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EVALUATION:

Investing Insights brought to you by the students of NYU Stern

LETTER FROM THE EDITORS

Among the many lessons that we've learned from the aftermath of the 2008-09 global economic crisis is that governments play a major role in the financial markets. In the last six years, central banks around the world have injected massive amounts of capital in order to support and even inflate financial markets. The U.S. Federal Reserve has injected $3.6 trillion through three rounds of quantitative easing since 2008. The Bank of Japan recently shocked the markets by upping its annual purchases of JGBs from 50 to 80 trillion Yen (from $430 to $680 billion). In total, major central banks have expanded their balance sheets by approximately $6 trillion[1] since 2009.

While a rising tide lifts all boats, the last six years have been a not so subtle reminder that the "moon" (or government, extending the analogy) is a major factor controlling the tide. For the third issue of **EVALUATION** we elected to focus on two related areas of the market that are not commonly a part of the business school vernacular: **Public Finance and Infrastructure Investing**. These areas, located at the intersection of the private and public sectors, give us some insight into the interplay between investing and government.

It is our pleasure to introduce the third issue of Stern's student-run investment newsletter, covering a range of topics in the public finance and infrastructure investing areas, in addition to some student-submitted investment ideas. We hope that you enjoy and take away a few new ideas. Finally, we would like to thank our interviewees for their time and contributions, as this would not be possible without their valuable insights. With that, happy reading!

Bryce & Ethan

EV Editors

1. Source: Yardeni Research

By HikingArtist.com

INSIDE THE ISSUE

Steven M. Fulop: Mayor of Jersey City ...Page 2

Dabo Horsfall: Investment Officer, African Capital Alliance...Page 6

Aaron Gold: Managing Director, Argo Infrastructure Partners...Page 12

Gerard J. Lian: Senior Analyst – Municipal Bonds, Invesco...Page 16

Stern Winning Team, Cornell MBA Stock Pitch Challenge...Page 21

Student Investment Ideas: **long RPXC, long LVMH, short ATK, and long Indian Rupee**...Page 22

Steven M. Fulop – Mayor of Jersey City

Mayor Fulop

Steven attended Binghamton University, spent time studying at Oxford University in England, and graduated in 1999. After starting a career at Goldman Sachs in Chicago, he transferred back to New Jersey and bought a home in Jersey City. After the attacks of September 11, 2001, Steve made the life-altering decision to enlist in the United States Marine Corps. As a member of the 6th Engineer Support Battalion, he was deployed to Iraq. Steven and his unit were awarded the Overseas Service Ribbon, Meritorious Masts, and the Presidential Unit Citation. In 2004, Steve came to the attention of then-Mayor Glenn D. Cunningham, who persuaded and supported him in a primary run against Democratic Senator Robert Menendez. Although that campaign was unsuccessful, Steve's enthusiasm for the political process led to a run for City Council in 2005. His upset victory over the incumbent Ward E councilman made Steven the youngest elected official on the Jersey City council. On May 14th, 2013, Steven won a decisive victory over incumbent Mayor Jerramiah T. Healy.

EVALUATION (EV): Mayor Fulop, thanks for taking the time to speak to us for our investing newsletter focused on public finance. Let's start with your background, as it's very interesting. After college you got a job at Goldman Sachs. Which group were you in?

Mayor Steven Fulop (SF): I was hired into asset management and then gradually moved into algo trading.

EV: After the September 11th attacks you made the life-altering decision to join the U.S. Marine Corps. Was that a difficult decision to make?

SF: I viewed military service as a partial payment for citizenship and was thankful that I came from an immigrant family. I'm thankful for a lot of things that this country has provided, and based on where I was situated in my life that was the right decision.

EV: In 2004 you ran for Congress against Democratic Senator Robert Menendez. Though unsuccessful, what lessons did you learn along the way?

SF: That was more of a suicide mission. I wasn't really registered to vote prior to that. The Mayor at the time here had a feud with the sitting congressman and the Mayor was probably using me more for the fact that I had a background with no baggage. For me, I thought it was a once in a lifetime opportunity. I registered to vote around that election and realized that in this profession you can actually do some positive things if you're in it for the right reasons. That has changed my life.

As far as lessons learned, I think I learned governmental lessons as well as political lessons. On the political front: I learned how difficult the system is structured as it relates to change and powers of incumbency and how districts are gerrymandered. As it relates to policy, the more people you talk to, you start to realize the issues that confront working families, day in and day out. I didn't have a perspective on the details of how people struggle to get by, paycheck to paycheck, until I was actually a political candidate.

EV: In 2005 you won an upset victory for Jersey City council at age 28, making you the third-youngest councilman in the history of

Jersey City. Could you briefly tell us about that experience?

SF: We ran a campaign focused on the Ward. Hudson County generally is an area where historically machine politics focused on patronage and organizational structure, and it was very hard for an outsider to win. We ran a campaign that was very focused on targeting who our voters were, and on messaging, no different than things you would learn at Stern. The results were that we "squeaked it out". So that ended up being another positive experience overall.

EV: During that time you were working and also going to school – you received both an MBA from NYU Stern and an MPA from Columbia University. How did you balance all of that?

SF: No social life is really what it came down to. I was working; I was finishing at Columbia, finishing at NYU, and finishing my Reserve duty. My life was literally so structured. I look at that time period in my life and I would say that I've become very good, as a result of those three or four years, at time management. It's a byproduct of having deadlines from four different entities simultaneously, and each expecting that they were the top priority. It definitely made me more efficient when it comes to my time.

EV: And when did you decide that you were going to run for Mayor of Jersey City?

SF: I started to think about it around the time that I was considering running for reelection. There was still work to do on the council front, which ultimately, I decided to do. Two years after that I made the decision not to run for reelection on the council. If I was going to put another four years into public service I wanted to be able to set the direction from an executive side as opposed to from a legislative side. That really determined that I would run for Mayor.

EV: To be exact, you became Mayor of Jersey City on May 14th, 2013. What is your vision for Jersey City and how has it evolved over time?

SF: We're trying to bridge gaps between communities that have existed for some time. We're trying to incentivize development away from the Waterfront. We're trying to lead the state in job creation. At the same time we recognize that you can have progressive policies that are socially conscious and that do not alienate business. Those two things are not mutually exclusive. While some political people would like to portray that if you are fiscally responsible you can't be socially conscious, the reality is that they both can exist. Jersey City is a living, breathing example.

EV: Can you touch a little bit on the budgeting process?

SF: Normally the way that government entities work – they try to figure out year-to-year how they're going to get through a budget, and they look to the next year the same way. We've been working for the last several months on modeling out the budget several years through the duration of our term. We've actually established a framework that's going one year past our term – for the reason that we want to leave the next person, whether it's me or somebody else, with some room when they first get in from a budget standpoint. This is how we're going to keep taxes stable from 2015-2018.

EV: What is your view of the current state of the infrastructure in Jersey City generally?

SF: We just moved forward with a bond ordinance of $35 million to do some street paving and park renovations. Jersey City is an older city with older infrastructure and it's a challenge to find money in order to continue to invest in the way that we want to. We try to seek out public/private partnerships in order to leverage private capital for these projects.

EV: Could you give us an example of a public/private partnership?

SF: We're currently renovating the Loew's Jersey Theater. We're about to start this $40 million project. In that (project) there are three sources of funding: tax credits, private dollars, and public dollars. They're all in it because it actually benefits every building in the area. There's a tangible benefit to developers that are building there. It's the same from our standpoint, that's why we want to invest public dollars there.

EV: How do you attract that private money into the city?

SF: We give incentives to people, whether its abatement programs to incentivize people to move away from the Waterfront, Redevelopment Area Bonds (RABs), which are a type of financing tool, or Density Bonuses. We give incentives in order to make sure that they're investing back in the community and that the whole city benefits from it.

EV: Can you talk about a situation where you're at the negotiating table with some of these private investors?

SF: Journal Square. It's the first building that's gone up there in decades. It used to be the heart of the city. It will be a 70-story building. They're investing in the Loew's Theater as well and also in some infrastructure around the building over there. That was the better part of the first four months of our administration, and they broke ground earlier this year.

On the November 13th, 2014, Moody's upgraded the credit rating of Jersey City from A2 to A1, citing a healthier balance sheet, improved structural balance, and rising income levels. What does this mean for your cost of borrowing as a municipality?

SF: We refinanced $70 million of working bonds shortly afterwards, saving $2.5 million in future debt service payments. All of that is a byproduct of the upgrade – variable interest rates on the upgrade.

EV: Rates are obviously very low. Is this something you think about in terms of your financing plan?

SF: I do. I look to leverage low interest rates to refinance a lot of our debt. The way we're situated today, the way the laws work, there has to be a certain percentage spread before we can go back to the market. Our last refinancing was just closed two weeks ago, so I don't think we're able to go out unless there's another drastic movement in the market. As it relates to financing projects, we use the markets whenever possible. We're conscious of the type of debt we're carrying in long term planning, but we're also very conscious of historically low interest rates.

Jersey City is an older city with older infrastructure and it's a challenge to find money in order to continue to invest in the way that we want to. We try to seek out public/private partnerships in order to leverage private capital for these projects.

EV: You have credited your business school background with giving you an analytical and business oriented approach to governing Jersey City. Could you give us an example of that?

SF: I think who I am today is in no small part due to growing up in an immigrant family. I had a Jewish day-school upbringing. I went to public school. From the Marine Corps to NYU, the City Council and Goldman Sachs – each of those experiences has lent themselves to developing my decision-making process. I think what I learned at NYU was a comfort level in the willingness to take a risk, personal or career risk, that I may not have been willing to do prior. I became more willing to take a chance, knowing that I had developed some tangible skills that would give me an opportunity to regain my footing should I ever fall.

EV: You've worked both in the private sector and public sector. Do you see yourself staying in the public sector? What are some of the pros and cons?

SF: There are a lot of pros and cons to each. I think sometimes it's easier and quicker in the private sector to get things done. There are often layers to bureaucracy in government, which is challenging and frustrating. I've had the good fortune to work with great people in both sectors. On the public side, often there are tremendously talented people that aren't appreciated to the degree that they should be. My career trajectory is hard to tell. If you asked me 10 years ago if I would have been the Mayor here I would have told you, "no." If you ask me, 10 years from now will I still be in government, my knee-jerk reaction would probably be, "unlikely." But you never know.

EV: On a personal note, we also understand that you compete in marathons and long-distance triathlons (including the Ironman U.S. Championship in 2012). How are you able to fit the training into your busy schedule?

SF: Time management. I'll never do an Ironman again, but last year I did a half Ironman and I'll probably continue to do one of those every year. Next year I'll probably sign up for 10 Tri's and one longer distance race.

EV: In one of your campaign videos for Mayor you swam across the Hudson River in the middle of winter. Whose idea was that?

SF: We have a great team of consultants. The video was produced by Mark Putnam. He does a lot of stuff nationally. It was a fairly memorable commercial, right, because it's different. It gets your attention. It's like, "why are you swimming in the Hudson in the middle of February?" The water temperature was 38 degrees. Putnam actually ended up saying that I shouldn't do it because he thought I was going to die, but I was already into the commercial for $70,000, so I was doing it. It ended up working out well, thankfully, but that was quite a day.

The best thing I could say is this – be willing to take a chance. You don't know where doors will open and more often than not people are reluctant to walk through them.

EV: Sounds good, anything else to add? Do you have advice for students coming out of MBA programs today?

SF: The best thing I could say is this – be willing to take a chance. You don't know where doors will open and more often than not people are reluctant to walk through them. You're building a skillset at school that should give you some confidence so that you should be able to fall and get back up. If you're willing to actually try and experiment with new things, that's going to hit and you will find yourself successful at whatever you choose to do; but more often than not people don't do that.

EV: Great advice, thanks for taking the time Mayor Fulop.

**Mayor Fulop's campaign video can be seen here: http://youtu.be/ZTfeTr22_1g

Dabo Horsfall – Investment Officer, African Capital Alliance

Dabo Horsfall

Dabo Horsfall has over 13 years of global Gas & Power Infrastructure sector work experience. Prior to joining African Capital Alliance, he worked at Morgan Stanley Infrastructure Partners (MSIP), a $4 billion global Infrastructure investment fund, in New York. At MSIP, Dabo was an investment executive and he actively managed several energy infrastructure portfolio companies. Prior to joining Morgan Stanley, he was an investment banker at Lehman Brothers (later Barclays Capital), where he focused on Mergers and Acquisitions advisory. He began his career as a Chemical Engineer in Texas. Dabo holds a BSc. in Chemical Engineering from the University of Texas, Austin, a Masters in Public Administration from Columbia University and an MBA from New York University.

EVALUATION (EV): Mr. Horsfall, thanks for taking the time to sit down with us. You started out as a Chemical Engineer. How did you end up in infrastructure investing?

Dabo Horsfall (DH): I was born and raised in Nigeria and I came to the USA primarily to figure out how to develop my country and continent. My dad wanted me to be a civil engineer, but I had too much love for chemistry, so I became a chemical engineer. Naturally, I initially focused my career on the oil and gas space, which is what I grew up knowing as my dad was a mechanical engineer at Shell in Nigeria.

I started out as a process engineer at Exxon Mobil and then worked as an engineering consultant for an energy technology-consulting firm. When the 1999 – 2001 technology crisis hit I became interested in capital markets, and funding capital projects by extension. I was amazed at how shocks in the capital markets affected all the engineering projects I was working on. I started thinking seriously about business school, and was excited to gain admission to the Stern School of Business.

I was lucky to land a job on Wall Street after Stern, even without having the requisite background. Frankly, I didn't fully understand how I was going to navigate my career in a way to ultimately impact my birth nation. As I took little bites of the financial sector it became clearer that I was on the right path and that African Infrastructure development investing was my end goal. I started out doing investment banking general advisory at Lehman Brothers, and then focused more on M&A in order to build my transaction experience. I zeroed in on my focus areas: power, utilities, and infrastructure within investment banking. As I got good as an M&A banker, I began building the right skills to enable a transition to the buy-side.

Eventually, I ended up at Morgan Stanley Infrastructure Partners (MSIP), where I learned from some extremely intelligent people and was fortunate to work for someone who had links to Africa. The head of my fund at the time was an Egyptian named Sadek Wahba. He was focused in OECD markets, but also had a keen eye on emerging markets. I applied my standard ethos of hard work and focused dedication at MSIP. I concentrated on really understanding the investing trade, and did well to deliver tangible results while at Morgan Stanley. I was able to eventually use my MSIP experience to transition into a proper emerging/frontier markets fund.

Now I'm at African Capital Alliance, a PE Fund focused on West Africa. I'm responsible for power and gas infrastructure investments: participating in the transformational impact of these sectors in Africa. There is a huge infrastructure deficit in Africa. Power is the main impediment to growth. A lot of the finished goods in Nigeria, for example, are imported at high prices (demonstrating the ability of consumers to pay). However, Labor is very cheap and Natural Resources are available. Infrastructure is the plug to make things happen. So I am happy to catalyze this asset class by demonstrating the attractive returns that well-structured investments can produce.

There was also a risk angle – given that we served some low-income communities we had to manage the collection risk and also come up with several other value-add services that would be appealing to the community. We also had to manage the regulatory pressure and not increase tariffs to a level that creates social imbalance.

Management of public/private-sector issues was a very good learning experience for me. Also, learning how to deal with shocks, or the unexpected events was important. A few unfortunate events happened during my time managing that asset, most notably two earthquakes. You have to be able to think on your feet and bounce back from unexpected events. I was also lucky that this asset was earmarked for exit during my time as the asset manager. We were preparing to raise the second infrastructure fund. To do that we had to show a track record and SAESA was the chosen asset to exit. Together with a colleague of mine, we ran that entire exit process, and it was successful. During the sale process in 2011 we faced an unexpected foreign exchange crisis as well, but it was just the right type of training I needed. You have to be able to figure out how to right a wrong situation. I expect to be doing a lot of this in Africa en route to delivering excellent returns for investors.

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EV: You have managed some very large power deals over the last decade. Could you speak a bit about your work with Inversiones Grupo Saesa Ltda., Chile's second-largest electricity distributor, while you were with Morgan Stanley's infrastructure fund?

DH: This was probably the most exciting deal I've ever worked on. After I joined MSIP, I was asked to take over management of this asset – an electric distribution company based in Chile. For me it was fascinating because I felt like if I really sunk my teeth into the business and understood how it worked, it would be very applicable training for whatever I ended up doing in emerging markets.

Chile is interesting because it's sort of that bridge between emerging markets and developed markets. The electric distribution company was based in one of the more rural parts of Chile, so there was a growth angle to it.

EV: How do you develop an investment thesis for these types of projects?

DH: The investment thesis for SAESA: there were several. Firstly, Chile on a more macro level wasn't an OECD country when MSIP made the investment. So just from a de-risking/capital flows standpoint, we expected the overall cost of capital to drop once Chile became an OECD country. Secondly, in addition to the overall GDP growth rate of the country (6-7%) due to the commodity boom, there was also additional embedded growth within the regions served by SAESA. Thirdly, there was scope (on the cost side) for operational improvements.

EV: You've also been involved with some high profile gas-distribution infrastructure deals. Tell us about working on the Madrilena Red de Gas project in Spain.

DH: Madrilena Red de Gas (MRG) is a gas distribution utility in Madrid. I was also tasked to manage this asset. It was a carve-out of an existing state utility. Frankly, what I really enjoyed were the relationships that I formed with executives of the company. Also, I was exposed to how a country without a very widespread gas network transports gas within the country – this has been very applicable for my work in Nigeria. I'll give you an example: during my time at MRG, I learned a lot about virtual pipeline networks. This involves transporting gas despite the absence of pipelines. You get gas from ports, compress/liquefy it, put it in trucks, and get it to wherever you have your gas grid or directly to the end users. This was critical learning for what I'm starting to do in Nigeria, given that the gas infrastructure is largely non-existent. Some of these pipelines take a long time to build and construction risks are high in Nigeria. However, given the alternative cost of power, which is diesel-based, one can actually compress/liquefy the gas, put it in trucks, transport it, degasify, and still produce power at a cheaper cost than diesel-based power. This is a business model I'm actually building upon now in Nigeria. My next deal centers on a captive power solution that involves gas distribution by virtual pipeline.

EV: How has the infrastructure investing landscape changed since 2005, when you first got involved? Where do you find the most attractive risk-adjusted returns today?

DH: In 2005, infrastructure wasn't sexy. It wasn't talked about that much. The power sector wasn't really popular either. There wasn't that much money chasing infrastructure projects. As a result, asset prices weren't that high. What you've had between then and now is that infrastructure just became a buzzword. Pension funds included it in their lexicon, and it took a life of its own. More and more money got dedicated to infrastructure assets and then, frankly, people who didn't fully understand the asset class started investing in it, inflating asset prices, and making some very big mistakes. I think the market is starting to figure out what this thing really is right now. In terms of where you get proper risk adjusted returns today, I think it's in emerging/frontier markets as long as you back the right partner and right strategy. There's too much money chasing infrastructure assets in developed markets; everyone's looking for the same thing. As a result, it's hard to get bilateral deals done. Deals are usually done by auction. It's a big cost of capital shootout, making it really hard to get proper value. Frankly, I think the regulatory risks are underappreciated in developed markets. A regulator is going to think about customers first, wherever you are. Unless you really have key relationships, you can easily get caught offside in developed markets.

In terms of where you get proper risk adjusted returns today, I think it's in emerging/frontier markets as long as you back the right partner and right strategy. There's too much money chasing infrastructure assets in developed markets; everyone's looking for the same thing.

Whereas, in emerging markets the opportunity is sort of trapped, there's latent demand for the asset or for the finished product and there's a high willingness to pay (given the alternative cost of delivery). I think it's easier for people with the right skillsets and the right discipline to actually pick a position, raise capital, and structure the right deals to get private equity type returns in emerging/frontier markets.

EV: After Morgan Stanley, you began working with the African Capital Alliance, a Generalist PE firm focused on Nigeria and broader West Africa. Can you speak about the current state of infrastructure investing in this region?

DH: Basically, infrastructure is largely nonexistent and decrepit, which I knew before I left Nigeria. Thus infrastructure investing is more of a development play, more of a greenfield play as opposed to a brownfield play. The critical question is: how do you embark on a greenfield strategy while ensuring that you get significant returns? The bigger the greenfield project the longer it takes to build, for one, and the longer it takes to recover your money if you sell your end product through a public grid/network. My strategy is to work on marginal infrastructure projects where I can sell directly to credit worthy end users. I also believe that infrastructure investing should be done by specialized funds.

EV: Could you speak a bit about the investment process at ACA? What are a few things that you tend to focus on when evaluating opportunities? More specifically, what are the returns and cost of capital like on projects in Africa?

DH: The investment process at ACA is international standard, very rigorous. You go through an early stage deal review report with the fund manager in order to get clearance to spend time on the transaction. Afterwards, there's an investment forum, which essentially involves presenting the deal to all the members of the team, regardless of rank. After that, if everything goes well, it goes to an investment committee where the investment officer defends the deal and hopefully gets approval to actually spend money on due diligence. In terms of differences in the process between ACA and my experience in the USA, at ACA there's a lot more focus on the sponsors – the people that you partner with – and less on the analytical rigor. There's also a lot of emphasis on the ESG (environmental, social, and governance) process, which is driven by development financial institutions that invest in us. ESG actually helps the investment process; it's important to think about these things and consider the economic impact.

As far as cost of capital, it is fairly high for Africa, around 20-30%, relative to 18-25% for other emerging markets (i.e. India, Chile) and 10-15% for developed markets.

EV: Given the extraordinary growth in the African infrastructure space in recent years, has competition for lucrative projects become fierce? Would you say the market is approaching efficiency?

DH: A lot more money has been directed towards the emerging markets, primarily driven by quantitative easing in developed markets, but we're starting from a low base so there still isn't sufficient capital being allocated to the region. Global investors who seek yield in different parts of the world are "dipping their toes" into emerging/frontier markets. I'd say there's been more competition, but from my perspective it's good because this creates more awareness and brings more expertise into the market. Currently, there seems to be a lot of funds chasing similar strategies (Generalist, consumer-oriented). I believe that there is a need for more specialized funds and that you will see new fund managers spin out of existing Generalist funds with distinct strategies that fit the African investment opportunity.

EV: Could you provide an example of a project you're currently working on at ACA?

DH: I am currently working on building out a captive power solution to take advantage of fuel resources that are privileged to different parts of Africa. It's an idea I've had since my days at MSIP.

EV: I understand there has been quite a tech boom in East Africa and this has been the focus for a lot of IT investment. What are the big investment opportunities in West Africa, your region of expertise?

DH: Tech is actually in the front end. A good thing about not having much existing infrastructure is that Africa becomes sort of a "guinea pig", a test case for new technology. On the power side, it's easier to come up with a smart grid solution, for example, if you don't have an existing grid. Your opportunity cost is just not high. Same thing with e-commerce: given the poor road infrastructure, online retail is booming. People don't want to drive to stores in Lagos because the traffic is absolutely terrible. You have many small companies figuring out unique distribution solutions: small motorbikes, bicycles etc. All they need to do is get you online. Smartphones are actually very popular in Africa right now, so you do the transactions with your phone, and get the products delivered directly to you. Technology, and the telecom boom, is enabling massive transformation. There's a leapfrogging effect as well. There were never a lot of landlines to begin with, so once mobile telephones became available, people just didn't need landlines.

EV: You've stated that you have a "keen interest in disruptive and leapfrogging technology", could you elaborate on this?

DH: I'll use the electric grid example again. How awesome would it be if you didn't need to build out massive transmission lines, huge coal fired plants, and huge hydro plants? Frankly, a lot of that energy gets wasted. You generate a lot, but it gets lost through the transmission lines. It's more efficient to have small micro grids instead. Have a power plant that utilizes the resources that are unique to that particular area. You build up a particular grid that fits the usage pattern of the specific area as well, and a collection pattern/methodology that fits the consumers. If you don't have existing infrastructure you could put proper collection technology that would be expensive to retrofit in otherwise. In summary, the process of building out micro grids as opposed to massive integrated grids, which are extremely inefficient, is an example of this leapfrogging effect.

EV: Finally, what kind of advice would you offer students who are interested in pursuing a similar career path?

DH: I would say, be passionate about what you want to do. That's been my driving force. Pick a career that drives you because that keeps you going when things get rough. It keeps you grounded, keeps you focused. If infrastructure is truly your passion, do it. Find your passion and go after it.

EV: Mr. Horsfall, thanks so much for the time! We appreciate your insights.

"Someday, all this will be infrastructure."

Source: The New Yorker
(by Warren Miller)

NYU STERN

SIMR Stern Investment Management & Research

Save the Date

14^{th} Annual NYU Stern SIMR Conference

Friday, March 27^{th}, 2015

Henry Kaufman Management Center, 44 West 4^{th} Street, New York, NY 10012

Theme: "Investing in a Post-Fed World"

Event History

The Stern Investment Management & Research (SIMR) Club conference is one of Stern's most well-attended and well-known annual conferences and features prominent research professionals from the buy-side and sell-side, as well as investment professionals and portfolio managers. Currently in its 14th year, the conference offers the opportunity to hear from distinguished speakers and panelists on idea generation and best investment ideas in today's markets. Past years' themes have included tax-aware investing, distressed investment opportunities and event driven investing.

Attendees

Over 150 NYU Stern MBA Students focused on careers in buy-side and sell-side research, investment and wealth management and sales and trading. There will also be a number of prominent industry professionals and renowned NYU Stern faculty members.

If you are interested in attending/speaking at the conference, please contact:

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Aaron Gold – Managing Director, Argo Infrastructure Partners

Aaron Gold

Mr. Gold has spent the most recent 14 years of his career in infrastructure-oriented private equity. Currently, he is a Managing Director at Argo Infrastructure Partners, a newly formed private equity manager with an initial mandate to invest in North American energy infrastructure. Prior to Argo, Mr. Gold served as a Principal for Carlyle Infrastructure Partners, The Carlyle Group's global infrastructure fund, and as a Managing Director at Highstar Capital. He spent the initial several years of his career in investment banking and corporate development positions. Mr. Gold has an A.B. in Politics from Princeton University and an M.B.A. from New York University.

EVALUATION (EV): Mr. Gold, thanks for taking the time to speak with us. You spent a few years early in your career as a banker. How did that experience help prepare you for a career in infrastructure investing?

Aaron Gold (AG): As an investment banker, I worked on buy-outs and financings in various sectors (though nothing that would qualify as infrastructure). Bankers with experience in certain sectors, such as energy/utilities or transportation/logistics, or product lines, such as municipal and/or project finance, might have a more fitting background for infrastructure-oriented investing than I had when I began infrastructure.

EV: You then joined Highstar Capital (infrastructure investment fund) in 2001. What was the state of affairs of infrastructure investing back then? How does it differ from the landscape today?

AG: Until about 2007, competitors were funds with expertise in one or more of the infrastructure verticals, but not all of them. Fund investors did not have an "infrastructure" allocation in their mandate; they used general private equity or real estate allocations. Public-private partnerships were not part of our vocabulary.

Since 2007, substantial competition exists among independent infrastructure firms, bank- or large-cap private equity-sponsored infrastructure teams and a handful of direct investing pension managers and sovereign wealth funds. There is much more capital, now in the form of equity and debt, allocated to "infrastructure" as a strategy, large amounts of which are either in addition to or in lieu of investments through a private equity manager. And, while still a work-in-progress, many public-private partnerships have gotten done and are continuously in the works.

EV: While at Highstar you were involved in the acquisition of P&O Ports, a politically charged deal involving the purchase of several major U.S. ports from DP World, based in Dubai. Could you speak a bit about your involvement in that deal?

AG: In 2005, DP World agreed to acquire the Peninsular & Oriental Steam Navigation Company, a UK-based operator of ports worldwide. P&O owned P&O Ports North America, which operated marine terminals along the Atlantic and Gulf Coasts of the U.S. Despite transaction approval by CFIUS, a U.S. panel that reviews investments by foreign corporations into businesses with national security importance, Congress raised concerns of national security and voted to block the sale of the North American operations to DP World. In response, DP World hired an investment bank to sell the North America business to a U.S.-domiciled entity. I led Highstar's transaction team, including our advisors, consultants, and lenders, and negotiated the pricing and terms of an acquisition of the North American port operations from DP World.

EV: Generally speaking, how much of a role does dealing with government/municipalities play into the investment thesis of infrastructure deals?

AG: Working in collaboration with municipalities is critical to the success of many infrastructure investments. The businesses we pursue provide an essential service to an economy and, because of a physical constraint or contractual position, may be the only provider of a particular service to households in a region. Thus, many of the companies are regulated by a public service commission that ensures the service provider earns a fair return for its continued investment in infrastructure and protects customers from any unfair increases in their cost of service. Working collaboratively with customers' representatives at the public service commissions and informing customers directly of the benefits of the investment in their infrastructure is critical to customer satisfaction and investment success.

EV: After Highstar you joined Carlyle Infrastructure Partners, a division of The Carlyle Group. There you worked on a deal involving the refinancing of a portfolio of highway service plazas in the state of Connecticut. Could you speak about that deal?

AG: The Connecticut Department of Transportation granted an investor group led by Carlyle a 35-year contract to renovate (in some cases, re-build), operate and maintain 23 highway service plazas along three major highways. My primary responsibility was working with our management team and general contractor to ensure each of the 23 individual construction projects finished on time and on budget. The financing required lender comfort with existing pre-renovation and projected post-renovation cash flow from the service areas, due to the fact that that a few service areas would be under construction for 9-12 months at any given time during the term of the loan. The loan was structured optimally to provide additional cost-efficient capital to complete the construction of the projects.

Working in collaboration with municipalities is critical to the success of many infrastructure investments. The businesses we pursue provide an essential service to an economy and, because of a physical constraint or contractual position, may be the only provider of a particular service to households in a region.

EV: You are now involved in setting up a new venture, Argo Infrastructure Partners. What is the typical lifespan of infrastructure funds, and how does that correlate with the duration of infrastructure investments?

AG: Typically, the tenor of the fund itself is indicative of its strategy. For 10- and 12-year funds with an approximately five-year investment horizon, the investment is in growth and total return projects (with cash yield, if possible); for longer-tenor vehicles, the investment tends to be more focused on stabilized infrastructure operations generating current and sustainable cash yield. Our new strategy falls into the latter category: we have a 15-year investment horizon that allows us to invest long-term capital for the growth and maintenance of long-lived critical infrastructure.

EV: What is a typical return target for an infrastructure investment? How much leverage (if any) do you use, and how do the risk-adjusted returns compare to other asset classes on a relative basis?

AG: Mandated levered gross return targets range from approximately 9-15%, depending on the strategy. On a risk-adjusted basis, infrastructure can be very attractive if the owner has a well-conceived plan to grow and stabilize an operation. Strategies vary in their use of leverage; I've seen anything from 0% to 75% leverage. We do not require substantial leverage to achieve our return targets; in fact, we can sometimes achieve our return hurdles and increase our cash yield without leverage.

EV: Could you speak a bit about the valuation framework for infrastructure deals generally, as well as the method for assessing and mitigating risk?

AG: Since most of our companies are not IPO prospects, we do not typically focus on publicly traded comparables. However, we look at comparable precedent transactions, various asset-specific metrics and discounted cash flow analysis. Regarding DCF, since we target operations with contracted revenue for many years, terminal value is typically where the "art" comes in to determine what value exists between the end of the contract and the asset's end of life. In determining value and assessing risk, we work with experts: legal/regulatory, accounting/tax, environmental, market/commercial, engineering, operations, insurance and others. As we uncover information during the due diligence process, we determine what the financial or legal liability may be for each and how we will address them (i.e., adjustment to financial projections, valuation, and/or purchase agreement terms). Some risk is completely unknown, so we also test broad scenarios through our financial model to determine what level of volatility we can withstand at various prices.

EV: Could you give us an example of a deal that you're working on now for Argo, and what your investment thesis is?

AG: One opportunity we're pursuing is a natural gas-fired power plant with 10 years remaining on a contract to sell 100% of the electricity it produces to a very creditworthy state utility. An operating team is in-place with a strong environmental, health and safety record and many years of successful operating experience with the plant. Subject to generating plant output within agreed contract parameters set with the utility, revenue is consistent. If operating expenses are within range of the past, we would expect sustainable cash yield throughout the contract period. Through our due diligence, we've concluded that substantial demand is likely to exist for the plant's output beyond the contract period, providing cash yield throughout the plant's life.

Mandated levered gross return targets range from approximately 9-15%, depending on the strategy. On a risk-adjusted basis, infrastructure can be very attractive if the owner has a well-conceived plan to grow and stabilize an operation.

EV: How do you think about portfolio construction when it comes to infrastructure investing? What is a good number of investments and across which verticals?

AG: In light of the size and lower perceived risk of their investments, infrastructure funds tend to take more concentrated positions. My focus is on North America energy infrastructure, so a sector-focused infrastructure approach that diversifies with respect to exposure to any single uncontrollable event/development, if possible. Consequently, diversifying, among other areas, based on asset type (includes diversification in resource/fuel and asset function, whether power, transmission, distribution, etc.) and geography (includes diversification in customer demographics, contract counterparty, and regulatory jurisdictions) is a consideration with regard to our investment portfolio.

EV: Finally, what advice do you have for students looking to get into this type of work? Are there particular classes that you took, or books that you read, that have been helpful?

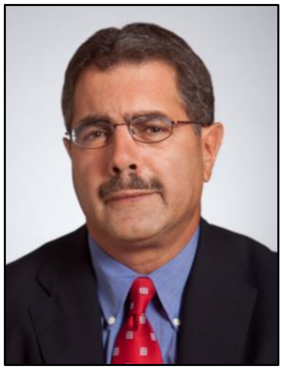
AG: Fund managers hiring students from business school typically seek to select someone they believe will grow with the firm. Unless there is a departure, firms typically hire when they have visibility on a successful fundraise and identify a resource need. Candidates should be patient – develop a dialogue with various firms, so they are on the list of potential candidates.

I typically look for people with corporate finance experience and/or sector-specific operating, project development and/or engineering experience. Resources do not exist to provide formal training, so we need our hires to be able to hit-the-ground running. If an experienced operator is interested in transitioning from operations to an investing role, s/he should take at least one accounting class and one corporate finance class, so s/he is familiar with the various concepts and terminology that arise in day-to-day investment work.

EV: Good to know, thanks for taking the time Mr. Gold!

"While I'm here for my audit, could I interest you in some tax-free municipal bonds?"

Professor Gerard J. Lian – Senior Analyst - Municipal Bonds, Invesco



Gerard J. Lian

Gerard J. Lian entered the municipal bond profession in 1982 as an Associate Attorney with Wood & Dawson, a municipal bond law firm. He then decided to enter the financial side of the business by taking a position as Senior Municipal Bond Analyst with American Express, and later, became an Executive Director at Morgan Stanley Investment Management. In 2010, Mr. Lian joined Invesco where he presently works as Senior Analyst. He has served as an Adjunct Faculty member at the New York University MPA Program at Wagner School since 2009. Mr. Lian is a graduate cum laude of Drew University, holds a J.D. degree from Rutgers Law School, Camden, N.J. and a M.P.A. degree from the New York University Robert Wagner School of Public Service.

EVALUATION (EV): Professor Lian, to get us started, would you mind talking a bit about your *Topics in Municipal Finance* course at NYU Wagner? What are the major themes from that class?

Gerard Lian (GL): This is a team-taught course that Professor Jerrold Abrahams and I have been teaching for the past six years. The course is designed to equip graduate students with an in-depth understanding of the municipal bond market, combined with a practical understanding of credit analysis. We try to capture the excitement and real world relevance of municipal finance by approaching this discipline from multiple perspectives. We do most of the lecturing ourselves but also rely on prominent guest lecturers to address specialized subject matter. In general, we're striving to blend theory and practice. For example, we cover a wide-range of timely issues in municipal finance that have important *public policy significance* (ex. public sector pensions and health care costs). We also cover project finance (one of our lectures deals with projects in New York City including the Hudson Rail Yards and the World Trade Center rebuild) and public/private partnerships. There is a heavy emphasis on credit analysis throughout. Other topics covered include the fundamentals of municipal bonds and a history of the growth of U.S. public infrastructure, a favorite topic of mine; also an overview of municipal tax credits, municipal derivatives and alternative energy covered by Professor Jerrold Abrahams.

EV: Getting to your background, you started out as an attorney in municipal finance, but shortly thereafter got into the financial side at American Express – what originally attracted you to this business?

GL: There were two factors responsible for the cross over to municipal finance. First, as an undergraduate at Drew University, Dr. Robert Smith encouraged Political Science majors interested in municipal finance to pursue a combined degree in law and public administration. So I had a pre-conceived plan to acquire an MPA degree in Finance even before I entered law school. Secondly, as a practicing municipal bond attorney, you quickly recognize that the catalyst for municipal project development really resides on the financial side. That's what is driving the bus. This made pursuing an MPA degree in finance at NYU even more alluring.

EV: By the time you joined Dean Witter InterCapital (now Morgan Stanley) you were already a fairly seasoned analyst. What were some of the skills you focused on in the early years to develop a specialized expertise in analyzing municipal debt?

GL: I had the good fortune to be working as a municipal bond analyst at American Express after I left the Bond counsel firm. From 1984-1991, I was working as an analyst at AMEX and at night pursuing an MPA degree at NYU Wagner School. I had the benefits of both theory (acquired at school) and practice (on the job at AMEX). I would say there are five or six skill sets you want to develop in order to become a municipal bond analyst. The first is a strong understanding of *Fund Accounting.* This is a special category of GAAP accounting overseen by GASB. The second is a good grasp of *Basic Finance.* I'm talking about the simple stuff – present/future value, discounted cash flow analysis, annuities, and internal rate of return. You also want to get well acquainted with *Financial Statement Analysis*. A good crosscheck is to get the reading list of books from the Chartered Financial Analyst (CFA) Institute. The other three skill sets are: *Financial Modeling* – which was extremely beneficial when I was starting out, and is absolutely indispensible now. Then, if you're going down the path of municipal credit analysis you really need to get informed about *Sector-Specific Analytical Credit Criteria,* which are publications from the rating agencies that detail the various municipal bond types. Finally, there's no substitute for getting practice reading *Official Statements* and other disclosure documents to be able to quickly extract the information you need.

EV: Could you speak about what you look for when you're assessing the credit of municipalities? What are some of the more common risks you look out for?

GL: Let me begin by first discussing the factors that I look at. When you talk about municipal bonds, there's a great divide: on the one hand you have tax-supported debt, primarily comprised of General Obligation (GO) Bonds; on the other hand you have enterprise debt consisting of Revenue Bonds. Each category calls for a different approach and there are different factors you'll need to analyze.

With respect to tax-supported debt (GO Bonds), there are four categories of information you'll want to key in on. The first is the *Scope of the Legal Pledge*: what exactly is being promised to secure payment of the bond? As an example, this pledge recently came under intense scrutiny with respect to the City of Detroit. The Bankruptcy court drew a fine line between an unlimited pledge of the taxing power and a limited pledge. If you're given a *limited taxing pledge* you could be subordinated to the GO Bondholder with a *credit unlimited tax pledge*. Kroll Rating Agency put out a report stating that not all GO bonds are created equal, and this is entirely true, you have to discriminate. There's actually a third category that Detroit uncovered. That's where there's a dedicated revenue source that is sometimes combined with a GO pledge. That can be construed to create a lien on a revenue stream. If a lien is created, you're elevated to a secured creditor status under Chapter 9, so that's another thing to look at. That's the first category, and then there are three other analytical categories. With GOs you're always looking at the *Economic Base*. You want to have a good grasp of the whole demographic complexion of the area that's being financed. There, in the unbundled economic base, you're looking at things like population growth, employment rates, income levels – both per capita and median levels – education levels, and property values. Next, consider the *Fiscal Capacity* of the issuer. You want to identify the breadth and depth of taxes and other financial resources that are available to pay debt service. Sometimes you have, in addition to a property tax, a sales tax, an income tax and other governmental revenues. When you're talking about local GOs you're really talking, primarily, about ad valorem taxes, unless you're talking about bigger cities like New York, Chicago, or Philadelphia. There you will also get sales tax revenues and income tax revenues. Finally, the last category would be *Key Financial Metrics*. These are ratios that analysts drill down on. Examples include Net Direct Debt per Capita, Net Direct Debt to Full Value, General Fund Surplus Balance, and the Percent GF Surplus Balance to GF Expenditures. Finally, you have to take a careful look at the unfunded pension liabilities and other post-employment benefit (OPEB) costs.

With respect to Revenue Bonds, there are numerous categories, each of which carries a distinct set of analytical criteria. To cite a few examples, there are Public Power Bonds, Airport Bonds, Hospital Bonds, Toll Road Bonds, Single and Multifamily Housing Bonds, Higher Education Bonds and Resource Recovery Bonds. A common characteristic of all Revenue Bonds is that the basic pledge that secures payment of debt service is the revenue stream enjoyed by the underlying enterprise project. The revenue stream consists of user fees charged to individuals and businesses that consume the public service being rendered. At its core, credit analysis centers upon a rigorous consideration of the reliability and adequacy of the earning capacity of the enterprise project relative to expenses over the maturity of the bonds being offered.

Financial metrics used to analyze Revenue Bonds include: the ratio of net available revenue to annual accruing debt service known as the debt service coverage ratio; the ratio of net available revenue to maximum future annual debt service known as MADs coverage; liquidity measures that include current ratio and days cash on hand; and a balance sheet measure that depicts the ratio of long-term debt to total capital.

EV: Could you give us an example of a deal you looked at where the risks turned out to be greater than originally underwritten or assessed?

GL: A really good category for discussing a declining credit is the whole category of Tobacco Securitization Bonds. Tobacco securitized bonds represent a multi-billion dollar sector of the municipal bond market that was originally rated investment grade. We made a calculated bet: we did get involved starting sometime around 2004, after litigation risk subsided, knowing that there was a declining revenue stream that was dependent upon the level of Master Settlement Agreement (MSA) payments from Tobacco firms. These payments hinged on the level of cigarette consumption in the U.S. It didn't take a rocket scientist to determine, and no one disagreed, that smoking was diminishing over time. There was a pool of revenues captured from all 46 participating states, and each state earned a pro-rata share of that pool. States that wanted to monetize that revenue stream would step into the marketplace.

A critical variable that determined how that sector would perform, however, was the rate of consumption decline. The way the original deals were structured, there was an assumption that smoking levels in the U.S. would decline at an annual rate of about 1.8% per year. We didn't believe it would stay this low. We did think there was a window of opportunity because smoking wasn't going to terminate overnight. For an intermediate term play you could purchase these bonds, earn an attractive spread against the index, and still walk away pretty much unharmed if you disciplined yourself in two ways: first, you underweighted the index and didn't go into this sector too aggressively; secondly, that you limited your duration and didn't go out to the longest end of the maturity range. That's pretty much how we played that sector and we were able to sort of time the market pretty well. There has been erosion in demand brought about by smoking bans and workplace restrictions that limited where you could smoke, and this became increasingly regulated. U.S. cigarette shipments fell 9% in 2009 and 6.4% in 2010; declines that vastly exceeded the expected 1.8%. As a consequence, most of this sector, which had been rated investment grade, was slowly but surely downgraded to below investment grade, where it remains now.

EV: Could you walk us through a high profile Public Power Bond or Project Finance deal that you worked on while at Morgan Stanley (that went really well)? What was your investment thesis and how did things play out?

GL: As a general rule, most municipal bonds perform well due to the lower incidence of default risk that characterizes the municipal market but certain sectors tend to outperform. I would note that the lessons learned from recent Chapter 9 filings, particularly with Detroit and to a lesser extent with Stockton, is that the entire category of special revenue bonds fares a lot better in Chapter 9 than GO bonds that may not be construed to confer secured creditor status. Informed investors, in terms of their investment strategy, really place a lot of emphasis on investing in essential service bonds, such as public power, water and sewer, and toll roads that collect user fees. There is a special purpose entity that is set up to charge user fees to recover the cost of providing that service. Those essential services are often utilities that are granted an exclusive service franchise, coupled with the right to recover costs free from rate regulation. Consequently, these bonds tend to perform well under all economic cycles.

The lessons learned from recent Chapter 9 filings, particularly with Detroit and to a lesser extent with Stockton, is that the entire category of special revenue bonds fares a lot better in Chapter 9 than GO bonds that may not be construed to confer secured creditor status.

EV: With several troubled municipalities around the country, where do you think some of the most attractive investments are today? Is there currently strong demand for riskier or "high yield" municipal offerings?

GL: There is a case-by-case kind of approach to this. Let me just start off by saying that the demand for high yield paper is a strong characteristic of all fixed income markets and that the municipal market is certainly no exception. For the past several months municipal bonds as an asset class have had stellar performance. Investment in high yield muni paper makes sense if certain conditions exist. First, through experience and informed analysis, sector bets are strategically weighted to minimize unacceptable risk and maximize safer opportunities. Secondly, you need to deploy credit research to meaningfully differentiate acceptable credits within these favored sectors. The third thing is that you want to observe appropriate restrictions to promote diversification and limit exposure to any one name. Finally, you want to be earning a sufficient spread as compensation for increased risk. In adhering to this approach, sectors that I'm aware of that have been really value-oriented over the past five years or so are: CCRCs (Continuing Care Retirement Communities), hospitals, tax-exempt Corporate IDBs (Industrial Development Bonds)/PCR (Pollution Control Revenue) bonds and Project Finance.

EV: What about the risk-adjusted returns comparable to other asset classes?

GL: A good barometer of risk-adjusted, if you're crossing from one market to another (i.e. tax-exempt market to the taxable market), is the ratio of muni yield to treasury yield. Any time that the tax-exempt yield is equal to or even in certain instances exceeds the treasury yield, you're earning a premium. When this ratio is high, munis, categorically, are attractive. It holds for both high-grade and high-yield paper that on a risk-adjusted basis the incidence of default on the municipal side is dramatically lower than on the corporate side.

EV: I've read that New York City's Comptroller Scott Stringer is pushing to make NYC the nation's first major city to issue municipal bonds dedicated to financing environmentally friendly projects. Is this a trend we should expect to see over the next few years, especially with all of the post-Hurricane Sandy construction?

GL: It's a really worthwhile idea that merits exploring. A lot will hinge on carving out a reliable revenue stream to comfort investors that debt service will be paid. There's room for some creative financing I suspect. With some sort of a cross-subsidy provided this could be worked into a financeable program.

EV: What type of research are you currently working on, if any?

GL: What I am researching now is the importance of public infrastructure to economic growth. I'm studying that relationship a little more systematically. In my present-day course I kind of trace the history of some large infrastructure projects in the United States, the Erie Canal and the Brooklyn Bridge, for example. I think there's also a need to draw a relationship between investment in public infrastructure and job creation. I think that there's an incidental benefit of public infrastructure in that it will lead to job growth because you're promoting economic growth both for the public and private sector. Too often, when we think about public infrastructure, we're thinking about things that just benefit the public citizenry without realizing that it nourishes the economy as well. The whole network of highways that were built for this country and the railroads were often times subsidized at the state/local level by tax-exempt financing. There's a common reciprocal benefit that needs to be more explicitly recognized. There will be more attention paid to it and people will be more supportive as a result. That's where I'm headed in my research.

EV: Is there anything else important that we haven't touched on that you'd like to add?

GL: I would just offer up that municipal finance is on the cusp of entering a growth cycle. I think there's been a lot of deferred infrastructure investment that needs to be addressed. In the relatively short-term space of maybe 2-3 years, I think there's going to be resurgence in volume. There will be new and creative ways to approach infrastructure financing that will benefit the public and private sector. I think there's going to be a greater use of public/private partnerships that are properly structured: where you do still harness the advantage of tax-exempt financing, and don't rely on taxable financing as the first generation of public/private financing.

EV: Thanks for sitting down with us. We appreciate your detailed insights!

Any time that the tax-exempt yield is equal to or even in certain instances exceeds the treasury yield, you're earning a premium. When this ratio is high, munis, categorically, are attractive.

NYU Stern Students Win 2014 Cornell MBA Stock Pitch Challenge

EVALUATION would like to congratulate Owen Gilmore, Ziv Israel and Jerry Jiang for winning first place at Cornell's MBA Stock Pitch Challenge! On November 6-7th they spent two days at Cornell researching stocks, assembling presentations, and making their pitches as part of the MBA regional competition. They presented in front of a panel of judges that included investment professionals from Fidelity Investments, T. Rowe Price, American Century, and State Street. The students were judged on a number of factors including overall quality of pitch, choice of stock and investment process, presentation skills, and Q&A quality.

Above from left: Owen Gilmore, Ziv Israel, and Jerry Jiang

Their picks included the following:

Long Tiffany & Co. (TIF) – Owen Gilmore
Thesis: Tiffany's will benefit from growth in Asia-Pacific, further improvement of gross margins, and will remain a leader in jewelry product innovation, leading to strong pricing power for the brand.

Long LKQ Corp. (LKQ) – Ziv Israel
Thesis: LKQ, a replacement car parts manufacturer, has a strong position in the U.S. market and is experiencing rapid growth in Europe. This, combined with its technological and systematical competitive advantages, solidifies the quality of the business. The overreaction of the market to higher short-term costs provides an attractive opportunity for a long-term investor.

Long NXP Semiconductors (NXPI) – Jerry Jiang
Thesis: NXP will benefit from the smart banking card migration in the U.S. and China and the adoption of NFC technology in contact-less payment applications. In the long term, NXP is well positioned for the Internet of Things due to its strong expertise in security, connectivity and sensors.

The students faced competing teams from Carnegie-Mellon's Tepper School of Business, Columbia University's Graduate School of Business, Cornell University's Johnson School of Business, Dartmouth's Tuck School of Business, Duke's Fuqua School of Business, Northwestern University's Kellogg School of Business, UCLA's Anderson School of Management, UC Berkeley's Haas School of Business, the University of Chicago's Booth School of Business, UNC Chapel Hill's Kenan-Flagler Business School and the Wharton School of the University of Pennsylvania.

Student's contact info:
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Jerry Jiang – jerry.jiang@stern.nyu.edu

Student Investment Write Ups

Billy Duberstein *is a first-year MBA student at NYU Stern. Prior to Stern, Billy was a filmmaker, political researcher, and this past summer was an equity research intern at Resolve Capital in Los Angeles, a thematic long-short fund specializing in sustainable investing. He also co-manages his family's investment portfolio across equity, real estate, private equity, and other alternative asset classes. Billy has a B.A. in Music with a minor in English from University of Virginia. He can be reached at wzd201@stern.nyu.edu.*

Siddharth Dandekar *is a first-year MBA student at NYU Stern. Prior to Stern, Sid was an emerging markets investment banker, assisting large Indian corporates in raising debt capital. He has completed all three levels of the CFA examination and also manages his family's investment portfolio across equity, debt, real estate and other alternative asset classes. Sid has a M.S. in Industrial Engineering from Purdue University and a Bachelor's in Computer Science from the University of Mumbai, India. He can be reached at dds374@stern.nyu.edu.*

BUY RPX Corp. (RPXC) – *Misunderstood growth story at a reasonable price*

Current Price / Mkt Cap (12/12/14): $13.00 / $700M
Price Target: $19.50
Potential Upside: ~50%
Time Horizon: 2 years
Primary Valuation: Discounted Cash Flow, 2015 P/adj. FCF

Summary: RPX is doing business in a way that has never been done before, which seems to have scared investors off the scent; however, these fears are overblown and RPX's 2-sided network model is beginning to achieve a virtuous "network effect" that should allow it to increase prices in the future. Moreover, the company is unveiling a new type of insurance product that has big potential, which the market seems to be completely ignoring. Downside is limited, as RPX is a subscription business with 3-year contracts, over 90% retention, nearly half the company's market cap is in cash, and at a 17.1x trailing P/E and 15.4x forward P/E (per our estimates of 2014Q4 earnings), the most pessimistic scenario is likely baked in. We believe RPX currently trades at a valuation more appropriate for a mature, low-growth company. This is due to a number of fears, which include: 1) the size/volatility risk of being a small-cap with a new business model; 2) slowing revenue growth; 3) broader risks to RPX's business due to fear of patent reform. We will seek to dispel these concerns and also show why there is potential revenue growth re-acceleration in the cards.

Company Overview: RPX collects subscription revenue from clients, then goes out into the patent market and buys up potentially threatening patents before they can be sold to an NPE ("Non-Practicing Entity" or "Patent Trolls"). Essentially RPX is "pooling" resources of major tech companies to gain leverage on the patent trolls. RPX was founded in 2008 by John Amster, previously VP of Strategic Acquisitions at Intellectual Ventures, as a market-based solution to the growing problem of NPE litigation. RPX was funded by Kleiner Perkins and other heavy-hitters in Silicon Valley and counts the most powerful tech companies in the world as its clients (Google, Microsoft, etc.). RPX is also launching a new insurance product for patent risk, expanding its TAM, and also does higher-value, ad-hoc deals for clients. Last year, tech companies spent almost $13 billion on patent litigation, almost half of which were legal costs that RPX believes it can take out of this inefficient system. RPX's year-end revenues are projected to be about $260 million with net income of roughly $42 million. RPX's current average useful life for its patent portfolio is roughly 47 months, or about four years.

Thesis #1: Size / Age Risk is unwarranted due to subscription model and cash hoard. RPX IPO'd in 2011 and is the only business really doing what they do (which we view as a positive). Their business runs on 3-year subscriptions and RPX has demonstrated a retention rate over 90% while steadily increasing the number of subscribers every year. This, to us, means RPX's value is being demonstrated to customers and that there is little risk of large drops in revenue, especially as RPX grows and diversifies its customer base into different tech verticals. Moreover, RPX has over $300M in cash and no debt (on a market cap of $708M). While RPX is aiming for just $135M in patent spend this year, the company is justifying its cash hoard as an advertisement to patent owners that they are open for business and also perhaps to make large-impact deals to increase their rate card (more on that later).

Thesis #2: Fears of slowing / maturation overblown. RPX's growth has decelerated this year to roughly 10% as opposed to 28% and 20% in 2012 and 2013 respectively; however, the "lull" this year is largely due to a particular group of client companies in the mobile sector experiencing decreased profitability and M&A. Many of these companies' contracts were up for renewal at once and their subscription fees went down, as RPX's fees are tied either to revenue or profitability of the client company. This caused the first ever decrease in sequential subscription revenue in Q3 2014, however this is largely behind the company. RPX's total number of clients has steadily increased to roughly 190 since inception (RPX estimates that the total universe of companies that may be appropriate for core subscriptions is roughly 500). Unless you believe the overall profitability of the entire tech sector will decrease in the future, there's no reason to worry. Facebook didn't exist 10 years ago and the number of patents issued in the U.S. has doubled in the last 10 years. Current consensus is also completely ignoring the potential of the new insurance product, which only this year was granted Lloyd's A-rated cover-holder status, and RPX has yet to scale this new product (it has under 50 insurance clients currently, though it could be thousands). Moreover, management has intimated that a core subscription price increase is likely.

Thesis #3: Patent legislation that would "fix" the NPE problem is unlikely. The likelihood of significant patent reform severely curtailing the NPE business is low. Patent suits are down ~20% this year, yet this is still equivalent to 2012 levels, which were up significantly from the mid-2000s, when RPX was launched. Moreover, management believes that recent rulings against "low-quality" software patents affects less than 3% of all the suits in which RPX is involved. In speaking with an experienced patent lawyer who writes a well-followed blog on patent reform, he said that NPEs are sophisticated players, it is still a high-margin business, and NPEs should be a viable threat to tech companies going forward. Moreover, it is difficult to legislate in a way that would curtail NPE litigation without damaging the legitimate patent rights, which are the bedrock of U.S. law. Finally, there are well-funded players on the other side of the argument (pharmaceutical industry, universities) and patent reform is unlikely to draw a lot of voters. If there are two things Republicans like, they are 1) not passing legislation and 2) market-based solutions (like RPX).

Valuation: In our DCF model, we assume decelerating growth through 2020, 2% terminal growth and a WACC of 10.32% (includes 100 bps illiquidity premium). We estimate RPX to sign up two fewer clients annually going forward (vs. 19 this year), average subscription fee to decrease by 1% every year (due to new clients being smaller than current clients, but also conservative, given likely rate hike), and only $3M incremental annual revenue from new insurance clients. Significantly, we also did not add back stock-based compensation to cash flows (which would have added another $3.88/share to our price target) as we believe this to be an ongoing expense. Consequently, our DCF fair value estimate of $19.49 is 50% above the current price of $13.01. Applying RPX's current P/FCF (adj. for stock-based comp) multiple of 18x (which is well below the 27x FCF multiple enjoyed by its patent & technology licensing peers) to our

DCF							
For the Fiscal Period Ending	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Revenue	259.9	283.5	304.1	322.0	337.1	349.6	359.6
EBITDA	187.2	204.2	219.1	231.9	242.8	251.9	259.0
EBITDA margin %	*72.0%*	*72.0%*	*72.0%*	*72.0%*	*72.0%*	*72.0%*	*72.0%*
EBIT	72.0	75.0	72.5	78.9	93.8	100.3	102.7
EBIT * (1-t)	45.4	47.2	45.7	49.7	59.1	63.2	64.7
Plus: D&A	118.4	133.0	151.1	158.4	155.2	158.6	164.2
Plus: Other Non-cash items	14.5	15.9	17.0	18.0	18.9	19.6	20.1
Less: Increase / Decrease in NCA	(13.2)	(8.2)	(6.9)	(5.6)	(4.3)	(3.1)	(1.9)
Less: Capital Expenditure	137.0	134.8	143.1	150.0	155.5	159.6	162.3
FCFF	54.4	69.5	77.5	81.7	82.0	84.8	88.6
FCFF % of sales	21%	25%	25%	25%	24%	24%	25%
FCFF-share based expense	39.9	53.7	60.5	63.7	63.2	65.3	68.5

2015E adj. FCF, we get a price of $17.50 (35% upside). While our base case price target implies a LTM P/E of 23.6x, assuming flat revenue and decreasing operating margins, and applying the current 15.4x forward P/E multiple to our 2015E EPS, gives us a bear case valuation of $11.19 (14% downside).

DCF Valuation		w dilution
Weighted average cost of capital:	10.32%	10.32%
Net present value of free cash flow	$344	$266
Terminal growth rate	2.0%	2.0%
Terminal value	$1,086	$840
Present value of the terminal value	$603	$466
Enterprise value	**$947**	**$732**
Less: Net Debt / (Add: Net Cash)	($345)	($345)
Equity value	**$1,292**	**$1,078**
Diluted shares:	55.0	55.3
Price Target	**$23.49**	**$19.49**
Current share price (as of 11/14/2014):	**$13.01**	**$13.01**
Potential upside	*81%*	***50%***

Key Catalysts

Catalyst #1: RPX still has room to grow its core business and increase its rates. At 10% of the patent market currently, RPX has an unmatched data advantage that it is currently giving away for free to its clients. It has helped negotiate roughly 20% of their clients' litigation expense with annual fees materially lower than that figure. We believe there will come a point where RPX dramatically increases its rate card and can then buy up a large portion of the overall patent market, solidifying their status as the clearing house through which companies clear *all* patent risk.

Catalyst #2 Insurance takes off: While RPX has less than 50 current insurance clients, the company estimates that the potential market could be *thousands* of clients. Moreover, as it stands, RPX is planning on only taking 30% of the risk and reinsuring the rest (to three different willing reinsurance partners, which should give an indication about the viability of the product). Since RPX has an unmatched data advantage and can preemptively buy potential threatening patents before they can "strike," RPX may take on a larger portion of the risk (and therefore larger profits), over time.

Prior to attending Stern, Raphael spent four years at Societe Generale, HSBC and Allianz, specializing on asset-liability management, financial controlling and internal investment. He most recently interned with VMware focusing on financial investments. Raphael graduated in 2009 from ISG Business School in Paris with a Master in Management and a focus in Finance. He passed the three levels of the CFA Curriculum. Raphael can be reached at raphael.charbit@stern.nyu.edu.

Raphael Charbit

BUY LVMH (MC: FP) – *Trading at a 26% discount to a SOTP Valuation*

Current Price / Mkt Cap (12/17/14): EUR125.85 / EUR 64B
Time Horizon: 1 year
Price Target: EUR 170
Potential Upside: ~35%
Primary Valuation: Sum-of-the-parts and DCF
Summary: The leader in an attractive luxury industry is trading at a meaningful discount of 26%, with significant catalysts to assist in repricing of the stock.

<u>A Successful and Complex Company:</u>

- LVMH is a public company that owns a portfolio of 60 "Maisons", or brands. Some of those brands have existed for several centuries. LVMH has five divisions: Leather and Fashion (51% of operating income), Wines and Spirits (22%), Perfumes and Cosmetics (7%), Selective Retailing (15%), and Watches and Jewelry (6%). In addition LVMH has many "hidden" assets, such as the 23.2% of Hermes shares that it owned and distributed on December 17, 2014. To illustrate this example, the market didn't factor in the value of Hermes shares until the distribution was actually announced, and the stock went up by 1.9% above the index, 1.4% on the day of the distribution and 2.8% in between, while the market went down by 6.1% during this period. Another hidden asset is its ownership interest (80%) in Marc Jacobs. Though it is difficult to determine precisely, it could be valued at as much as 4 billion euros (8 euros/share). The flotation will probably release value to LVMH's shareholders, in the same way that the Hermes distribution did.

- Over the last 20 years, LVMH has experienced revenue growth at a 12% CAGR. Over the past 10 years its EBITDA margin has ranged from 21% to 28%. During each crisis, LVMH has been able to increase its market share due to the appeal of classic brands during crisis and the responsiveness of management to seize opportunities.

- The CEO of the company, Bernard Arnaud, together with his family, controls 48% of LVMH shares and 64% of the voting rights. However, the CEO has always been shareholder friendly – the Hermes distribution and a consistent increase of the dividend over time (went from 0.95 Euro to 3.10 Euro over the last 10 years, or a CAGR of 14%) are two strong examples. Bernard Arnault also has strong incentives to be shareholder friendly, including preserving his ability to acquire new businesses through exchange of shares like he did with the Bulgari family in 2011 (luxury companies have tax bases close to zero so as an acquirer it is beneficial to have stock to offer as opposed to cash).

- Due to its complexity, many sell side analysts do not fully appreciate the underlying value across all of LVMH. For example, some consider that it is an underperforming company because its ROE is lower than that of Prada or Hermes without considering the amount of equity invested or investigating the cause such as the consolidation methods.

Opportunity:
LVMH (revenue TTM EUR29.5B, EV/EBIT TTM 13.2x, enterprise value EUR 77.8B) is an excellent company and the leader in an appealing industry. It is currently trading at an attractive price. LVMH is able to generate considerable free cash flows while fueling strong growth. LVMH's "maisons" comprise many successful businesses including Louis Vuitton – the biggest cash generator among Fashion brands.

Valuation:
Sum-of-the-parts: LVMH is expected to deliver higher growth than its peers but is trading at a 26% discount comparatively. To prepare the sum of the parts, I used multiple peers specific to each business and I adjusted the multiple based on characteristics of those companies (including growth, margins, and risk) versus the ones of LVMH's businesses (using linear regressions among other tools).

	EBIT	Multiple	EV
Wines and Spirits	1370	18	24660
Fashion and Leather Goods	3140	18	56520
Perfumes and Cosmetics	414	18	7452
Watches and Jewelry	375	12	4500
Selective Retailing	901	16	14416
Other and Holding Companies	-177	15	-2655
Corporate and Other	-2	15	-30

= Total Operation	104,863
- Debt	8,877
+ Cash	2,407
= Value of the group equity	98,393
% of operating asset to the minority investors	13.17%
- Minority interests	12,956
+ Non-operating assets	-
= Value of equity to LVMH equity owmners	85,437
- Value of options	217
= Value of equity in common stock	85,220
/ Number of shares	500
= Estimated value /share	170.34
Price	125.85
Premium / Discount	-26.12%

Historical ratios: Excluding the 2008/2009 period, LVMH's ratios (EV/EBITDA, EV/EBIT, and P/E) are at relative lows (Today: EV/EBITDA 11x, EV/EBIT 13x, and P/E 19x, while the average over the last 15 years was: EV/EBITDA 13x, EV/EBIT 17x, and P/E 30x).

DCF: Using the luxury market size from Bain, BCG and BNPP through 2020, growth equal to euro inflation after 2024, a small drop in market share, a drop in the ROIC over time and a slight increase in the cost of capital, the value per share after the Hermes distribution would be 224.34 euros, implying a 44% discount.

Overall, I have a price target of 170 euros in one year. The art collection and the effects of the probable flotation of Marc Jacobs are not factored in the price target to stay on the conservative side.

Relevant questions raised:

Has LVMH always traded at a discount relative to its peers?
No, this is new. 10 years ago, it was trading at a premium of 33% over a basket of six comparable stocks. Today it is trading at a discount of 25%. There is no valid reason for this change in perception by the market: analysts expected LVMH to grow organically at a faster rate than the market and to deliver a higher free cash flow per share while supporting lower risks than its peers.

Is the discount due to the fact that the CEO has a strong control over the company?
No, the control is the same today as it was 10 years ago. Moreover, many companies in this sector are family-controlled. In fact, the size and the visibility of LVMH give me more comfort regarding the

governance. Finally, LVMH has a history of shareholder friendly actions (mostly raising dividends) and the incentive to be friendly is more important today.

Why is the ROIC of LVMH lower than many peers (15% vs. peer average of 19%)? Isn't this a sign of an inferior company?

The headline ROIC of LVMH (12%) has often been computed by simply adding the equity, the debt, and subtracting the cash, but without subtracting the fair value of Hermes shares that is not an operating asset and therefore brings in no operating income – Hermes shares are accounted as AFS and therefore impact the equity.

A lower ROIC does not mean that LVMH is inferior. Firstly, LVMH has deployed the most capital (27 billion euros) in this sector with a ROIC of 15%, well above the cost of capital. Secondly, a large part of the accounting assets come from acquisitions: goodwill and intangibles account for 21 billion euros – the average CROIC of all the LVMH's businesses – a better base to compare - is 70% which is more than almost any company in the sector.

So what is the market missing?

- The market focuses on Louis Vuitton and probably does not like the complexity of LVMH.
- The Wines and Spirits division is overlooked while LVMH controls almost 20% of the land of Champagne through ownership and long-term contracts and while LVMH possesses, among other things, 216 million bottles of premium wines and champagne aging.
- The ROIC is poorly computed and poorly understood.
- The possible flotation of Marc Jacobs and the value of the art collection are ignored.

Catalysts:

- The Hermes distribution is an excellent catalyst: it releases value to the investor while LVMH is undervalued, it simplifies the company, and it will also improve the headline ROIC.
- LVMH is also preparing the flotation of Marc Jacobs shares. While there is no date set, it may happen within the next year. The effect would be to release value to shareholders from the discounted LVMH. Considering the market appetite for Michael Kors and the strong growth of Marc Jacobs, the timing may add additional value to LVMH shareholders. Finally, the remaining brands of LVMH will be more focused towards "real" luxury and the market may reward this refocusing.

Troy Green *is a second year MBA at NYU stern. This past summer Troy worked at Claar Advisors LLC, a long/short value+catalyst, event driven hedge fund. Prior to Stern, he founded Green Oak Investments a long/short equity fund. Troy managed the portfolio of Green Oak for 6 years earning an average annual return of 24%. He holds a BS in Electrical Engineering from Virginia Tech, and he can be reached at troy.green@stern.nyu.edu.*

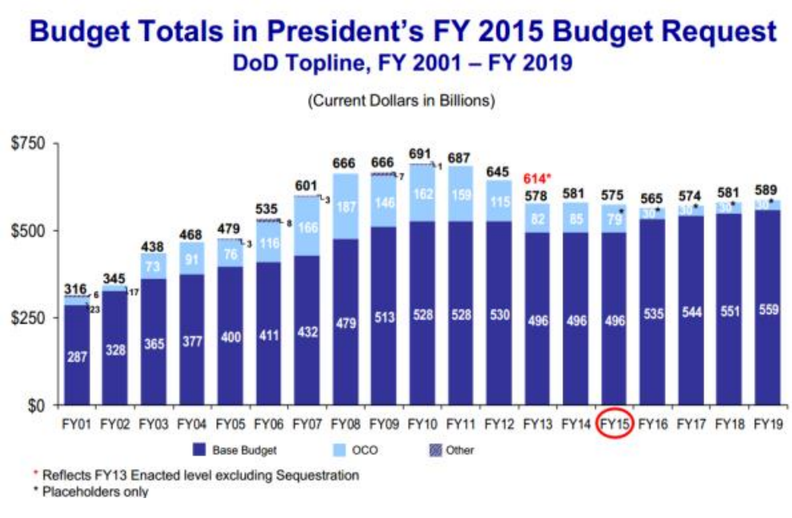
Troy Green

SELL Alliant Techsystems (NYSE: ATK) – *Business Decline + Merger Short*

Current Price / Mkt Cap (12/05/14): $110.78 / $3.5B
Price Target: $83-$95
Potential Upside: 17% - 33%
Time Horizon: 6 months
Primary Valuation: EV/EBITDA, Sum-of-the-Parts
Summary: I recommend a sell or short on ATK given the current market valuation. Considering the cyclical decline of the sporting and defense business segments, which make up over 70% of revenues and of EBIT, the future risk/reward does not warrant making an investment within the next 6 months, and there are several catalysts to further support a precipitous decline.

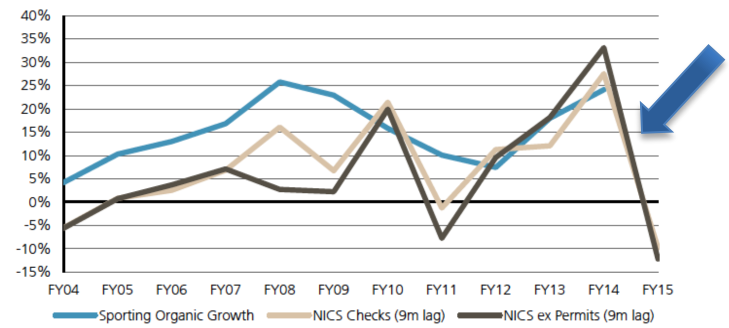
Overview: ATK was formed from the spin-off of three Honeywell businesses in 1990. The business operates in 3 segments. The aerospace division develops rocket motor systems for launch vehicles, satellites, military defense, and other applications. They also produce composite frames for Airbus and other wide body jetliners. The Defense segment develops military ammunition, gun systems, and rocket motors. The Sporting segment produces ammunition, weapons, and accessories for commercial use. ATK's largest customers include NASA, Boeing, and Lockheed Martin. Revenues are split 47% in commercial and foreign customers, and 53% from US Government customers. Revenues and EBIT are split between segments by: Sporting (40%/45%), Defense (33%/28%), and Aerospace (24%/24%).

Thesis #1: A return to non-war defense spending and lower margins. 53% of the business is concentrated on government contracts. This poses a very high correlation to the US defense spending budget. The chart shows US Defense spending trends for the past 13 years. For FY15 and beyond, the DOD has downward adjusted its budget projections towards a non-war, normalcy level. Recent (FY2015Q2) results show 3.4% growth, and -8.6% profit loss (10.3% EBIT margin). Next, I trust in my model. In projecting FY2016 forward, I have maintained the lower margin, and held top line revenue projections to grow at 3%, which is also aligned with the FYDP's projections for DOD spending growth.



Thesis #2: An imminent cyclical downturn in the sporting/ammunition business. As stated above, the sporting business represents 40% of revenues and 45% of EBIT. The NICS background checks chart shown in Figure 1 is the most reliable indicator of future demand for arms and ammunition. Figure 1 shows the peak in organic growth in March 2014, and leading indicators of an imminent downside. Although some decorative financial engineering will spin-off this business in a 100% tax-free distribution to shareholders by 2Q-CY2015, the cyclical high was reached a year ago, and all the leading indicators (and actual results) demonstrate that we are in the early stages of a downturn. Without precise clarity on the peak to trough of this imminent downward cycle, why would one invest into a company speeding down a slippery slope?

Figure 1: ATK Sporting Organic Growth vs NICS Checks with 9-month lag (Annual)



Source: Company Filings, FBI, NSSF and UBS estimates

Thesis #3: Deal or no Deal: Lack of near-term convincing upside in ATK-ORB merger. Since the merger was announced on April 29, 2014, shares of ATK traded upwards of $156, but settled around the $130's. After the ORB space ship explosion on 10/28/14, shares have dropped to its levels of 11/2013. This market seems to have discounted the future growth prospects of the company, or removed this merger deal as a possibility. I believe that the merger will finalize, but the proposed ~$300M in merger synergies will take a longer timeframe to materialize (2018 vs. est. 2016), and discounting will continue to reflect this reality. To back up my thesis with data, I have broken out detailed forward estimates into a SOTP sensitivity table based on a broad set of comps.

Valuation w/ Merger

		Sporting				
		5.5x	6.0x	7.0x	8.0x	9.0x
ATK/ORB	6.0x	$79.54	$84.25	$93.67	$103.09	$112.51
	7.0x	$89.79	$94.50	$103.92	$113.34	$122.76
	8.0x	$100.04	$104.75	$114.17	$123.59	$133.01
	9.0x	$110.29	$115.00	$124.42	$133.84	$143.26
	10.0x	$120.54	$125.25	$134.67	$144.09	$153.51

		Sporting				
		5.5x	6.0x	7.0x	8.0x	9.0x
ATK/ORB	6.0x	-30%	-26%	-17%	-9%	-1%
	7.0x	-21%	-17%	-8%	0%	8%
	8.0x	-12%	-8%	1%	9%	17%
	9.0x	-3%	1%	10%	18%	26%
	10.0x	6%	10%	19%	27%	35%

Highest probability scenarios

Valuation: Although I think ATK and ORB both have very good businesses with long-term growth potential, I think that my points above clarify the very near-term catalyst for the industry in the next 6-12 months that will trigger a drop in the share price. Based on my estimates, with and without a merger, I value shares between $80-$124, which is a risk/reward of (38%)/12%. Due to recent headwinds with the space ship explosion and other macro/micro factors stated previously, my estimate for a merged company of $620M CY2015 EBITDA is near the lower end of the streets

Division	Mean Multiple	# of Comps
Sporting	6.4x	8
Defense	8.2x	8
Aerospace	8.3x	10

projections. Overall, I understand the long-term benefits of the ATK-ORB merger, but in doing my analysis I found my short thesis overwhelmingly compelling. I find that I would rather pick up a knife on the floor than catch it while it's falling.

Investment Risks:

- A sudden and unforeseen increase in DOD spending for war or increased terrorist activity could catalyze ATK's defense segments revenues to increase dramatically.
- A quick rebound in ammunition consumption combined with market share gains in the sporting business
- No further market response to declining sporting & defense segments

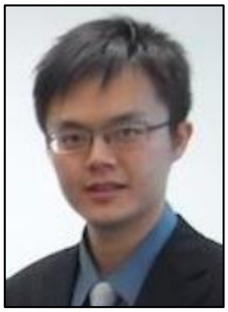
Hard Short Catalysts

- **The realization of negative leading indicators** from the expected lagging data of consumer ammo consumption and firearm usage
- **Future bad quarterly performance**. Sporting and Defense segments make up over 70% of revenues and EBIT, and a deeper decline in either of these already declining industries will drive down ATK's valuation
- **A slowdown in NASA spending and international growth.** NASA spending has declined as a % of the federal budget consistently since 1991, and 5 yr. forward projections show flat 0%-1% growth
- **Macro: 53% of revenues concentrated on a tapering US Gov. spending budget.** Future announcements of government defense spending cuts could catalyze price drops
- **Future launch failures** from ORB, or negative news concerning a slowdown in new or existing contracts

Forward Revenue/EBIT drivers

These estimates show my projections and drivers for revenue and EBITDA, and this is where I differ from the street consensus. I also utilized these estimates in my SOTP valuation. I show a 6% drop in the sporting segment due to the points articulated above, and optimistically rebounding back to the 5% average CAGR by 2017. In addition, I have margins shrinking to 13% because competitors have started price-cutting and reducing inventory levels via sales. Although Bushnell and other legacy brands maintain a strong market share, ultimately their products are commodities, so there will be margin pressure in future years. I projected aerospace to be the strongest division due to international growth, and the strong clarity in future earnings due to continuing contracts with Boeing, and other internationals. I held defense growth at a modest 3% with margins decreasing 30 bps then ramping back up to 10.5%.

Sporting	FY2014	FY2015	FY2016	FY2017	% CAGR
Sales	$1,862	$2,048	$1,925	$2,022	(0.7%)
% growth	*57%*	*10%*	*-6%*	*5%*	
EBIT	270	277	254	273	
Margin	*14.5%*	*13.5%*	*13.2%*	*13.5%*	
D&A	58	63	60	63	
EBITDA	328	340	314	336	
Net Debt	$ (350.00)				
Aerospace					
Sales	$1,277	$1,328	$1,382	$1,437	4.0%
% growth	*1%*	*4%*	*4%*	*4%*	
EBIT	142	157	160	167	
Margin	*11.1%*	*11.9%*	*11.6%*	*11.6%*	
D&A	45	46	48	50	
EBITDA	187	204	209	217	
Net Debt (Aerospace & Defense)	$(1,698.80)				
Defense					
Sales	$1,951	$1,990	$2,050	$2,111	3.0%
% growth	*-8%*	*2%*	*3%*	*3%*	
EBIT	211	209	211	222	
Margin	*10.8%*	*10.5%*	*10.3%*	*10.5%*	
D&A	23	24	25	25	
EBITDA	234	233	236	247	
Net Debt					
Totals					
Sales	**$5,090**	**$5,367**	**$5,356**	**$5,569**	
EBIT	**622**	**643**	**626**	**661**	
D&A	125.8	133.9	132.6	138.3	
EBITDA	748.3	776.7	758.1	799.5	



Owens Huang *received his B.Sc. in Chemistry from National Taiwan University in 2006. Prior to attending Stern, Owens worked as an investment commissioner at Taiwan Insurance Guaranty Fund, managing the $10 billion portfolio of an insolvent life insurance company. While at Stern, he won the Fortress Challenge, a national portfolio management competition sponsored by Fortress Investment Group. He generated an alpha of 20% and Sharpe ratio of 2.5% over the six-month period, investing in U.S. stocks with a long-short strategy. Owens can be reached at owens.huang@stern.nyu.edu.*

Owens Huang

Macro Trade Idea:
Indian Rupee – *It's Time to Reverse, Time to Carry Trade*

The Rupee has depreciated for 67 years, from $1 to Rs 1 in 1947 to the peak $1 to Rs 68.8 on August 2013, and now is $1 to Rs 63.6. However, I believe that the trend line has hit its inflection point. Once the Rupee has established a trading range, the carry trade would be very attractive as the yield is more than 8%. Thus, I am going to discuss the three major factors of Rupee performance:

1. Current account deficit
2. Government deficit
3. Inflation rate

Current Account Deficit:

India's current account deficit narrowed to a fresh four-year low as gold imports cooled down. The current account deficit was $7.8 billion, 1.7% on Q2 FY2014, and increased to $10.1 billion, 2.1% on Q3. The total current account deficit in FY2013 was $88.2bn, 4.8% of GDP. This deficit was driven by several factors, but gold imports played an important role, at $53.8bn around 10.5% of total imports. This extreme phenomenon rose from the Indian preference on gold for wealth preservation, compared to bank deposits or insurance. Most people in India think gold is the best inflation hedge available. To restrict this unhealthy gold addiction, the Government launched several measures to limit gold imports. For example, the import duty on gold jewelry was raised to 15% from 10%.

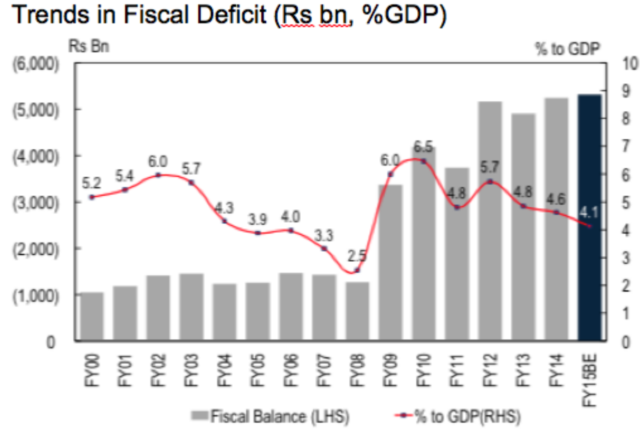
Current Account Deficit (US$bn)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15E	FY16E
a.Trade Balance	-119.5	-118.2	-130.6	-189.8	-195.7	-147.6	-144.1	-146.2
Exports	189.0	182.4	250.5	309.8	306.6	318.6	336.1	358.0
Imports	308.5	300.6	381.1	499.5	502.2	466.2	480.2	504.2
Of which : Gold	20.7	28.6	40.5	56.2	53.8	28.9	30.0	32.0
Oil	93.7	87.1	106.0	155.0	164.0	165.2	143.9	129.4
Non-oil Non-gold	189.3	172.6	223.3	278.1	272.9	256.0	286.8	321.2
b. Invisibles	91.6	80.0	84.6	111.6	107.5	115.2	110.8	116.3
Services	53.9	36.0	48.8	64.1	64.9	73.0	72.6	78.4
Transfers	44.8	52.0	53.1	63.5	64.0	65.3	66.2	67.9
Investment Income	-7.1	-8.0	-17.3	-16.0	-21.5	-23.0	-28.0	-30.0
1. Current Account (a+b)	-27.9	-38.2	-45.9	-78.2	-88.2	-32.4	-33.2	-30.0
% GDP	-2.3	-2.8	-2.7	-4.2	-4.8	-1.7	-1.6	-1.3

Source: RBI. Citi

I expect India will henceforth import less gold, in terms of percentage of GDP. Followed by cheaper global oil and commodity prices, the difficulties with the current account deficit are cooling down. Thus, the current account deficit will lower to 2%, a number in line with Bloomberg consensus.

Trends in Fiscal Deficit (Rs bn, %GDP)



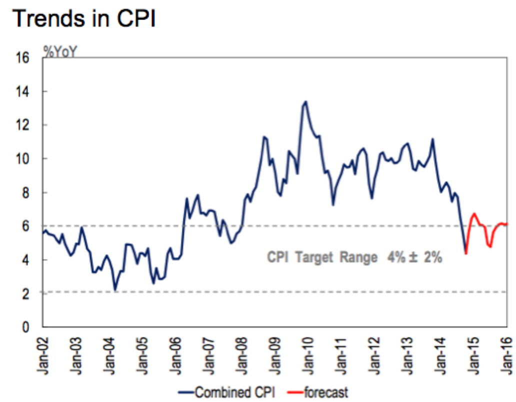
Source: Budge Documents, Citi

Fiscal Deficit:

The Government of India expects the budget deficit to decrease to 4.1% in FY 2015. I believe the Modi government is able to achieve this goal, as the new government would lower both interest payments and subsidies for food, fuel and fertilizer as inflation declines. Interest payments account for 3.4% of GDP in FY 2014 and subsidies account for 2.3% of GDP. As inflation decreases, all these burdens will decline as well. Moreover, the Government plans to divest many state-own companies and projects. The Ministry of Finance even has a Department of Disinvestment[1] to execute the process. This certainly will rebuild the government budget to a healthier position.

Inflation:

The worst of inflation has passed. Based on the forecast of the Reserve Bank of India, inflation will go down sharply to 8% in the second half of 2014, compared to 10% in 2013. Due to the cheaper global oil price, I believe the inflation will go even lower. Historically, the wholesale price index (WPI) has been the central measure of inflation in India. However, the RBI announced in 2013 that they would start to use the consumer price index (CPI). This change will make the inflation index less volatile.



Source: CSO Citi

The composition of CPI includes 34% for Food, mostly cereals and products. I checked the grain stocks with the Food Corporation of India (FCI): the numbers show that current rice and wheat inventory are at 55mn tons: the record high is close to 60mn tons (2013). The inflation rate during last summer was 7.96%, and remained at higher levels due to a steep rise in vegetable prices. However, this problem is dissipating due to the late rainfall in August. With the disappearance of drought as a concern, I believe the food inflation problems have been cooling down.

CPI Composition

Group/SubGroup	
Cereals	7.4%
Milk	5.3%
Edible oils and fats	3.0%
Egg, fish and meat	1.8%
Vegetables	3.4%
Fruits	2.4%
Prepared Meals	3.1%
Others	7.3%
Food Total	33.7%
Fuel and light	7.9%
Clothing, footwear	3.5%
Housing	27.0%
Miscellaneous	27.8%

Source: Government of India Ministry of Statistics and Programme Implementation Central Statistics Office

Conclusion:

As the price of oil is trading lower, India will be the biggest winner. $10/bbl decline in Brent oil price will increase India GDP growth by 0.2% and decrease inflation rate by 0.4%. Moreover, current account deficit would decline 0.4% and fiscal deficit 0.2%.[2]

The trend of Rupee depreciation is reversing due to lower budget and current account deficits, coupled with lower inflation. The Modi government is expected to reaccelerate India's economy with a business-orientated management; lower oil price would be a great catalyst in near term. In the coming years, buying the Rupee and selling the Japanese Yen or Euro will be one of the most popular carry trades.

Names	Last Close	YTD
India Sovereign - 3M	8.30%	-0.69
India Sovereign - 6M	8.42%	-0.5
India Sovereign - 12M	8.35%	-0.42
India Sovereign - 5Y	8.15%	-1.04
India Sovereign - 10Y	8.15%	-1.42

Source: Bloomberg

1 http://www.divest.nic.in
2 Source: Goldman Sachs

EVALUATION – GET INVOLVED!

This is just the third issue of EVALUATION, but going forward we aim to grow and cultivate the publication, with a goal of putting out one newsletter per academic semester. Our mission is two-fold, (1) to broadly spread awareness of research and investing to interested parties and (2) to foster a greater connection between NYU students and alumni in the investment community. On that front, if you would like to get involved, or provide us with feedback, please don't hesitate to reach out. In addition, if you would like to be added to our newsletter e-distribution list going forward, please send us your contact information. Thanks for reading!

Visit our student club affiliation, Stern Investment Management & Research Society, on the web:
http://nyustern.campusgroups.com/simr/home/

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Stern Investment Management & Research Society (SIMR) Alumni

Fall 2014 Editors

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