*Transcript of Interview*
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# Quantitative Investment Approach

Michael Hainsworth: We hear a lot about the need for diversified investments. But how can you judge whether you, in fact, have a diversified portfolio? And how do you decide which investments are a good value? With a quantitative approach to these questions, we're joined by Wise Capital Management Chief Investment Officer, Sam Wiseman. Good to have you with us.

Sam Wiseman: Great to be here.

Michael: Let's talk here, first of all, about how the thinking has changed on what constitutes a diversified portfolio. How many stocks should we be looking at?

Sam: When the concept of diversification first came out, and somebody won a Nobel Prize for it, they were saying 20 names spread across industries. Today, that same number, and there's been a few studies, says you have to have 50 or 60 names, spread across industries.

Michael: And how different do these companies need to be? For example, can you hold a plastics company and a petroleum company? Because ultimately they go to the same place.

Sam: Certainly in Canada you should try to hold every major sector. You can maybe get by without one major sector, but then you have to compensate by having more names in the others.

Michael: Fifty to sixty. It sounds like an awful lot for an individual investor to manage—particularly when you use a quantitative approach as opposed to a qualitative approach, or the chicken on the newspaper approach that some people seem to be putting into their market portfolios.

Sam: The quantitative approach is a lot easier for the pro. An individual investor can get full diversification by buying a market ETF or he can have the experience of most retail investors over the last few years where they're concentrated in a couple industries. But then they have tremendous swings in terms of performance.

Michael: An ETF gives you that diversification, but does it give you all the components you need? Because I know that some exchanged traded funds may have different weighting in some sectors compared to the market.

Sam: You're pretty well getting the full diversification in ETFs, but not active management. To have both is very difficult for the individual investor.

Michael: So do you think that an individual investor could accurately and efficiently maintain 50 to 60 stocks by themselves? Aside from ETFs, are there any other ways to go?

Sam: It would be a heck of a job. Another way to get full diversification is to have a number of different mutual funds, and the mutual funds are covering off the different industries, so you're not just holding, say,

science and technology.

Michael: Now, I notice in some of your commentary, you talk about being objective because investors seem to be focused on random idea generation, the idea that we get inspiration that leads us to choose a stock. It's very different from a quantitative approach. For the viewer who's not familiar with a quantitative approach, what goes into that?

Sam: In brief, there's a lot of thinking out of every part of the investment process to make sure there are no black holes. For example, a big black hole is what percentage of the stock you put into a portfolio. Say the investor is including in his portfolio both Rothmans and Bank of Montreal, and he likes Rothmans that day, or simply has more money that day, he ends up overweighting Rothmans. And that's the most important, yet the most boring investment decision: What percentage do you put in of that name in the portfolio? And that's where the quantitative approach really helps—to weigh between the risk and the expected return.

Michael: So how would you go about that?

Sam: Well, we have to put on the lab coats for this. We use linear programming to help us decide, and that's worked very well, particularly in down markets.

Michael: Let's talk about some companies here, using volatility figures for November. We've got a list of them for you here. And let's talk about individual stock volatility, and what individual stock volatility tells us, ultimately.

Sam: A number of years ago, in the evolution of investment management on the scientific front, they used to calculate out beta and say there's just one number that gives you individual stock volatility. Now we know there's a whole host of betas. There's been quite a bit of work on this. So, once we take out the effect of how much debt a company has, or how much profitability it has, we come up with a net number that tells us, for example, on the names you brought up there, that Power and EnCana are long term holds. And it's a virtuous circle because the market actually gives these stocks a premium for not having stock volatility. On the other extreme is Nortel and Air Canada, and the market is penalizing these stocks because of their volatility.

Michael: So, if Nortel Networks, as we see there, has a volatility of 3. Does that make it three times more volatile than, say, the TSX composite by which we're comparing? How do we know what that "3" tells us?

Sam: The "3" is in standard deviation terms. The market is ranked at zero. Three is pretty well the extreme. That's one in a hundred names that normally, over a long period of time, will hit this Nortel level of volatility.

Michael: What does that figure, specifically for Nortel, tell us? When we see a stock with a high number such as that, what is that telling us, ultimately? Is there insider trading going on? Does somebody know something that's going on that we don't, and that's why it's more volatile?

Sam: Once we explain everything quantitatively, we're left with the fact that this is a trading stock. That probably has a lot to do with how well spread out the ownership is of this stock. People are footballing around the name and with every bit of news, they go out and they trade it. The opposite is true for EnCana, which they say "Look, this is a buy and hold."

Michael: For example, EnCana is a 0.57 on that scale there. And you say that a premium is often factored in for stability like that. But does that also mean that with low risk also comes low reward?

Sam: Well, there's a number of other betas, a number of other impacts on the stock's price. This is just one. But what we're able to do from a quantitative approach is forecast what the market would pay based on what it's paying for similar stocks. So, the market on average is paying or penalizing for volatility, and we calculate that out in the price, and we come pretty close most of the time.

Michael: Let's move on to how you decide which companies are good value, which are worth buying or worth selling. I can imagine components of Price-to-Book and Price-to-Earnings, these come into play?

Sam: Yes, and for Price/Earnings and Price-to-Book, sometimes one or the other is working. So the value inherent in that stock is not coming out at you. If I can use a baseball analogy, you have some players that get on base a lot, other players their worth is from their slugging average, or how many home runs they hit. If you combine the two together, they found that to be highly related to total offence. So, for Barry Bonds you get a number of 1,381, and that's like having two players. It's like every time you go through the batting lineup, even if you have three outs, you get an extra at-bat. So, by combining Price/Earnings and Price/Book together in a quantitative approach, we have numbers that strike out at us. Otherwise it would be impossible to go through every name in Canada, which is what we do.

Michael: For a viewer who might need more information, are there sources on the Internet you could recommend that they might go to?

Sam: Sure, there's a number of websites: Barra.com, Northinfo.com, and APTPro.com.

Michael: Tell me about Barra, NorthInfo, and APTPro.

Sam: Each of these three have factor models, which is all the impacts on the market. They're constantly updating it per stock and for the market, on at least a monthly basis. It's very expensive and very powerful software, but these three are at the leading edge.

Michael: Sam, thank you very much for your insight.

Sam: Thank you. See you again.

Michael: Sam Wiseman has been our guest—Chief Investment Officer of Wise Capital Management.