particularly in public liquid markets, to change positioning to reflect changes in our inputs and not to get hung up with all the behavioral biases and friction that come with defending one's ego.

G&D: Speaking of behavioral biases, how do you guard against them?

CB: It's a good question. I recently talked about this at the CSIMA Conference. There are a couple of valuable resources when it comes to behavioral biases: Cialdini's work on the influence of psychology in human decisions and Charlie Munger's speech on the “Psychology of Human Misjudgment.” I believe there are three big systems or phases in regards to this. The first one is instincts, the

Chris Begg

second is reasoning, and the third is insight.

With instinct, the big thing you're trying to solve for is how do I remove the obstacles that impede my ability to get to the second phase, which is what Kahneman calls system-two thinking. Many things get in the way: ego, self-preservation, hierarchy, territorialism, and ritualism. These all impede your ability to make rational decisions.

What we try to do is think about the many obstacles that get in the way. It can come down to lots of behaviors that impede good behaviors. Are you taking lots of meetings with the same people and you're exposed to groupthink? You can make a very, very long list, and I think it's a very good process to go through to constantly re-check where you are obstructing your ability to be rational.

In the second phase of reasoning, you're also trying to remove blind spots in your process. I think about it almost in terms of a hologram: you're trying to create this view to see the entire question or investment idea from every angle, so that you're viewing this hologram three-dimensionally with zero blind spots. It's hard to do, but building a reasoning process to help achieve this outcome is one of the most important parts of decision-making.

Then you want to get to the final stage, which is a true, differentiated insight. What we're all looking for is a differentiated insight that comes when you get through the reasoning process, when

you remove the obstructions of the instinct and misjudgment process. That's how I think about that decision framework and therefore the objective is the perfection of insight.

“What we're all looking for is a differentiated insight that comes when you get through the reasoning process, when you remove the obstructions of the instinct and misjudgment process.”

G&D: In what other instances have you had to reverse your thinking like you did with TransDigm? Are there flags that help you recognize when you need to reconsider?

CB: We recently sold two businesses which we owned for years. The first one is IBM. As we understood Amazon AWS more and more, we became increasingly less comfortable with IBM's competitive advantage long-term in enterprise. We felt we owned it cheap enough; especially with the buyback, there were multiple ways to win. But the problem with IBM is that it's become more path-dependent around how successful they will be in AI. We don't like path-dependent outcomes. We'd rather have many ways to win. There are still some path-dependent outcomes that could be very good for them.

It is important to note that if we have done our initial work

well, anything we sell could go on to be a perfectly good investment. We only have a few slots in our portfolio and from time to time, the bar we set is higher than for what we already own, and therefore we move on.

Phillips 66 is the other one. Since we got involved in 2012 it's been a very good investment for us. However, we feel the next ten years are less clear on a decent proportion of their business, particularly, refining. I think there is a lot of uncertainty around energy and what that will look like in the future, because companies are finding a very real technological cost curve coming from solar. Phillips 66 has a great business in chemicals and likely will be fine, but we think there are other places to allocate capital where the probability range is going to be more attractive for us.

G&D: You've mentioned probabilistic outcomes and asymmetries, could you discuss how you think about risk and position sizing in the portfolio?

CB: In our Partner's Fund, we own anywhere from eight to fifteen positions. Ideally, it'd be on the lower end of that if we had a high confidence in a few number of asymmetric ideas, but we typically own more ideas as we move through a cycle and things become more expensive. That's where we are today; we are balancing a few more names as prices have moved higher and margins of safety have been reduced.

But I think the most important thing when you own a concentrated portfolio is to

(Continued on page 42)

Chris Begg

understand the probability range of the outcomes and what the low end of that range looks like. We will bypass many great investment ideas if we think there's even an infinitesimal potential for a zero, because it's just not something we can underwrite. We prefer downside probabilities where if it is a zero it means it is a 0% IRR, but a 0% IRR still keeps our capital intact.

The importance of seeing the world through a lens of probabilities is something that has been reinforced by studying the quantum world. When you look at quantum mechanics, there's a whole world that, to me, seems so well-aligned with investing. The big take-away is that this whole world of quantum mechanics is a probabilistic world. You don't know where any sub-particle is located, you just know the probability of where it might be. I think you'll find the uncertainty that physicists deal with is very similar to the uncertainty that we face in investing. We're dealing with so many things that are unknown and unknowable, and we're building these probabilistic scenarios based on all that information.

G&D: You mention in your letters making rapid, highly consequential decisions with incomplete and potentially erroneous data. How do you get enough conviction around an idea?

CB: The Harvard Professor and bridge-playing expert Zeckhauser stressed the unknown, unknowable, and unique; I think you want to be able to build a bridge from that

space. That's what an insight is. You're going into the realm of the unknowable by reasoning through it and assessing all the probabilities, and realizing that it's not path-dependent. There are a lot of outcomes where you can win. That's how you get comfortable. That is how you look beyond the world's fixed limitations and your own, those finite outlines and boundaries.

When you think about the investors that understood Amazon in 1997 and the years that followed, that investment didn't look like anything where a value investor could recognize a pattern. It was different. It was a scale economic shared model. Maybe it looked like GEICO or Costco, but it didn't look like the kind of things we were told to look for as value investors.

As you go into the field of investing, your best insights, your best ideas are not going to look like what some of your heroes had invested in before. You're going to have to find new ways to think about it. The map will not be found in any book on investing but more likely found in the book of nature.

G&D: We've focused a lot on compounders. Could we discuss some positions that fit your other models for investing?

CB: Of course. We've recently added Danaher. You could argue that Danaher is a compounder, but we look at Danaher as this constantly evolving, systemic transformation. We love the mindset of the culture with regard to continuous

improvement. We think there are a lot of outcomes that could happen in their end markets, but because their system is completely adaptive, resilient, and moving, they're able to continuously react, change course, and get better every day. That's what gives us the confidence that they're going to continuously solve for their end-markets. They have done that for over 30 years.

G&D: How do you think about cash in the portfolio, and do you look at it as an asset class or as dry powder for future opportunities?

CB: For our partner strategy, which is an institutionally oriented strategy, we think about our portfolio as a fully invested mandate. Now that being said, at any one time, we could be 0% to 20% cash, but cash is not a strategic investment where we're trying to time the market. Yet if the world goes crazy, as it inevitably does, we will not make uneconomic or irrational investment decisions for our partners. Therefore a larger cash holding may be warranted temporarily.

Sometimes we don't have a replacement for a position that we're selling. We want to keep buy and sell decisions very separate. We recently had a couple of sales in the portfolio, which frees up more cash than we have good ideas to put to work. We can reallocate to existing ideas, or we can hold a little bit more cash in the meantime until we finish working on something that's in the final stretch.

G&D: Sounds like you find inspiration across many

(Continued on page 43)

Chris Begg

disciplines. How do you put things on your reading list, and how has this shaped your ability to frame investments?

CB: I started a process almost ten years ago where I set aside a quarter's worth of ancillary reading material around one topic. During that three-month period, I would read as much as I could on a subject, and do a deep-dive around one particular topic. I also allow myself to touch the other mediums that are related to that subject, especially in the arts. Whether it be fine arts or visiting libraries and museums, I fully immerse myself in that topic. I think it allows one to slowly build both breadth and depth.

The quarterly letters I have written at East Coast have been an output that came from this process and that quarter's reading. Over the last year, I've switched the quarterly letters to a year-end letter just from a time management standpoint and will reignite an interim memo writing process in between year-end letters.

The other thing that we do here is something we call "What I Learned This Weekend," where analysts submit a brief write-up on Monday morning on a subject where they take the team through the "ADEPT" framework. ADEPT stands for: Analogy, Diagram, Example, Plain English, and Technical description. Then we added "BE ADEPT," which we call "Be memorable" and "Evolve our process." That translates to, "Have we memorized what you've now taught us in some mnemonic or other way—some memory palace way?

Also, how does what you've taught us relate our decision-making framework and investing?"

It's something we do weekly and it's fun because it's a multi-disciplinary habit that fosters some creative thinking. Throughout the week between conversations about business-specific objectives we will tend to revisit further questions and insights somebody has read on the subject. Subjects are typically in the large data sets of physics, biology, and human history.

G&D: It would be great to hear any advice you may have for students or for people interested in the industry.

CB: What I love about the Columbia students is that you have a lot of fanatics and individuals that are similar to us and approach learning with enthusiasm. Many of the students have such a deep level of curiosity and I think that's just so important. It was what attracted me to teach there and feed off that energy of learning. Curiosity is the first bridge.

The second bridge is creativity. Fostering curiosity, but also creativity in how one should think, because it's going to be building these mosaics of information that leads to creative insight. Anything that can help foster those two things is really important. The arts and sports are a great way to practice creativity and hone that creative spirit toward mastering some craft and entering a flow state.

On the reading side, over the last couple of years I've found a

lot of important and timeless insights in Eastern philosophy. What you find when you start to contrast Eastern versus Western philosophy is that Western thinking is where we're trying to project a model onto the world, and we're trying to see how our model or our projection aligns with the way we think things should be. Oftentimes, the reality is far off. In contrast, Eastern philosophy is much more about aligning yourself with the constancy of change, and looking at things from the potentiality and the propensity of the outcomes.

We added Amazon to the portfolio this year, and it was one of those investments that we were fighting our own biases versus understanding the propensity and the potentiality of the outcome that was staring us in the face. My advice is that there's just so much important information in Eastern philosophy that you can contrast against the basic scientific-method-reasoning process and arrive in a very different place from your peers. That's something that has helped me a lot. If I had known earlier, I would have had many more years of these important books memorized in my head.

G&D: That's great. Thank you so much for taking the time to talk with us today.

Get Involved:

To hire a Columbia MBA for an internship or full-time position, contact Dan Gabriel, Director, Employer Relations, in the [Office of MBA Career Services](#) at (212) 854-6057 or valueinvesting@gsb.columbia.edu. Available positions also may be posted directly on the Columbia website at www.gsb.columbia.edu/jobpost.

Alumni

Alumni can use the Alumni website to stay connected with Columbia Business School: www8.gsb.columbia.edu/alumni/

To be added to our newsletter mailing list, receive updates and news about events, or volunteer for one of the many opportunities to help and advise current students, please fill out the form below and send it via e-mail to valueinvesting@gsb.columbia.edu.

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

E-mail Address: _____

Business Phone: _____

Would you like to be added to the newsletter mail list? Yes No

Would you like to receive e-mail updates from the Heilbrunn Center? Yes No

**The Heilbrunn Center for
Graham & Dodd Investing**
Columbia Business School
Uris Hall, Centers' Suite 2M6
3022 Broadway
New York, NY 10027
212.854.1933
valueinvesting@gsb.columbia.edu

Visit us on the Web:
**The Heilbrunn Center for
Graham & Dodd Investing**
www.grahamanddodd.com

**Columbia Student Investment
Management Association (CSIMA)**
<http://www.csima.info/>

Contact Us:

ELaidlow17@gsb.columbia.edu
BOstrow17@gsb.columbia.edu
JPollock17@gsb.columbia.edu

Graham & Doddsville Editors 2016-2017



Eric Laidlow, CFA '17

Eric is a second-year MBA student and member of the Heilbrunn Center's Value Investing Program. During the summer, Eric worked for Franklin Templeton Investments. Prior to Columbia, he was an equity research analyst at Autonomous Research and a senior portfolio analyst at Fannie Mae. Eric graduated from James Madison University with BBAs in Finance and Financial Economics. He is also a CFA Charterholder. He can be reached at ELaidlow17@gsb.columbia.edu



Benjamin Ostrow '17

Ben is a second-year MBA student and a member of the Heilbrunn Center's Value Investing Program. During the summer, Ben worked for Owl Creek Asset Management. Prior to Columbia, he worked as an investment analyst at Stadium Capital Management. Ben graduated from the University of Virginia with a BS in Commerce (Finance & Marketing). He can be reached at BOstrow17@gsb.columbia.edu



John Pollock, CFA '17

John is a second-year MBA student. During the summer, John worked for Spear Street Capital. Prior to Columbia, he worked at HarbourVest Partners and Cambridge Associates. John graduated from Boston College with a BS in Finance and Accounting. He is also a CFA Charterholder. He can be reached at JPollock17@gsb.columbia.edu