TRANSCRIPT

# Learn from investing legends for 2020

**Justin Carbonneau:** Hello, everyone. I'm excited and I feel very privileged to be presenting to you on today's webinar. My name is Justin Carbonneau, vice president at Validea. In today's presentation, "Learning from Investing Legends for 2020 and Beyond," we'll discuss the philosophies and disclosed strategies of great investors and other demonstratable stock selection methods. In order to maximize our time today and help you get the most out of this, I want to jump right into the presentation.

So, here is the big idea of today's presentation in 163 words. I want to read it to you so it's very clear of the challenge, but also the opportunity in today's market for the active stock investor and what I hope we will accomplish in today's presentation. "Holding individual stocks remains a vital piece of long-term wealth creation. Sourcing and analyzing specific ideas, however, can be time-consuming, risky & complicated. With over 15,000 stocks, mutual funds and ETFs in the U.S. alone, you could spend a lifetime analyzing the set of investable ideas. In today's fast-paced world, many people lack the time to even sit down for dinner, so finding efficient methods for stock analysis and idea generation is essential for today's active stock investor. So, how do you effectively and systematically identify and research good opportunities? We

believe proven, time-tested methodologies from legendary investors like Warren Buffett, Peter Lynch, Ben Graham and others with demonstrable approaches extracted from publicly disclosed writings provide a useful framework for sourcing and analyzing stocks that can play an important role in long-term wealth accumulation. The following presentation is dedicated to how we leverage and emulate these strategies to find sound investments ideas and what active investors like yourself can learn from them." So, you can see where we are going in today's presentation and how we'll try to tackle that big idea.

Here's an overview of the presentation: we'll get some opening remarks from a legendary stock picker. I'll talk about how we go about identifying these guru strategies that we model at Validea. I'll tell you who the gurus and the strategies are, and what they're based on. Then, I'll give you an overview of five different approaches across investing styles. We'll look at strategy, give you the evidence and the source behind the strategy model. And then we'll establish the investment thesis for each one in today's market. I'll walk you through the detailed investment methodologies of these five, and we'll look at some concrete, stock-specific examples. I'll conclude with a few key lessons and other tips that I hope can help you become a more successful investor and helping your stock selection process and strategy.

OK, so, on December 21st in *Barron's Magazine*, they had two features with Fidelity's former legendary fund manager, Peter Lynch. The pieces were full of knowledge and investing wisdom. What I wanted to do is highlight a few things that I thought were highly relevant to today's presentation. In the first piece, which was titled "Master Stockpicker, Peter Lynch: If You Only Invest in an Index, You'll Never Beat It," the author wrote, "Lynch demystified investing. He emphasized searching for companies that could deliver earnings growth 20 to 50 percent. He espoused a PEG ratio, a company's price earning's ratio divided by its long-term growth rate. A PEG of less than one means the stock is worth a closer look. Lynch believed that individual investors have an edge over fund managers because they could spot trends before a stock became popular. In the second piece, where it's an interview that Lynch did, the title of that piece was "Peter Lynch Draws on 50 Years of Stock-Picking to Find Growth Opportunities in Today's Market," Lynch says, "if you're going to invest, you have to follow certain rules. The one thing I want everybody who is buying individual stocks to get is they have to understand the story, the five reasons they think something's going right for the company. If you can't convince an eight-year-old why you own this thing, you probably shouldn't own it. Don't invest in a company before you look at the financials. If you made it through fifth grade, you can handle the math." So, these concepts, owning individual stocks, looking at the fundamentals and valuations, having a

set of rules, even knowing the story behind the stocks you own, these are all important, and to a large extent, will relate to our discussion today.

So, the first question is, "How do we go about identifying successful investors and other investment strategies?" At Validea, we look at really three things when sourcing one. One, we want to see a long-term track record of market up performance, either in the real world or back tested. The strategy needs to be publicly disclosed in books, academic papers, or other sources. And then then number three, the methodology needs to be able to be run largely quantitatively via computer programming and modeling, which means looking at things like fundamentals and pricing in order to do the analysis. Before I tell you who the gurus are, let me just read you this important disclaimer: "None of the individuals mentioned in today's presentation endorse any of the strategies or our implementation of these strategies. Validea's models are extracted from publicly available sources (a book or research paper by or about each of the individuals mentioned) and are not meant to represent the 'gurus' or individuals themselves in any way. All of the strategies are quantitative in nature and the gurus themselves may have changed, altered or never followed these exact strategies. The information presented in today's presentation is intended to give you an understanding of active and quantitative stock selection strategies only. In addition, individual stock

selection can be very risky and none of the material discussed in his presentation should be construed as investment advice or as individual stock recommendations."

So, since 2003, we've been building computerized investment strategies by or about the following individuals and investors. We capture these strategies and model portfolios in a quantitative stock analysis system. I'm going to quickly walk you through who these individuals are and the source that we base our models on. I'm going to go from left to right and top to bottom, and I'm going to do this quickly because there's a lot of people to get through.

So, we run a model based on Peter Lynch's "growth at a reasonable price" investing approach, which he outlined in his book, *One Up on Wall Street*. Peter Lynch, as many know, is one of the most successful fund managers of all time. We run a contrarian investment strategy based on David Dreman's approach he outlined in *Contrarian Investment Strategies*. There's a strategy based on John Neff's value screen, which he outlined in *John Neff on Investing*. Some may know that Neff managed the Windsor Fund for a decade and was able to beat the market by about three percent annually over a very long period of time. We have a value investing model based on Ben Graham's deep value approach he outlined in *The Intelligent Investor*. Graham is known

as the father of value investing and had a huge influence on the greatest investor in the world, Warren Buffett. We run a model based on Ken Fisher's approach that he discussed in *Super Stocks*, where he popularized the price-to-sales ratio. The magic formula by Joel Greenblatt, which we extracted from his book, *The Little Book that Beats the Market*. This is a combination of Graham's value approach and Buffett's focus on quality. It brings these two concepts together in one simple systematic model. The cancel method, which was developed by William O'Neil and written about in his book, *How to Make Money in Stocks*, a model that seeks to replicate Warren Buffet's strategy by looking for high-quality blue-chip stocks that are attractively priced. We base our Buffett model on the book *Buffettology*. We'll actually walk through that in a few minutes. A growth investing model based on Martin Zweig in *Winning on Wall Street*. At one point, Zweig had the number one ranked investment newsletter based on risk adjusted returns according to the Hulbert Financial Digest. A model based on the research done by Meb Faber in his book, *Shareholder Yield*. *Shareholder Yield* captures all the ways a company can return cash to shareholders. It's become a much more popular metric over the last 10 years. Multiple strategies based on work and back testing of James O'Shaughnessy in *What Works on Wall Street*. *What Works on Wall Street* is the seminal book in terms of simple systematic, quantitative strategies and the ones that have worked best over the long term? We'll look at one of the

O'Shaughnessy models in a few minutes. A small cap growth investor model based on the Motley Fool Investment guide written by Tom and David Gardner, the founders of Motley Fool. Another deep value model extracted from a recent book, *The Acquirers Multiple*, written by Tobias Carlisle. Wayne Thorp, an analyst at AAII, he wrote about and tested an earnings revision model. The name of that research report is *How to Profit from Revisions in Analysts' Earnings Estimates*. There's a growth investing strategy based on the academic research of Partha Mohanram. The name of that paper is *Separating Winners from Losers Among Low Book-to-Market Stocks Using Financial Statement Analysis*. Another academic-based model from Joseph Piotroski. That's *Value Strategy*. A strategy using Patrick O'Shaughnessy's research and long-term testing from his book, *Millennial Money*. A dual momentum approach modelled after the academic study *Twin Momentum: Fundamental Trends Matter* by Dashan Huang. That strategy combines both price momentum and fundamental momentum together. A pure momentum model extracted from Wes Gray's book, *Quantitative Momentum*. That is a strategy we'll look at in a few minutes. And then lastly, a multi-factor and low volatility method developed by Pim van Vliet and written about in his book, *High Returns from Low Risk* and following research paper. We'll also look at that model in some detail.

So, there's really two points I want to mention here. One is that every one of these strategies I just mentioned can be read about in books and/or academic papers. These sources exist for you to reference and learn from. You can buy the books on Amazon pretty much with like one click, and all of the research papers that I mentioned are free for download on SSRM. The second thing is we do our best to implement the models as they were outlined in these sources, so we're not trying to reinvent the wheel here. What we're trying to do -- and hopefully I'll show you today -- is that parts of these stock selection approaches can be used to help analyze stocks and find new investment ideas with a little bit of effort. With each investment model, they're differen... so, the first grouping is what I would consider value-focused models. These are models that are seeking stocks that trade at a discount based on earnings, book value, or some other value metric. Most of if not all couple the value criteria with other fundamental factors. The next is what I would call our value in quality category. These are models that emphasize both value and quality characteristics. So, the idea here is buying good companies at reasonable prices a la the Warren Buffett style of investing. There's another category that I call quality and yield. This is a bit unique, but basically there's a quality component to it, and then it couples that with other fundamental criteria that are important in stock selection. We then have our growth or growth at a reasonable price grouping. These are strategies that look to identify firms that

are growth-like companies that have other attractive fundamentals or characteristics that make them the type of growth stocks you want to be looking at. And then there's the momentum models, which are models that reward companies with strong price strength. In most cases, momentum is combined with other fundamental factors, but not in all cases. So, what we're going to do is we're going to look at one model in each category in detail, and I'll walk you through that. But what I also thought was important, and I wanted to emphasize, was that for investors looking to utilize these strategies, I believe it's important to find strategies that align with what you believe in. So, if you're a big believer in value investing, you probably want to be not going into the growth or momentum type of models. Or if you highly value dividends, you may want to focus on more of the quality and yield type of strategies. Like Warren Buffett and Charlie Munger like to say, "Stay within your circle of competence. Stay focused on what you know and what you believe in, and don't go too far outside that circle."

So, there's two ways, I think, that investors can utilize strategies like this. The first is an individual stock analysis so you can utilize the fundamental criteria in these strategies and apply it to individual stock research. By learning about the strategies, you'll be able to understand the key, financials, valuation metrics, and technical variables that have been deemed important and robust.

You can then start to incorporate more rules and thresholds in your own process as you familiarize yourself with each of these strategies. You can also use strategies like this for investment idea generation. So rather than creating a screen from scratch, you can extract the fundamental criteria outlined and tested by these investors and screen for new stock ideas. Screens, obviously, as many know, provide a nice, efficient way to source new investment ideas and you can screen for or screen through hundreds or thousands of stocks all at once. What you can then do, if you feel comfortable enough, is you can integrate your own fundamental variables and further refine and sort the list of stocks.

So, here are the five models we're going to walk through today. We're going to start with the value model based on James O'Shaughnessy's value composite approach. We'll then look at the Warren Buffett based model, based on the book *Buffettology*. This will be our value and quality model. Under the quality and yield category, we'll look at the Pim van Vliet multi-factor and conservative stock selection method. In the growth camp, we'll look at Partha Mohanram's research on how to identify growth stocks that have the potential to go on and perform well. And for momentum, we'll look at the method developed by Wes Gray and his book *Quantitative Momentum*. Now, I understand that not all of these are necessarily helpful names, but with

each of the models, what we're going to do is we're going to walk through them. I'm going to give you the key fundamental investing insight of what I hope you can remember and walk away from this presentation with. What we'll then do for each model is we'll establish what that key insight is. I'll give you a brief strategy overview. I'll disclose the source and the long-term evidence behind the strategy. And then I'll provide you what I think could be a reasonable investment thesis for this type of strategy in 2020. We'll walk through a subset of the models in detail and I'll provide concrete examples using a specific stock and the fundamentals to demonstrate how these strategies actually work.

So, the first model we're going to look at is the value composite model, which is based on the research and writing of James O'Shaughnessy in *What Works on Wall Street*. In *What Works on Wall Street*, O'Shaughnessy back-tested 45 years of stock market data from the comprehensive Standard & Poor's Compustat database to find out which quantitative strategies have worked over the years and which haven't. The original publication of the book was 1996, so quite a long time ago. But since the, O'Shaughnessy has continued to publish new editions with updated strategies and longer-term data. I really think if anyone's interest in sort of these type of quantitative models, this is really a must-have book. It's packed full of great long-term data on factors and

how these factors worked when combined together. When most investors hear the word "value investing," many think we're looking for stocks with low PE ratios, low price-to-book, or price-to-sales ratios, and that can certainly be a start, but what O'Shaughnessy's research showed is that you can improve the results of the values factor by using multiple value metric simultaneously. So rather than just one, we want to use more than one. We want to combine them together. So, the strategy starts out by filtering out the lowest quality stocks in the market. It then selects the least expensive stocks remaining using a value composite ranking, which I'll explain to you. The source and the evidence, as I explained, is based on *What Works on Wall Street*, where O'Shaughnessy tested this approach back to 1964. So, from 1964 to 2009, his value composite portfolio returned 18 percent in the back test versus 11.2 percent for the all stock universe. On Validea, we also track a very focused, value-composite model portfolio, and since '08, which is how far we're able to go back and track it, the portfolio is actually one of our better-performing value models and is up 18 percent annually over that time. The investment thesis here, I think, for this is that many value stocks and value strategies have struggled over the last 10 years. Even though the strategy we base and we run based on the value composite has done well, many value strategies and stocks have not. But we also know that there's a cyclicality between value over growth and growth over value, and since the late summer, early fall of 2019,

we've actually started to see better performance out of the value cohort of stocks, and so if that continues to materialize, I think this type of strategy could be a beneficiary of that turn in value.

So, kind of moving into the strategy now, the first part of the value composite method is to remove the junkiest stocks. So, what we want to do here is we want to remove the stocks that could be value tracks, stocks that look like they're value, but they're permanently impaired for one reason or another. In order to do this, we layer in a number of checks, including declining expected future earnings, cashflow that's not keeping up with earnings, high levels of debt, and very low relative strength. From there, the bottom 10 percent, based on our combined quality score are not eligible to go onto the next step. Those stocks that remain are then looked at through multiple lenses of value. So, this model is looking at the price to book, the price to sales, price to earnings, price to cashflow, and an EV/EBITDA, and then it does integrate shareholder yield to improve the performance of the strategy. And O'Shaughnessy points out in his book, when you look at these value factors over time, the best performing value factor changes, and one year it might be the price-to-sales ratio, in another period it might be enterprise EV/EBITDA. So, the combined value composite type of model manages this jockeying by scoring stocks through this series of distinct value criteria. You'll also notice,

and this is I believe very important, that the different financial statements are represented here in these ratios. So, the balance sheet via price-to-book, income statement via price-to-sales and price-to-earnings, cashflow, enterprise value, EV/EBITDA, and price-to-cashflow. Shareholder yield was included because it helped improve the performance of the strategy, as I mentioned. The way that these factors can be used in terms of screening and building a focus investible set of stocks is you basically score -- you create a composite score. So, what you do is you average the score, you order rank all of the value metrics -- so price-to-book, price-to-sales -- you can create a composite score. And then what you do is you only want to select the best one to two percent of stocks that score highest according to that composite score. So, you're really trying to focus in on the very best opportunities that get the best scores on average across all of those value metrics.

Let's look at an example. We're going to look at MetLife here very quickly. MetLife is in the 58$^{th}$ percentile of our database in quality. So, it meets that quality screen, so we can move on to the next part of the strategy. We then look at price-to-book, price-to-sales, PE, price-to-cashflow, and price EV/EBITDA, shareholder yield. From there, we get a combined ranking based on all of the factors above. That's essentially what a composite ranking is, and

when we do that, MetLife is actually in the first percentile of all stocks in our value stock universe.

Moving into the next category, we are going to look at our implementation of the Warren Buffett-based model, which we based on the book *Buffettology*. Of course, Warren Buffett has never really fully disclosed his exact investment approach, and he probably doesn't have an exact formulaic investment approach. But if we did try to emulate and capture it, how might we do that? We know whether he's buying public stocks or companies outright. Buffett is really trying to buy great companies at a reasonable and fair price with the hope that these will be long-term, compounding machines. If we were to try to capture the concept of great companies quantitatively, how might we go about doing that? How could we uncover companies with the characteristics that have competitive moats around their business? In order to find those companies -- and I think this is the key insight I'd like you to take from this model -- is that you can look at the long-term consistency in growth and earnings along with the long-term returns on equity and capital to try to help us find companies that have competitive moats around their business. So, to start out, this strategy looks for firms with long-term predictable profitability and low debt relative to profits that trade at reasonable valuations. The model goes back as far as a decade to look into a company's history to uncover those

stocks with competitive moats around their business. What is the source and evidence for this? Well, since 1965, Buffett has one of the most phenomenal track records ever generated, compounded at 20.5 percent over the last 53 years. Interestingly enough, our Buffett-inspired strategy actually scored Apple 100 percent in 2015, which was two full years before Buffet and Berkshire were buying the stock. As many people may know, Apple is now Berkshire's largest public holding. Our Buffett-based model that we run, which is the optimal strategy on Validea in 2019 was up 36 percent. Berkshire Hathaway itself, that stock, didn't have a great year last year, and I'm not saying this model is a substitute whatsoever for Berkshire Hathaway holders, but still there was a big difference in terms of what our strategy was able to pick up using this Buffett model and the performance of Berkshire Hathaway in 2019.

The investment thesis, you could say that using a strategy like this, you're buying high quality stocks at a discount, and it gives you a less volatile way to access the outperformance of value stocks over time, and maybe if you're lucky -- which maybe we got lucky with Apple. There was certainly some luck in there, but the system was picking it up. Maybe fallowing a strategy like this will allow you to find Buffett-like stocks before he actually buys in.

So now, let's look at the actual model in some detail. The first step, as I mentioned, Buffett wants to see consistent long-term predictable earnings. So, the model goes back 10 years to see if profits are growing over time and consistent. Over many 10-year periods, you'll see economic expansions and contractions, so we'll give you a sense of how a company's profits react to economic downturns and competition. By looking at 10 years worth of earnings, it helps give Buffett confidence in the future earnings power of the company. One reason Buffett avoided technology stocks up until recently is that he didn't fully understand them, but also that their earnings were highly variable, and what he likes to see is more consistent earnings. Next, wants to see higher-than-average long-term returns on equity and capital. So, the model looks at 10 years of ROE and ROC or return on assets for financials. If a company has long-term, above-average return on equity and capital, this indicates that there's a competitive moat to some extent around the business. It could be a strong brand name. They could be a low-cost producer. They could be a toll bridge type company. But something about what they do and the company has protected profits and allowed them to get above-average returns. Buffett also doesn't like too much debt. He wants to see the earnings can be paid off in a reasonable amount of time. So, if debt can be paid off with five years worth of earnings, that's good. The model favors that. Businesses that have to invest too much in capital expenditures aren't as

appealing as those that don't, so as a result, this model rewards positive free cash generation. Share buybacks are another positive. So, the model wants to see that companies are buying back shares at hopefully fair and reasonable prices. It then looks at retained earnings, and it wants to see that retained earnings have contributed to profits. So, the model we run takes the total and retained earnings over the past 10 years and compares it to the total gain and EPS over that same period. And then to determine if the price is right, using two different methods, the ROA and the EPS method, and it's trying to calculate the expected future return. And what this model essentially looks for is stocks that are going to have the potential to compound out at at least 12 percent annually over time.

So, here's an example of the Buffett model, and I'm going to stick with Apple because our model still rates Apple, actually, very highly. I don't think it's 100 percent. It might be like 93 percent. It's on a scale of zero to 100 percent that we score each stock. So, in this case, we can see here's the 10 years of earnings for Apple. The model does allow for a dip in earnings, and there was a recent dip, and that's OK. The growth rate is still really, really good, and based on the average three-, four-, and five-year EPS growth rate, it's about 10 percent. But it does look at the full decade, the last decade's worth of earnings, and it wants to see growing, consistent earnings. It then goes down

to say, "OK, is there a moat around the business looking at return on equity and return on capital," which are well above what the average is in the stock market, which is around maybe 12 percent or 13 percent. I mean, we're talking 49 percent, 28 percent on ROE and ROC respectively here, so that's really good. It then says, you know, "can earnings pay down debt?" So, Apple has 92 billion in debt, and it's generating 53 billion a year in earnings, so that can be paid down in less than two years, which is very good. It's generating positive free cashflow. That's a positive. Shares outstanding has actually fallen, so Apple has reduced the share count from 5.5 billion to 4.5 billion over the last five years. And then the question is, "Has management done a good job in generating returns on retained earnings?" And based on our analysis and what's captured in this model, looks like management has shown it can generate a 16.4 percent return on retained earnings. And then lastly, using those two methods I talked about before, it says, you know, "What type of return could I expect given these past fundamentals, and growth rates, and earnings expectations in the future?" And our model is predicting a 13.7 percent return on Apple, which is enough for it to pass this strategy very strongly. So that's the Buffett strategy in some detail.

The next model that I'd like to walk you through is in our quality and yield category, and what we're going to do is we're going to look at a model that

rewards low volatility and conservative stock. So, this is interesting. The fundamental insight here is that by combining low volatility stocks with other things like momentum and high shareholder yield or net payout yield, you can actually get a more robust, consistent investment strategy that still exhibits that performance potential. So, the strategy overview is this model seeks out low volatility stocks that have strong momentum and high payout yields. The source and the evidence behind this strategy -- this was developed by a European money manager. His name is Pim van Vliet. He wrote a book called *High Returns from Low Risk: A Remarkable Stock Market Paradox* and a follow-on research paper, "The Conservative Formula: Quantitative Investment Made Easy." That is available for download on SSRN, where you can read more about the model. But in van Vliet's book and his follow on study, he was able to back-test this approach and develop 100 conservative stock model portfolio, and he was able to test it from 1929 to 2016, and his back-tested results showed a 15.1 percent annualized return versus 9.3 percent for the market in the back test. We also run a more focused model portfolio based on this approach on Validea. Since 2009, our model portfolio has produced a hypothetical return of 16.7 percent per year versus 13.2 percent per year for the market. I think the investment thesis behind this one is, you know, contrary to belief, research shows that investing in low volatility stocks can enhance returns in addition to reducing risk, and I say we've been -- stocks

have not -- well, they were volatility at the end of 2018. I mean, the volatility has sort of been muted lately, but we know as investors that can change at any point in time, and these types of conservative stock I think should be less volatile than the market given their characteristics. So, if volatility picks up, these are the types of stocks that should be beneficiaries.

So, let's walk through the model in a little bit of detail here. So, the first thing we need to do is we want to segment out the largest stocks in the market, because that's where the most conservative are. So, what the model just simply does is it screens on market cap and it wants to have only the thousand largest names based on market cap to be eligible for our selection universe. What it then does is it wants to identify the stocks with the lowest amount of volatility. So, to do this, we look at the standard deviation of returns. With this standard deviation, stocks that actually are in the lowest 50 percent based on their standard deviation or returns are the ones that make it to the next stage. From there, it wants to see stocks are exhibiting price strength relative to other stocks. So, there's an intermediate momentum factor here. That specific criteria is a 12 minus one-month momentum criteria. We're going to talk about that in a little bit, but that's the actual investment criteria used. It sorts on that. And then it also sorts on net payout yield. So, it's not just looking at dividend yield here. It's looking at dividend yield plus share buyback yield.

Those are two ways that a company can return cash to shareholders, and it sorts on that as well. So, you're getting two shorts based on -- you're getting one based on momentum, one based on net payout yield. What happens then is there's a combined rank. So again, it's this combined ranking concept. Once we have the combined rank, we can see what stocks are in the top one to two percent of all stocks in the universe, and from there, those are your top performers for further investigation. So, here's an example of a stock that passes very strongly: Fortune Brands and Home Security (sic). The company's market cap is nine billion. It places it in the top one thousand stocks in our universe. The stock's three-year standard deviation is 23.7 percent versus the market median of 31.8 percent. We then rank the stock based on a 12-month minus one-month momentum, which is 68.1. It places it in the tenth percentile of all stocks in the database. We then rank on net payout yield, which is 4.3 percent. This ranks in the 17th percentile of all stocks in the database. The combined ranking puts fortune brand home security in the top one to two percent--

We're going to now move into the growth investing part of the categories here, and we're going to talk about a model based on Partha Mohanram. And what this model is looking to do is looking to identify growth stocks that have the potential for continued growth. So, the key investing insight here is that

although value stocks in the group tend to outperform growth stocks over long periods of time, the best-performing individual stocks come from the growth segment of the market. So how do we identify these? At a high level, the strategy looks for low book-to-market stocks that exhibit characteristics via their fundamentals and trends in those fundamentals that are associated with sustained future growth. As I mentioned, the model is based on Mohanram's academic research. Partha Mohanram's a professor at the University of Toronto. He wrote a paper, *Separating Winners from Losers Among Low Book-to-Market Stocks Using Financial Statement Analysis*. This is also available for download on SSRN. In his paper and through his test, Mohanram was able to construct a back test of the model from 1979 to 2001, so over a 22-year period. The model showed a return of 20.3 percent versus 11.3 percent for the market. Since 2006, we've been tracking this model as well. It's one of the very best performers on Validea. I think it's benefited to a large extent from the outperformance of growth stocks over the past 10 years or so. But in our testing and our model's performance, the strategy has produced a 15.3 percent per year return versus 6.8 percent for the market over that time frame. The investment thesis that expensive stocks generally underperform the market, but by applying a series of fundamental strength and reinvestment criteria tests, you can identify outperformers among that expensive group. As I mentioned, you know, growth has been a good place to be in this market

environment, and I think should that trend continue, which it looks like it is continuing here early in 2020 -- value has tailed off a little bit and growth has kind of picked up here -- this model looks poised to continue the benefit from that.

So, Mohanram developed a scoring system called the "g-score." And what effectively that does is it scores stocks based on profitability, cashflow factors, and reinvestment criteria. So, the g-score is an eight-point scale that is applied to the 20 percent of stocks in the market with highest price-to-book ratios. So, his initial cut of the universe was looking for the most expensive stock based on price-to-book, which is the inverse of book-to-market. From there, the investment criteria used by Mohanram can be categorized into three different buckets: profitability and cashflows, business and earnings durability, and reinvestment in the business. The first criteria in the model is to identify those stocks that are the most expensive. So basically, what this says is it says it's looking for the 20 percent of stocks in the bottom of the book-to-market ratio, which is, remember, just the inverse of price-to-book. So, it starts out by looking at the most expensive stocks first. From there, we want to step into the profitability and cashflow criteria. So, this model looks at return on assets. It wants to see return on assets above the industry median. Cashflow from operations to assets above the industry average, and then cashflow from

operations to assets versus return on assets above the industry average. One of the things that's unique about this model is the focus on comparing and rating companies against their peer group. So Mohanram realized that stocks in different industries have different characteristics and dynamics. And so, to handle this, the model really only compares companies against their industry peers. The next part of the model is to reward consistency. So, what this is doing, it wants to look for and identify companies that exhibit consistent growth and are more likely to sustain that growth in the future. So first it looks at the variance in the firm's return on assets. It wants to see that below the industry average, and then it wants to see variance in year-over-year sales also below the industry average. Once we have that, we can look to see is the company investing in the future? Are they investing in areas that can help generate future growth? So here we're looking at RND, CAPX, and advertising. For example, the model wants to see RND to assets, CAPX to assets, and advertising to assets above the industry average.

So, here's an example of Intuit, the tax and accounting software maker. It scores in the lowest 20 percent of stocks based on the book-to-market, which means it's in the 20 percent. That's most expensive. So that's indicating that it's got an expensive valuation, and so therefore, it's probably a growth-like company. We've been looking at return-on-assets. Return-on-assets, with

24.4 percent. That's above the industry average. Cashflow from operations is 26.6 percent, which is above the industry average. And then it wants to see the cashflow from operations to assets is higher than return on assets. So that's a positive. We then look at the variance in return on assets. That's below the industry average. The sales variance is also below the industry average. And then it looks at the advertising-to-assets, CAPX-to-assets, and RND-to-assets. And all of those things are scored based on the g-score. So, Intuit is one of only four stocks that actually gets 100 percent according to this model. So that's an interesting growth model, and I think there's some factors in there, there's some uniqueness in there that hopefully you can learn from and maybe even utilize in your own investment research.

The last model we're going to look at is we're going to look at a way to identify sort of the purest, best-performing momentum stocks. This is probably the simplest in that it only uses two criteria, but it's also a model that some investors may not be able to really wrap their head around because it involves buying stock that have already gone up a lot in price. This model was extracted from the book *Quantitative Momentum*, which was written by Wesley Gray and Jack Vogel. They are the founders of Alpha Architect, a quantitative investment research firm. The key investing insight here is that if you're going to use momentum as part of your selection process, it's better to

look for stocks with consistent momentum. So for example, if you have two stocks that are both up 60 percent over the past 12 months, the stock that produced that four-to-five percent return month in and month out over the last year is more attractive versus a stock that is up 80 percent and then down 20 percent in the last two months. So, the model doesn't look at anything other than price performance of stocks and the consistency. So specifically, we're looking at the one-year momentum excluding the most recent month. That's the momentum factor criteria. And then what we want to do is we want to find the stocks with the least amount of volatility within that high momentum group. The source and the evidence, as I mentioned, is *Quantitative Momentum*. In their book, they were able to back test the strategy based on -- they went back to 1927. So, from 1927 to 2014, the strategy produced a simulated return of 15.8 percent versus 9.2 percent for the S&P 500. And on the Validea site, we run a very focused version of our version of *Quantitative Momentum* model that we've been able to implement, and in 2019, it was our best-performing model on Validea. It was up 48 percent momentum. Had a good year last year. The investment thesis behind this, I think, is that momentum is a robust factor. It's been proven academically. And it's also been pretty strong in recent years. And so, I think if you're going to utilize momentum, utilizing a clean strategy and looking at these two variables could be useful in today's market environment. So, to start, this strategy looks at

one-year momentum, as I mentioned, and it excludes the most recent month. So academic research has indicated that stock momentum tends to persist in the intermediate term but mean reverts in the short-term and the long-term. In this particular strategy, what we want to find is the top 10 percent of stocks using this 12-month minus one-month momentum criteria. What we then want to do is we want to reward the stocks that have the most consistent momentum. So, in order to calculate this, we take the percentage of days in the previous year that a stock has produced a negative return, and we subtract the percentage of days a stock has produced a positive return, and then we multiply by the 12 minus one-month momentum. The lower number gives us the better, more favorable result. Stocks are then ranked, and the top one-to-two percent of stocks are the best according to this strategy. So again, it's another order rank ranking system, looking for the stock in that momentum, strong momentum camp with the most consistency.

Here we have AppFolio. As I mentioned, this is a pretty -- there's not many criteria. So, the 12 minus one-month momentum is 93.8 percent. It ranks in the sixth percentile of all stocks in our database. The stock is then ranked by return consistency, and based on that ranking, this stock is in the second percentile of all stocks in our universe.

So, that is the overview of the models. I just want to end real quickly with five tips that I think are important sort of to bookend this with that I think can help you become a more successful investor if you choose to utilize strategies like this. And the first is really just a rehash of what Lynch said and what we've pretty much talked about this entire presentation, which is look at the financials and valuations. By doing this, it will help remove some of the emotional biases that we have, I think, when it comes to buying and selling stocks. There's plenty of great tools out there, including the tools on Fidelity.com that do that. If you do start to utilize systematic strategies, I think it's important to find something you understand, believe in, and fits you as an investor. We sort of talked about that in that slide with the categorizing of strategies. And I think if you can do that, you'll have a better chance to stick with things when things get tough. Another sort of tip I thought might be helpful, and some of you probably already do this, but consider using a consensus of screens if you use screens. If you see a stock that pops up on different types of screens, that means it's scoring highly based on multiple different things. And so, I think if you see that consensus, it could be a good indicator for the security if it's popping up on multiple screens simultaneously. The next point, which is number four, fundamental stock selection and modeling is far from perfect. I think if you're going to do stuff like this, you've got to understand the realities of using these models. So, there's two points

here: one, we track model portfolios based on all these approaches. And I can tell you with certainly, none of them work all the time. There are actually plenty of periods of underperformance, and in some cases, it can be multiple years. So, these strategies are susceptible to periods of underperformance just like anything else. The other datapoint I just want to share with you is even the best models -- we track what we call the "accuracy rating," which is how many positions these strategies get right. So even the best performing models, they hit about 60 percent accuracy. So that means out of ten positions, six positions are winners, but four end up being losers. The simple fact is none of these come anywhere close to batting 100 percent accuracy and finding all winners. And then lastly, there's a cyclicality in quantitative stock selection models just like in styles, and in factors, and in probably a lot of the mutual funds that you hold and buy. The last five and 10 years of the market has seen many trends, growth stocks over value, mega cap stocks have performed extremely well. U.S. has dominated international. And it probably seems obvious, but these trends also find their way into influencing models like the ones I've talked to you about and the ones that we run. But the other important point to remember there is that because these things come in cycles, just because something has worked over the last five years doesn't mean it's going to be what works best over the next five or 10 years.

So, with that, I'm going to conclude my formal part of the presentation. I hope you found this educational and I left you with something you can use and incorporate in your stock selection process to help make it more effective and efficient for you. Thank you very much.

END OF AUDIO FILE