12.21.17

Tom: Good afternoon everyone. Welcome to another Sevens Report Alpha webinar. We're very excited to have our guest on today. He is Wes Gray, who is Founder and CEO of Alpha Architect. He's going to give us really interesting insight into the quantitative side of investing; specifically, what factors help to make sustainable and profitable investors over the long term. I think there's going to be a ton of value in today's session. Wes, thank you for coming on and giving us the time.

Wes: Tom, I appreciate it. I look forward to the discussion.

Tom: As everybody knows, I like to get right to the meat of these things. We'll go ahead and go through our regular disclaimer slide and then go through our goals of the webinar. Of course, we always start with "What Do You Think about Markets?" That's my macro-monologue. Clearly there have been some things that have developed from two weeks ago on the positive side of things that I want to cover. At the end of the day, the core question facing this market in the near term remains, what next? The market is always about "what have you done for me lately?" Sure, tax cuts have been welcome by the market, but that's behind us now. The question we need to be focusing on is, "What's next?" Then we're going to welcome Wes in and have a conversation about his investing philosophy, what's made him successful, and what he has statistically found to be the core attributes we need to be successful investors over the longer term. I'm very excited about that.

Moving forward, let's start with my macro-monologue. As always, it's "what do you think about markets?" As I said in our intro, "what's next?" That's the number one question I'm looking at; that's the number one question a lot of people in my position are looking at. What is the next thing that can propel stocks higher now that tax cuts, which have underpinned a lot of moves so far this year, are behind us? There are a couple of candidates, none nearly as compelling or exciting as tax cuts. While everybody has been focused on tax cuts, very quietly we have seen real modest improvement in the underlying economy and in some metrics that we've been paying attention to.

Economic data has been strong. We saw it again today. Philly Fed was a blowout number. Another strong number, the housing numbers, have been very good this week. There are statistics that show that this economy is potentially starting to accelerate. We're seeing that potentially reflected in bond yields. The 10-year yield, as I speak, is sitting just under 2.5%; it's at a 9-month high. That's happened in the last 10 days. The 10s-2s spread, which you know we've been focused on very intensely, is showing some signs of life. As you saw from the chart I put in the report this morning, we've still got a long way to go before we can declare the 2017 downtrend over, but at least we're off the bottom. At least we're backing away from that 50 basis point spread that is concerning from a medium-term standpoint. We're going to need more. Honestly, we're going to need more. There's going to have to be an additional uptick in economic activity. In reality, we've got to get inflation moving higher to create this full-on reflation that can take us materially higher into 2018.

So what's the macro playbook? It's the same. Stay the course. The big question we need to be focused on right now, and I'll be talking about it in the report tomorrow and especially a lot more next week, is do we rotate? Is it finally time to rotate out of what's worked for all of 2017 -- tech, healthcare, defensive sectors -- and into that reflation basket we've been talking about: cyclical value, inverse bond funds? It looks like we're going to finally get that 10-year to close above 2.40% on a weekly basis. It'll take something big tomorrow to make that not happen. This market is still full of surprises, but things are looking good. And the major question we have to look at now is "how do we need to position to outperform at the start of 2018?" That's something we're going to be veering a lot in the report over the next couple days and it's also something we're going to be talking about with Wes right now.

So on that note, let's bring Wes in. Wes, please say hello to everybody and I always like to have our guest give us, in your own words, a little about your background and what it is you do now at Alpha Architect.

Wes: We are a quantitative asset manager. We're focused on what's called factor investing. Our firm was started from a blog. We had a wealthy individual, multi-billionaire based in New York who was reading the blog we used to write. He reached out and we started consulting with him in 2010. They see their assets manage the business in 2012, and the rest is history. Our whole focus and ethos is investment products should be bought, not sold. The general mantra is investment products should be sold, and they're rarely bought. We flipped that. Our mission is really about investor education and trying to help people make better decisions effectively.

Tom: In reviewing a lot of the materials that you sent to me, I kept reading a lot about factors. Can you go through what factors are in regards to your investment process?

Wes: There are a million different definitions for what a factor is. It's all over the media right now. I think the simplest way to understand it is all factor investing is is looking at the characteristics of a portfolio. For example, their cheapness – like PE – and make an assumption that characteristic will help drive favorable risk/reward future. So anyone who is short in securities based on some characteristic or price metric, is a factor investor. Which means there are ten thousand factors. So really the difficulty with factor investing is trying to identify what works, what's robust, versus what's just data mining and noise.

Tom: Makes sense. Let's go through lesson #1. As I was going through this presentation, I think what's important is to realize that a lot of what you talk about is allowing your investment strategy and the numbers to really dictate your decisions and try to remove – not the human element because I don't want it to seem like it's a robotic thing – but trying to stay focused on that strategy, the long-term core factors that help you outperform. I imagine that's probably what you're talking about with this slide. Is that you, by the way, in the picture?

Lesson #1: We are All Bias…Stress *Enhances* Bias

Wes: Yea it is. What I'm going to do is talk high-level frameworks and lessons learned from experiences in my life that have taken me where I am now. Just to give you guys context, I'm a quant geek now, but I was originally a good old-fashioned stock picker. I used to trade penny stocks. I would call up CEOs. I actually even filed a 13D way back in the day on a really tiny crappy micro-cap. So I used to be one of those guys. As you'll learn as I tell some stories of my life, I've identified that's probably not a good idea.

One experience I had in my life, I was actually a captain in the US Marine Corps. I was in from 2004 to 2008. Here is actually a picture of us in a place called Haditha, which is way out in the Al Anbar province, I was embedded with the Iraqis. The core lesson learned just from the service in general is that everyone, no matter what you think and no matter how much you know about behavioral bias, you still suffer from them. I always thought this photo captured it at an extreme level. A lot of people think we're all biased but when it matter we get rational. What we have here in this photograph, that's myself on the left and an Iraqi gentleman to the right, I always tell people in this case I was lucky to be in the rational camp. This is in a life or death situation and you notice we're carrying extra ammo. Why? Because if you get in a gunfight, you want to shoot back. You also notice that we wear Kevlar, because if there's mortar hits and a frag goes toward your brain, you probably want to wear Kevlar, right? Kinda common sense. The third component, you can kinda see I have a camelback. You gotta bring water because it's 125 degrees. You don't want to die of heat stroke. So these all make sense, but then on the right, this gentleman has no ammo. Why? Because it's heavy and hotter than Hades out. No Kevlar, because it's hot and heavy and why would you want to wear Kevlar. And, of course, no water because that's also hot. The main point is, in the service where a lot of times the stakes are as extreme as they can be, any time you're in a stressful situation you're going to have those biases show up. More stress equals more bias. I think in financial markets, because money is an emotional thing, we should be very aware that behavioral problems are always going to be around. That's why we promote a systematic, model-driven approach.

Tom: It's interesting, to that point, one of the things we try and do at Sevens Report we are always trying to anticipate what's going to happen next. Really, at the end of the day, what you're trying to do is manage probabilities. There are always candidates for something to go wrong or right, but the probabilities of those are always shifting. If the probability gets high enough that I'm really concerned it might affect the markets, we always try and get ahead of it with a strategy before the event happens. That was back from my days in the asset management business where we would always have a strategy before, because when things start happening and portfolios start going down and crazy stuff starts happening, if you don't have a plan to execute then what you come up with at the time is generally speaking not going to be very successful.

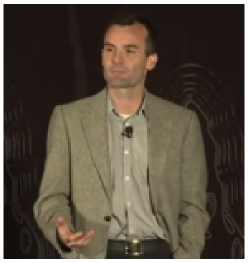
Wes: You got it. You're going to be like that Iraqi dude on the right who has no ammo, no Kevlar and no water. When you get in a gun fight, he's dead.

Tom: Not going to have a good outcome.

Wes: It's just like in financial markets.

So the second lesson here is in another part of my life, I have a PhD in finance from the University of Chicago. I just so happen to have an advisor, this guy named Eugene Fama, who actually just won the Nobel Prize not that long ago. His whole pitch is essentially: marketing prices are efficient in the sense that they reflect all publically available information, they are always right. There's ton of arguments about this, but what I did for my dissertation – this was before I had my full quant revival – I used to always read this website called Value Investors Club, which was started by Joel Greenblatt. He's this famous -- in value circles -- stock picker. Now he's also a quant. He has this website where all these hedge fund managers share stock pitches. I happen to be part of the organization because I applied early on and got in on one of my ideas. I thought it could be an interesting experiment where if I want to prove this old dude wrong and highlight that prices aren't efficient, then these guys should be able to show that they can pick stocks. So I literally read 4,000 stock pitches, catalogued all the data, did all the quant work on it and did my dissertation, sent it to Fama. As I highlight in the quote on the slide I said, "value investors have stock picking skills." Literally after a year of my life here, he sends me this email that starts, "Your conclusion has to be false." I'm like, wait a second, I need to graduate from this place. My wife is going to kill me. I run down to his office, because this required face-to-face. I said, "Professor Fama, what's up? I kinda need to understand why you just shit on my idea here." He said, "Listen Wes, great work, great analysis, but words matter and in your abstract you say value investors have stock picking skills. You need to qualify that and say the segment of value investors that you analyzed have stock picking skills. Because you're not showing that all value investors have stock picking skills." I said, "Ok so I just change the wording and we're good?" He said, "Yeah, pretty much." I was happy to leave the place, but I also walked away knowing there is evidence that I actually convinced the guy that's anti-efficient markets that prices aren't perfect. They're tough, but they're not perfect.

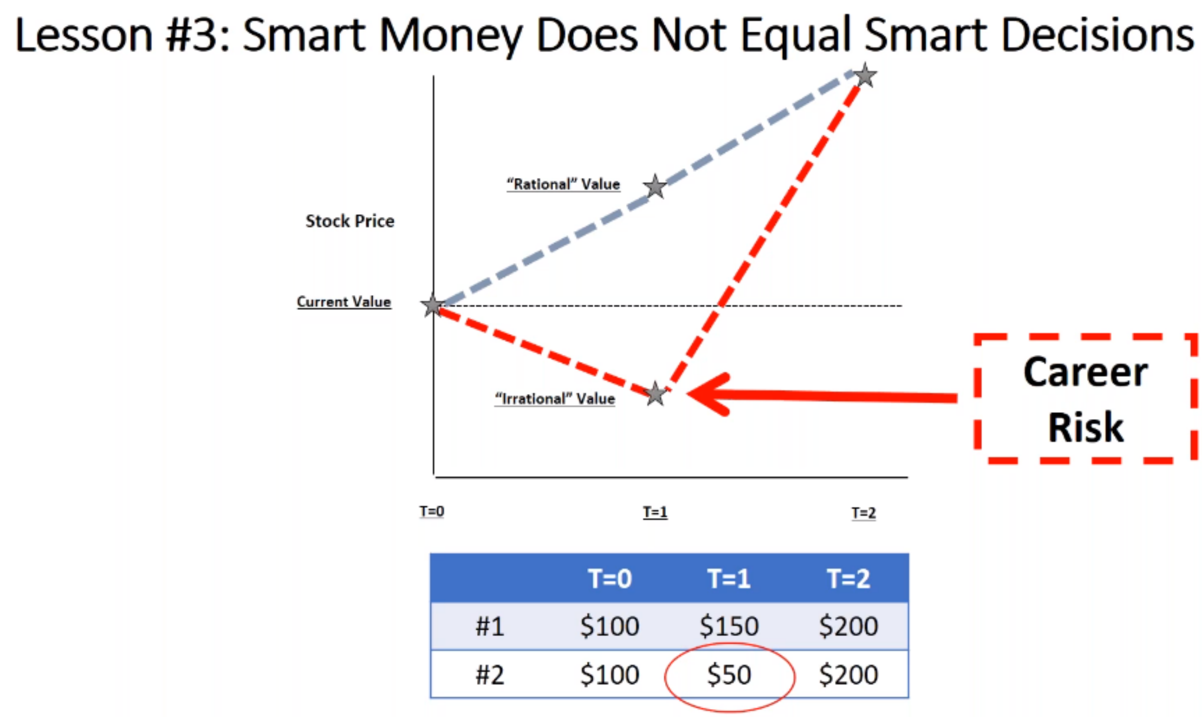
Lesson #2: Market Prices are Competitive, not Perfect



> ***"…value investors have stock picking skills."***
> *--Wes' Dissertation*

> ***"Your conclusion has to be false…"***
> –Eugene Fama's comment on dissertation

Wes: One of the natural things that leads to lesson three is that there are all these crazy people who have behavioral bias problems, we know that market prices are mispriced. That's easy, all we have to do is go make money now. Or it won't exist because all the arbitrage players out there have already exploited it because everyone's got a machine running algorithms and 200 IQ people. But that recognizes in the marketplace there's a lot of principal agent problems. I'll explain what that is. This is an image that is from a theory paper. The paper is called The Limits of Arbitrage. It's buried in the Journal of Finance. They make the point that over 20 years from right now, they see highlights that – even if smart money, let's say it's God, knows in the long run some stock is undervalued – it's worth 100% more. The problem is, in the short run and because God is hedging other people's money, anything can happen. To the extent that in thbie short run it can get worse before it gets better. It's very difficult for this perfect individual to do this long-term mispricing opportunity because in many cases they care more about job security than actually adding true value.



So what happens is, when you work through this dynamic and how a lot of the asset management industry is setup, you are basically incentivized when you are managing other people's money who are very focused on short-term performance, that you avoid taking advantage of or exploiting long-duration anomalies or arbitrage – like these factors, or what have you. People cause an index, they market things that are different when they're not, they're just cause index. This idea pervades our entire industry. So the idea or theory that all the smart money and machine running algorithms and rocket scientists are somehow going to arbitrage away a lot of these well-established open secret ideas is in many respects nonsense. If they knew the structure of the industry, people care about their jobs more than the long-term performance. This is just something to always be cognizant of as you're buying products or studying products. Just always ask yourself "Is this product built for alpha, or is it built for career risk management?" A lot of times, with this backdrop, a lot of things will come to light and become very obvious.

Tom: I think that's a good point. When I was in school getting my MBA, I would hear a lot of different investment theories and I was one of the view guys that had a finance background. I would play that Devil's Advocate. I would say yes, on this board what you're saying is correct, but in reality if you have a client who is going to leave because they're too short-term focused, that's going to affect your decision making, right or wrong. It just is, that's unfortunately the reality of the world. Fighting that and learning how we can't be blind to our careers. At the same time, there's a happy medium too. You can take advantage of attractive risk-reward things to offer that outperformance. This brings us right into Lesson 4.

Wes: Honestly, that's why our firm mission is to empower investors through education. We're trying to tell you upfront these strategies are insanely painful and career suicide, but that's why they're going to work to the extent that you can build the fences to be ready to handle that reality. You'll get this benefit, but if you can just avoid don't step on the landmine.

So lesson 4, which is a spinoff on all this, gets into the new debate about what a lot of people term the 'factor zoo'. This is just this idea that everywhere you look there's a new factor or paper or research report about XYZ factor, and the reality of the world is – having been doing this for 20 years now with quant research and having to look at factors – there's only a handful of them and they're the most well-established and well-known. Those factors are value. Buy cheap stuff that everyone hates, which everyone understands. On the left there's a chart of the generic concentrated value strategy over time. Then on the right it's buy relative strength. So buy winners, don't buy losers. It's classic momentum strategy. These look great and going back to the previous point, on paper, amazing. In reality, when you look at the relative performance drags and outperformance of these strategies, they have 10-20% tracking error. In any given year, relative to the S&P you could be up 10 or down 10 or maybe even worse, up 20 or down 20. So they work, if you can hold on to them. These are pretty charts but unless you understand the backdrop of reality of doing them in real time, which we've lived through some ups and downs on these, it's a lot harder to do these factors. Typically, the irony is, the best factors and the ones that are most sustainable are those that are the most painful, have the most behavioral bias and the hardest to stick with because that's where the competition doesn't want to go.

Lesson #4: Forget the "Factor Zoo"—Buy Cheap and Buy Strong…

- **VAL_10** = Top Decile Value, mid/large cap
  - Ranked on book-to-market
  - Annually rebalanced
- **SP500** = SP500 Total Return Index
- **Simulated Performance:** 1/1/1963 to 12/31/2015
- **Net of fees:** 1% mgmt. fee, .5% transaction costs
- Total returns, including dividends and distributions

- **MOM_10** = Top Decile Momentum
  - Ranked on cumulative 12 months, skip last month
  - Monthly rebalanced
- **SP500** = SP500 Total Return Index
- **Simulated Performance:** 1/1/1963 to 12/31/2015
- **Net of fees:** 1% mgmt. fee, 2.5% transaction costs
- Total returns, including dividends and distributions

Performance figures contained herein are hypothetical, unaudited and prepared by Alpha Architect, LLC; hypothetical results are intended for illustrative purposes only. Past performance is not indicative of future results, which may vary. Index returns are for illustrative purposes only and do not represent actual fund performance. Index performance returns do not reflect any management fees, transaction costs, or expenses, which would reduce returns. Indexes are unmanaged and one cannot invest directly in an index. Source: Ken French Data and Bloomberg.

Tom: That's apropos right now. I can tie this back to my macro monologue from earlier. Throughout 2017, what's worked? Momentum. Right? Just look at tech. The momentum sectors that have ignored valuations, have ignored everything else and just been strong and have just killed the market. Conversely, value has massively underperformed. Any value ETF that you're looking at is full of banks, telecoms, and other sectors like energy, that have lagged. One of the things we're trying to figure out right now is are we going to see over the next year or two a switch where all the sudden value begins to outperform and actually starts to generate some of its own momentum and produce those type of returns that we've seen from the momentum strategies. I think that's one of the big questions we're trying to figure out right now.

Wes: It's a question we've been trying to figure out for many years. We came to the conclusion that we can't figure it out. So we're always strategically positioned to own value and momentum. Then just get the bird in the hand that's associated with diversifying components of those two things. But there's some loose evidence out there from the quant perspective that factor timing or tilting is plausible. We just haven't got enough confidence in it to do it ourselves. That doesn't mean other people can't. It's certainly a good thing to consider.

So this one here (Lesson 5) is going back to the reality of factors and the open secrets and all the principal agents, and conflicts, and things we've already mentioned. What I want to do it orient your listeners to this slide. This is incredibly important thing to understand. What this chart shows, is growth rates for the same exact momentum strategy. It's the classic academic momentum strategy where in a certain time period let's say there's a thousand securities, you're essentially going to sort securities on their last 12-month performance and buy the top X and avoid or sell short the bottom X. So it's just buying relative strength securities. Same exact signal, however, it's going to vary along two dimensions related to portfolio construction. One dimension, which is along the top, is how many securities are in this portfolio. So in general, you have a thousand stock universe, you could cut it where you only own the top 500 highest-momentum all the way to the top 50. And then the other dimension that you could work on this portfolio, is how fast you rebound – the turnover. On the left axis, these represent months. You could either turnover the portfolio every month or twelve would represent annual rebounds. So what you'll notice from this heat map here is there's perfect relationship between a classic factor like momentum and concentration in turnover. These are all valid momentum funds. Any box in here, however many this is, 84 I think, there's 84 momentum portfolios here that anyone could label their fund momentum fund. However, if you're down in that bottom right where you're in a closet indexing momentum fund that has a lot of securities and hardly rebalances, you're basically the market. You're not momentum at all. Whereas if you're over in the concentrated, high-frequency, you're beyond the momentum factor. And this is another chart where it's obvious, why don't we just own the concentrated momentum fund that has pretty high rebounds because that's where all the mojo is? And you say, yes, but the tracking error and the career risk. What gets people snagged up is there's a little but enhanced risk up there, but on a risk-adjust basis it's way more effective. The most important thing is the relative performance. The tracking error on these portfolios way up to the top left is insane. You're gonna get fired unless you have a very unique niche client base and/or you size this.

Lesson #5: Focused Factors Can Be Effective, but Can Be Painful

Long-only generic **momentum** portfolios: CAGR

Holding Period for each Stock	Number of Stocks Selected each month: 50	100	150	200	250	300	500	Universe
1	17.36%	15.85%	15.49%	14.01%	13.51%	12.95%	12.12%	10.27%
2	16.35%	15.41%	15.05%	13.92%	13.28%	12.83%	12.12%	10.27%
3	15.97%	14.68%	14.09%	13.35%	12.84%	12.53%	11.90%	10.27%
4	15.25%	13.86%	13.58%	12.94%	12.61%	12.30%	11.78%	10.27%
5	14.79%	13.53%	13.35%	12.71%	12.31%	12.15%	11.74%	10.27%
6	14.15%	13.07%	13.01%	12.55%	12.20%	11.96%	11.61%	10.27%
7	13.87%	12.86%	12.87%	12.41%	12.04%	11.81%	11.52%	10.27%
8	13.47%	12.72%	12.70%	12.25%	11.89%	11.67%	11.43%	10.27%
9	13.06%	12.37%	12.37%	11.97%	11.61%	11.45%	11.29%	10.27%
10	12.57%	12.11%	12.06%	11.74%	11.42%	11.26%	11.17%	10.27%
11	11.94%	11.73%	11.73%	11.42%	11.18%	11.05%	11.04%	10.27%
12	11.42%	11.35%	11.39%	11.12%	10.89%	10.82%	10.89%	10.27%

Alpha?

Job Security

+ Focused Factors Increase Expected Performance
- Focused Factors Increase Tracking Error & Volatility

*The results are hypothetical results and are NOT an indicator of future results and do NOT represent returns that any investor actually attained. Additional information regarding the construction of these results is available upon request. Sample is from 1970 to 2016. Results are associated with a generic 2-12 momentum index strategy. Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index. All returns are gross total returns and include the reinvestment of distributions (e.g., dividends).

Tom: I think that's something that, to me, is a discernible takeaway for everybody listening. This is something that should be in client portfolios in an appropriate allocation. That's how we can help mitigate that career risk a little bit.

Wes: For the products we do, we focus on these focused ones. We put our own capital in it, all of it. But that's because we build them, we understand them, it's what we do all day. If grandma shows up to your door, it's probably best to just give her some Vanguard funds and put a little bit of this in there. You just want to size it appropriately. Maybe something you don't want to do is buy a Vanguard fund and then go buy some closet index momentum fund because all you're doing is overpaying for the Vanguard fund.

Tom: That's right. You want to focus on the concentration and the turnover.

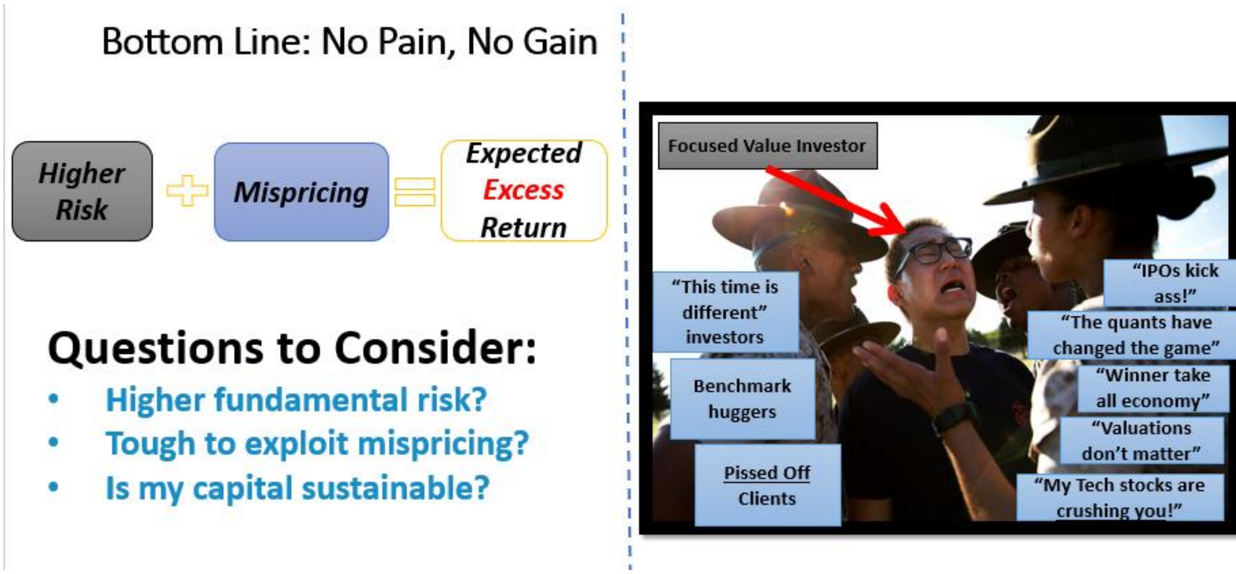
Wes: And size it correctly. This chart as people go out to look at different products that are being pitched, just always identify how concentrated and what's the turnover because then I'm going to know immediately how much of a closet index you are. Obviously if you are going to pay a fee for activeness, you want to make sure you're getting …

Tom: You want to make sure you're getting your money's worth.

Wes: Exactly.

Most factor people or quant people are just going to blow smoke up people's you-know-what. And so what I want to highlight here is that there's just tradeoffs. The harsh reality of people who actually examine factors and do active investing is end the end if you can't identify the pain, there's probably no gain. The markets are not perfect, but they are insanely competitive. If you're expecting excess return, you need to be able to identify on behalf of your clients. Where's the higher risk, because in general it is true that higher risk gets higher return. Then, if there's mispricing, that's a good thing to identify and understand. But also understand that mispricing is hard to explain. If that mispricing is like picking up a

$20 bill off the ground, it will be gone – on some desk or in some hedge fund already doing their own exploiting. You really want to make sure that you're doing right by your clients by not buying on to crazy stories and random bullshit that people throw out there in the marketplace. In the end, it's no pain, no gain. The more you can just be honest with your clients and the products that you're buying, I think it will do a lot for client relationships and behavioral management going forward.

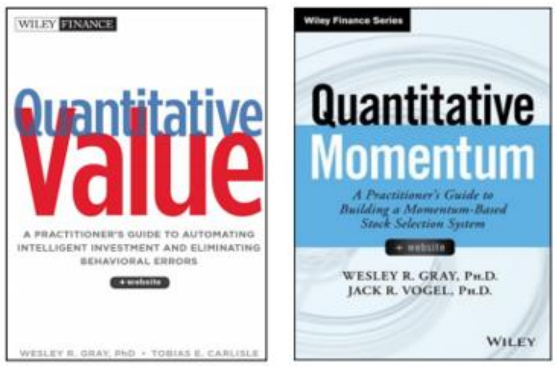


Tom: I think that's right. We can look at things like telecom. This picture reminds me of the retail industry right now. That guy that's getting yelled at by the drill instructors. There are a million reasons to hate the retail industry right now. A lot of them are legitimate. At the same time, everything is a value at some point. You look at it, find a good analyst or reach out to your firm and say, "At what point does the return on this sector warrant the risk?" We can go back and look at a couple different scenarios where that's worked out. Obviously financials coming out of the crisis was one of them. Looking around for that client that says, "Hey, I'm a bit of a contrarian. What's cheap?" Most things are cheap for a reason, but that doesn't mean that there isn't opportunity there at a certain price. I think that's right. If you're really going to be a value investor, you have to understand that there's something wrong with what you're buying but that doesn't mean that it can't make money over the longer term, as long as you buy at the right price.

Wes: Exactly right. The way I look at trades is, I don't think about it from my perspective. I think about it from a perspective of supply and demand. I always want to understand when I'm buying, there's someone selling. Why is that person giving me extra return? If I can't justify that in my mind, it's probably fake. To your point, buying retail right now when you gotta be crazy to do so, that makes sense to me. When I buy retail stocks, I know the other side of the trade is like, "I don't want to own this at any price." Whereas I say that's true sometimes, but at some price, it's hard to say no to value. The same could be said for managed future strategies, trend, momentum – any of these things. You always want to understand: what's the pain? We all know they don't like risks, they don't like relative risks especially. They don't like things that just track the S&P and that's where there's opportunity in being different. So we want to go in those directions if we can handle it from a behavioral standpoint.

Tom: Good point. We're running out of time, but before I get you out of here, two things. You've been gracious enough to offer some free books to our listeners, which is fantastic. I'm sure there will be a lot of interest in that after this webinar. We're going to give them the instructions. They can choose either book and we'll give them instructions on how to request these in the follow-up email that will have the slides and the transcript to this webinar. Also, I'd like you to just tell our listeners how they can reach out to you and what specifically you guys are doing for the financial advisors – how they may be able to use some of your expertise to implement some of this stuff in their practices.

Your Pick of a Free Autographed Book (In Total, 25 Hardcopies Available)...



"This book [QV] is an excellent primer to quantitative investing..."
--Alex Edmans, Ph.D., Associate Professor of Finance, The Wharton School, University of Pennsylvania

"Gray and Carlisle take systematic value-based investing to the next level."
--Raife Giovinazzo, Ph.D., CFA, Research Analyst in Scientific Active Equity, Blackrock

"Anyone interested in systematic investing should read this book [QM]..."
--Cliff Asness, Ph.D., Managing and Founding Principle of AQR

"Anyone who is using, studying or incorporating momentum will find a wealth of information in the pages of *Quantitative Momentum*
--Chris Geczy, Ph.D., Founder and CEO of Forefront Analytics

"*Quantitative Momentum* is the story of momentum-based stock selection algorithms. Wes and Jack lucidly explain how and why these systems work."
--Narasimhan Jegadeesh, Ph.D. Dean's Distinguished Chair in Finance at Goizueta Business School

*** Instructions to Come in Follow-Up Email...

Wes: There's two core things. The first one is, alphaarchitect.com is where we have our blog. So just sign up on the blog where we, three or four times a week, put out new research or summarizing research. Just trying to help people understand what's going on as far as the more geeky side. All the factors and the latest greatest things in quant. The second thing, we are an ETF firm, so we have product out there. You can google about them or check them out on our website. Our focus there is doing the focus factor stuff. It's very high octane, very active, no appropriate for everyone. For the right person, if they are going to use it, just size it correctly. Don't replace your Vanguard book with one of our things unless you don't like your job. If you're an individual that's a different story. In general, we're just delivering a very boutique unique factor exposure that people need to make sure they know how to use appropriately.

Tom: If you're thinking about making sure that your clients, and even yourself, have exposure to true diversification and having focused strategies. For instance, the momentum thing to me, if I look in my portfolio, do I have a specific allocation to something that I know will do well if momentum is running the market? I would guarantee you that I don't. I have certain ETFs that are maybe higher beta, but that's not momentum and that's not going to outperform is momentum is outperforming. I think there is something that everybody can go in and take a look just to make us aware if we have even a couple percentage points allocated to this that can maybe give us a bit of a boost along the way. I definitely encourage everybody to go on the site and check you guys out for those strategies. Even if you're in the conservative money management business, it's still worth checking out and making sure we know those different strategies because at the end of the day all this stuff is just tools in a toolbox. We want to make sure we have the right tool for the right job whenever it might come along.

Wes: That's right. It's all about sizing. Even the most conservative portfolio can own the most risky thing in the world if you size it correctly. From a goal portfolio perspective, it optimizes to achieve particular goal of that client. Just tools in the tool kit.

Tom: Wes, thank you very much. This has been really interesting. I've enjoyed it. We would love to have you back on any time.

Wes: You got it, Tom. Appreciate the time. Look forward to empowering investors through education.

Tom: Thanks a lot. To everybody, I want to say happy holidays and Merry Christmas. This will be the last time I talk to you before 2018. 2018 is going to be an exciting year for the things we're doing here at Alpha, and we're looking forward to it. So everybody have a happy, healthy and safe holiday and we will speak to you again on the webinar in 2018. The next Alpha issue will be coming to you on Wednesday, just one day later than normal because of the Christmas holiday. Thanks, we'll talk to you soon.