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Inflation, Interest Rates and Bond Returns with Sooyeon Mirda CFA, Dimensional Fund Advisors

Announcer: Welcome to the Empowered Investor Podcast. Have you ever felt overwhelmed by the sheer volume of choices and voices telling you how to plan or invest for your future? With a straightforward approach, host Keith Matthews of Tulett, Matthews & Associates cuts through the noise to help you create a winning action plan for you and your family. The decision-making framework discussed in this show could transform you and your investment experiences and will increase your odds of becoming financially secure. Learn more and subscribe today at TMA-invest.com.

Keith: Welcome to the Empowered Investor. My name is Keith Matthews, and I'm joined by my cohost Marcelo Taboada. Marcelo, how are you today?

Marcelo: I'm doing good, Keith. I'm a bit sad the summer is coming to an end, but I can tell you I'm beyond excited for today's episode. We have an amazing guest, extremely qualified. We're talking about subjects that are buzzing right now: inflation, interest rates, fixed income. For my generation, inflation is something very abstract. We've never seen inflation higher than 2%, 3%, 4%. It's quite a surreal time to be alive when it comes to this. Then you have fixed income. As an advisor, I've been in the business six, seven years. I've never seen a period where fixed income is as down as equities. So definitely an interesting time to be alive when it comes to the markets and what we're living through.

Keith: Oh, you're 100% correct, Marcelo. In my 20 years, we haven't seen this. It will be the first time in a long time where you see this much interest in these abstract concepts like inflation. It's not abstract because right now it's hitting everybody in their daily lives, and they read about Federal Reserve or Bank of Canada interest rate hikes every month or so, and they hear about the future interest rate hikes and how that fits into their daily lives. And then, of course, in the bond world, there are implications in terms of bond returns. This is a subject matter that's very much "sujet de jour," the subject of the day. And we have an amazing guest, 100%.

Marcelo: So tell me about Sooyeon. She's amazing, by the way.

Keith: Yeah, Sooyeon Mirda, graduate from Princeton, CFA, worked for multiple firms in the institutional space for fixed income, really thrives on commentary, education, and communication. Works at Dimensional Fund Advisors as a subject matter expert in fixed income. Prior to Dimensional, she worked at Goldman Sachs in their super high net worth department supporting and communicating with clients around fixed income and alternative assets. And so, a wonderful expert. But what strikes me about Sooyeon is her ability to communicate complex ideas with tremendous clarity. So, I first saw her a couple of weeks ago at an advisor webinar that we were attending for Dimensional, and I was struck by her ability to communicate concepts in such clear language. And I think our listeners are really going to appreciate her views and her interpretation and her discussion on interest rates, inflation, and some really great ways to think about the bond market. And so, it's a tremendous show and a very timely show, Marcelo.

Marcelo: I couldn't agree more. And I think people will appreciate, even if you are not interested in all the subjects we're going to discuss, I think people will find something that they're going to be

grabbed on by the subject and the topics you discussed because she's so good at explaining things. So enjoy the show, and we'll see you in two weeks. Thank you, folks.

Keith: Welcome, Sooyeon, to the Empowered Investor podcast.

Sooyeon: Thank you, Keith. I'm really excited to be here. Thanks for having me.

Keith: Oh, you're very welcome. Listen, I heard you speak at one of our advisor conferences a few weeks ago, and what I just couldn't get over is how clear you brought certain messages around complex matters. So, we're super thrilled to have you today on this discussion about interest rates, bonds, yields, the Fed, all sorts of different things which quite often are so complex and confusing for investors.

Sooyeon: Yeah, Keith, there's certainly an abundance to talk about in the fixed income markets. Really, all the markets, but I think the topic du jour has certainly been fixed income. So I'm very excited to dive into it a little bit deeper with you and the audience and hopefully demystify some of the things that have been happening.

Keith: I know you'll do an amazing job, but before we get into that, let's talk a little about your background.

Sooyeon: Yeah, Keith, I am currently at Dimensional Fund Advisors based out of our Austin, Texas office. So it's August 4th right now when we're speaking, and it's very hot here in Texas, but we love it down here. And I'm a fixed income strategist within the investment solutions team here at Dimensional. And really, my role is to act as a subject matter expert on the fixed income strategies here at the firm and really be an advocate for our investment philosophy and our solutions. So I think it's a really great role. We get to be incredibly technical, right? We have to know the ins and outs of the markets, of the strategies themselves on the fixed income side. But we're also really responsible for partnering with our distribution channels. So I like to say it's the best of both worlds then, very energizing to be able to interact with clients but of course still be very knowledgeable and technical on the fixed income markets.

Keith: And so why did you choose fixed income of all things? There could be stocks. There could be currency. Like, why fixed income?

Sooyeon: It's a funny question that you asked me this, Keith, because I like to say I accidentally fell into fixed income, and I'll give you a little bit of story here, Keith. But I was an economics major in college, and I went to school pretty close to New York City. So, I said, "Okay, I'm analytical. I have a little bit of this econ background. So, what do I do?" And all of my colleagues, I didn't come from a finance family, but all of my classmates were like, "Hey, we're all going to try this finance thing." So, I said, "All right, there's a few decisions I have to make, right? There's the buy side and the sell side." I was drawn to the buy side immediately because I liked the fact that I could be a skeptical investor on the buy side, right? I wasn't going to be an investment banker that was beholden to whatever deal that I had to underwrite. I wanted that flexibility to still remain skeptical. That was my first decision, Keith. I was like, "Okay, I'll go into the buy side. Investment management sounds awesome." But then you're absolutely right. There are so many asset classes, right? Stocks, bonds. And for me, it was which one's a larger market, which one's a broader market. And it so happens to be fixed income. So I went into a rotational program right out of college. I actually started on the fundamentally active side, so doing a lot of credit research, bottoms-up, tops-down analysis in New York City. And I've loved it ever since. Obviously, I've come over to Dimensional because the

philosophy aligns a lot better with my personal investment philosophy. But I did accidentally fall into the fixed income world.

Keith: You've got such a fresh, crisp energy behind you. So I think it's fantastic to see this in fixed income. Being a former bond trader, you're so used to a sort of a more stoic individual that's talking about bonds and whatnot. So I find it totally refreshing. And why communications? What drives you in the communication front? Because you're very good at, again, demystifying complex subject matter.

Sooyeon: I've done really a lot of things within fixed income, Keith. So, as I mentioned, I started in credit research and also portfolio management. I was in a rotational program, so I really got to see it all, and I loved that job. But what I was missing was that client interaction that I realized really energizes me, and it's so rewarding to be able to distill really confusing concepts in an approachable way. So that was really what energized me in the office. So I really wanted to build my career where I could still do the technical analytical side of the business but also engage directly with clients to really help them become better investors or make the most informed decisions that they can.

Keith: Very cool. Very cool. What about prior to Dimensional?

Sooyeon: Yeah. So I started my career out of New York City, Alliance Bernstein, great firm based out of New York. They're actually in Tennessee now. So they've also been moving around the country, but that's where I started my rotational program. So I did some stints in Muni research, investment grade US corporate research, emerging market debt. Really good experience there. But as I mentioned, more of a fundamentally active shop. So for me, I really wanted to be somewhere that aligns with my personal investment philosophy long term, and that's really how I found Dimensional. I also did a stint at Goldman Sachs out in San Francisco, also doing portfolio management and research for ultra-high net worth and institutional clients. So I’ve really seen a lot of the industry, and all roads keep leading me back to Dimensional.

Keith: Oh, good for you. Good for you. Listen, thank you again for being on today's show. We're going to slowly switch gears here and get into the subject matter that we're set up for. And again, if I look back at my career of 25 years, I don't think I could remember one single time where people are actually fascinated with bonds, fascinated with what's going on at Fed, fascinated with interest rate hikes or the potential for decreases sometime in the future. And I think partially because people are seeing inflation and issues actually affect their day-to-day lives, not to mention assets, whether it be homes or parts of their portfolio. So it's really quite a fascinating time right now. But at the same time, I think there's a lot of not so much uncertainty but a lot of concern as to what's going to go on in the future. And I think in today's show, you're going to demystify some of that greatly.

Sooyeon: I hope to, Keith. I really hope to. I think you're absolutely right. Me and my team, we do hundreds of client meetings and client engagements every year. And certainly, this year has stuck out as special, right? We've seen more meetings, more meeting requests, and you're absolutely right. It is the topic du jour, right? Everyone wants to talk about fixed income. What's happening? And I certainly think it's a confluence of challenging environments. We've seen some negative numbers that we generally don't see in the market. So we'll distill what that is, what's happening there, and what you should be doing in response to that, if anything, right? And then, of course, you're absolutely right. Inflation has reared its head really across the globe. So certainly a lot of uncertainty and volatility that I think most fixed income investors aren't used to seeing, right? Keith, you mentioned you've been in the industry for over two decades, and certainly we haven't seen numbers like this in inflation or the fixed income market since really the early '80s. So it's a little bit

new for a lot of people, but hopefully as we go through some of the topics today, we'll be able to raise some clarity on what you should make of all of this noise in the market.

Keith: Let's dive in. So let's start with inflation. Why is there so much inflation? What is driving inflation right now?

Sooyeon: Oh man, Keith, again, inflation. Unless you're living under a rock, everyone is talking about inflation, right? And it's very difficult, Keith, to say exactly what the variables are and coefficients of the variables that are driving inflation. But what we can see right on a high level is certainly there's a lot of reverberations occurring from the COVID pandemic, right? The onset of the COVID pandemic where there was a lot of uncertainty March and April of 2020 when the world shut down. And in response, a lot of countries around the world put in an immense amount of stimulus, right? A lot of stimulus. They were trying to buoy up the economy in response to an unprecedented pandemic. And what's really happened on the back end of that has been very strong demand. We've seen with vaccines and reopening of economies, people starting to travel again, coupled with larger household savings. We've seen the demand side really surge. And then that's been also coupled with some supply issues, right? So we've seen the Russia-Ukraine conflict, energy prices surging. So I think, again, it's one of those confluences of things that are going on both on the demand and supply side. What's pushing it, though, is obviously really if we look at in the U.S. or Canada, really everything is being affected, right? From used cars to airline fares. I'm certainly feeling it. I was just, I booked a trip to Europe this summer, Keith, and I don't remember tickets being that expensive, right? So you definitely feel it in your day to day. But certainly when we distill down to the sectors, it does seem to be mostly driven by the more volatile sectors like food and energy.

Keith: And we're seeing high levels of inflation not only in Canada but in the United States, in Europe, pretty much everywhere in the world.

Sooyeon: That's absolutely right. U.S. just had a CPI print of 9.1% year over year. Canada, I know, has 8 point something percent as well. So yes, it certainly seems to be pretty dispersed across the globe.

Keith: All right. Thank you for highlighting what we're seeing. Let's talk about inflation. Let's talk about what is potentially driving inflation. Let's move to Federal Reserves, Bank of Canada, and organizations that set interest rates. And let's just walk our listeners through. First of all, what are they? What's their role? You want to take a stab at that and tell us what's going on?

Sooyeon: Yes. The Federal Reserve, the Bank of Canada, the ECB, Bank of England. You're hearing all about all of them. They're almost like rock stars, right? Pop stars. Jerome Powell, he's so quoted in the financial media these days and definitely more so now because of the high inflation that the central banks are trying to help combat. So you're absolutely right. Let's take it down a notch. What are central banks? And what are their mandates? And why do they exist? And they are mechanisms to help promote economic and financial welfare of Canada, of the U.S., just to keep price stability and unemployment at reasonable levels, right? So if we think about the Fed in the U.S., they have a very strict dual mandate. And those two prongs of that mandate are price stability, so inflation, and maximum sustainable employment, so trying to keep unemployment low or at sustainable levels. So those are really their jobs. Of course, different banks around the world have different mandates, but broadly it is really to promote stability in the financial markets in these countries.

Keith: Okay. And as an aside, there's a term that often we see in the newspaper called "Fed watching." What is that exactly? You want to speak to that? Help us out. What is the action of Fed watching?

Sooyeon: Fed watching, Keith? I think it's a favorite pastime for many people in the financial world. I certainly don't think there's anything wrong with watching the Fed. I watched Chair Powell. I listened to all his remarks, and I think a lot of people in the financial markets do so as well. And as a result, what we would say is, of course, all these Fed watchers out there are aggregating Fed expectations, new information that's coming out, and of course, aggregating that in the market price. Sometimes Fed watching has a negative connotation, right? Where all you're trying to predict what they're doing and using that to think about what your asset allocation will be. And hopefully we'll, throughout this podcast, demystify why you really shouldn't be making asset allocation or duration decisions based on what the Fed is saying because, of course, current market prices already reflect all of that wisdom already into the current price.

Keith: Okay, we're definitely diving into that a little later. So talk about the Fed increases that have come through in the last year. So if you're an investor, you're sitting down today and you say, "Wow, look at the increases that I've already seen in the market." And then there's this discussion that a whole bunch of them are still coming. So do you want to give us some perspective about, A, how big of the increases to date have been in a cumulative environment? And what is the market pricing in on a go forward basis?

Sooyeon: Yes, Keith. So Bank of Canada and the U.S. have acted pretty similarly, pretty in line. Since March, they have, in aggregate, raised rates about 225 to 250 basis points. So that's going to be the Fed funds rate and then the Bank of Canada policy rate. So, the short-term rates, the U.S. Fed, for example, 25, 50, 75, 75, right? Each one in their meetings, Bank of Canada was 25, 50, 75, 50, 100. So certainly, steady increases so far in 2022. And we also have really powerful tools in the Fed funds futures market as well as the Canadian futures market to see what the market is expecting Fed funds rate or Bank of Canada target rate to be going forward. And the market is actually expecting steady increases through early 2023 as well, but then you do see it slightly decreases after that and plateaus off around 3 to 3.2% in the U.S. and Canada. So it's interesting, Keith, because if you look at where short-term rates are today in the U.S. and Canada, they're right around that 3 to 3.2%. All this information, all this Fed funds futures expectations are certainly being priced in today into today's yield curve.

Keith: And so this is a critical component that we're going to talk about a little bit in the show. But primarily, if you're an investor today and you're sitting back looking at the last six months, you're seeing these Bank of Canada rates go up, mortgage rates go up, bond prices go down, you see maybe home prices soften a little. You know that inflation is going up, and then you say, "Yeah, but there's more rates increases coming, so I must be facing a lot of pain still in the future because I've just gone through part of it." What you're saying is that essentially is already built into the yield curve.

Sooyeon: It's absolutely correct, Keith. All of this information that me and you are hearing, right? It's no shock to anyone that central banks are hawkish, right? We hear about it. The market, in fact, expects it to happen. So, all of that is already being baked in. I'm not suggesting that rates won't continue to rise. Certainly, there could be new information that becomes available that would result in that being digested quickly into the market. But based on everything that is known and observable today, all of that future central bank activity is already being priced in. Something that I would also argue, Keith, is that central banks, although very important players in the financial markets, are not the only players in the financial markets, right? They certainly have very strong control over short-term rates, but they don't control the yield curve at large. So, if you're a bond investor invested beyond 1 or 3-month bills or G.I.C.s in Canada, the Fed doesn't control with direct causation what happens on the rest of the curve. So, it's incredibly important to not put too much emphasis on their

hawkish posturing or what they're signaling because that's already being priced in to current market prices.

Keith: Correct. And then the yield curve is what typically drives five-year mortgages along with bond yields, bond returns, whether they be positive or negative.

Sooyeon: Absolutely, Keith. And I think we have a really good anecdote, right? And let's just look at what's been happening in fixed income markets in the last, call it, 10 to 15 trading days. Bank of Canada, the U.S. Fed, both have raised federal funds and target rates by respectively 75 and 100 basis points. But what's actually happened in the broader fixed income markets is bonds have rallied. So let's just look at an example. Let's see, as of 6/30/2022, the global ag hedged to Canadian dollars returned, it was down 9%, again, a very challenging environment.

Keith: So global ag being global aggregate bond market.

Sooyeon: Yes, absolutely right, Keith. Global aggregate. This is going to be global developed markets, investment grade bonds, government and corporate, hedged back to the Canadian dollar, down 9%. So certainly a challenging environment. But if we look as of yesterday, this is early August, it was down 6.8%. So it gave back almost more than 2% of the returns that it had lost even in the midst of a rising rate environment. So it's really important to, again, not try to time in and out of the markets, try to speculate what's happening with the Fed because you can see there's a lot of other dynamics in play besides what central bank policies are doing.

Keith: Perfect. Thank you so much for that clarification. I want to take you back for one second. About two minutes ago, you used the word hawkish.

Sooyeon: Yes.

Keith: I want you to take a moment and just define what that is, hawkish and dovish, just because I want the listeners just to really pick that up.

Sooyeon: Yes. Keith, I wonder how people came up with the bird analogies, but hawkish means that central banks are looking to slow down demand. And generally, that means rising rate environments and tapering of asset purchases. Dovish is the opposite, where they're looking to stimulate the economy, increase demand, perhaps in times of recession or economic slowdown. And you would see the opposite in the monetary policy space of cutting rates and buying asset purchases.

Keith: So obviously, pretty much most central banks around the world are in hawkish mode as they slowly raise rates and prices.

Sooyeon: Absolutely, Keith. That definitely seems to be the consensus across most of the developed markets is inflation has become a more important prong of the dual mandate. It used to be that unemployment was the emphasis. With the onset of the COVID pandemic, a lot of uncertainty, central banks around the world were quite dovish. And now that inflation has become really a priority in most of these developed markets, you do see hawkish stance really come to light.

Keith: Okay, great. Thank you for that clarification. And before we get into how do we think about the future and how do we invest in bonds, there's a couple more areas we want to touch base on. And the first one is general, and you alluded to a general aggregate returns and fixed incomes.

They've been fairly negative year to date. And how does that compare to some of the previous years, the last 20 or 30 years?

Sooyeon: Yes, Keith. So let's again use that example of the global aggregate bond index hedged back to Canadian dollars. That was down 9% as of the second quarter of 2022. If we just splice it by the U.S. ag and the Canada Canadian ag as well, those were down actually even more, which actually highlights the importance of global diversification, right? It gives you some of that hedge against the volatility of rising rates, but the U.S. ag was down 9%. 10% plus, and the Canadian ag was down actually more than 11% as of the end of the second quarter. And we have not seen these periods really ever in the fixed income markets, Keith. Going back to the 1970s for the U.S. ag, we have data going back to 1976, and this is the worst start to the year so far in 1980. That was the second worst year so far, where we did see Q1 of 1980 be particularly challenging, similar magnitudes, double digits down. But it's interesting, Keith, because if you extend that holding period to the full year of 1980, returns were actually positive in that market. So again, it's very holding period dependent. One or two quarters of negative performance certainly does not mean it will continue to persist in the future.

Keith: Yeah, it just goes to show exactly the uniqueness of the period that we're in right now, coming from extremely low interest rates to all of a sudden surging inflation and interest rates being affected, bond returns being affected, and of course, stock returns being affected.

Sooyeon: Absolutely, Keith. And it's interesting to see the client reactions to this too because obviously, why have bond returns been this negative? Because bonds are affected, of course, by rising rates, right? Although future changes in rates are not predictable, this goes back to a lot of the research that Dimensional focuses on, Professor Fama's research back in the 1970s and '80s, where future changes in rates are not predictable. There's no reliable way to predict them, but they certainly, of course, over the short term, may affect bond returns, sometimes positively like what we saw in 2020, sometimes negatively, right? What we have seen this year so far. But a lot of our clients are, of course, very concerned. They see these negative numbers on their statements. But a lot of our other clients are also quite excited because expected returns in the bond market have increased significantly. Rates in the U.S. and Canada, for example, have moved up 200 to 300 basis points. So what does that mean? Yields are one component of a bond's expected return, which means going forward, fixed income looks a lot more attractive than it did six to 12 months ago. So, it's really interesting to see the wide gamut of reactions to this period, Keith. Obviously, it's very challenging. We certainly don't want to dismiss challenges that we've seen, but a lot of people do seem to be pretty excited about higher expected returns in the fixed income market.

Keith: 100%. And we're going to save this as we get to the next step. But you're right. Essentially, in Canada, you've got individuals living with higher costs of living, which means their budgets are being squeezed. In general, you're seeing asset prices, whether it be homes or stocks and bonds that they own, being pinched. And so it is this period of concern. And so we're trying to figure out how do we look forward now? And this kind of sets us up nicely for the next section. When are things going to improve for Canadians and Canadian investors?

Sooyeon: Man, Keith, that is the question of the century, right? It's impossible to predict what will happen, right? No one here has a crystal ball. Certainly, we can't predict what will happen in the future. But what I will say, going back to what we just talked about, is that expected returns and fixed income are much higher now than they were six to 12 months ago, right? The higher yields are going to make the asset class a lot more attractive from an expected return perspective and also will allow us to better withstand potential future rises and rates in the future. We also have a lot of good

information and break-even rates that do show both in the U.S. and Canada that the market is not expecting these high levels of inflation to continue to persist for the next year, two years, or five years. So overall, again, there's no reliable way to predict that, but certainly, it does seem like some of the indicators are suggesting that this continued inflation will not continue to subsist.

Keith: So Sooyeon, what are the breakeven points that you're talking about? What are the numbers, and how do you—how do fixed income traders and strategists calculate those numbers?

Sooyeon: Yeah, so breakeven rates, Keith, are going to be simply yield differences between nominal treasuries, so treasuries that don't have an inflation-protected component, and the yield difference of those versus TIPS or Treasury Inflation-Protected Securities here in the United States, and then, of course, the Canadian versions as well. And that spread is called the breakeven rate. And it's a very powerful tool that we have because it tells us a lot about what the market is expecting inflation to be going forward. And of course, there is a premium for bearing inflation risk as well. But one way to think about it is the one-year breakeven rate in the U.S. right now is around 3.5%. So in other words, the market is expecting inflation to be 3.5% per year for the next one year. The two-year breakeven rate in the U.S. is around 3%. So you do notice that it comes down. So that means that investors, the market is expecting inflation to be 3% per year for the next year, two years.

Keith: Okay. So just to be clear, that's 3% per year starting today versus 3% in two years.

Sooyeon: Correct. 3% per year for the next two years as of today. It's absolutely right.

Keith: So this gets back to this concept of—and to me, this is one of the two fundamental issues that helps me understand this whole area much better. A is that the markets are forward-thinking. They're always looking ahead. We tell our investors and our clients that's happening in the stock market, but of course, it's happening in every market.

Sooyeon: Absolutely, Keith. If we look at just the breakeven rate, we've seen 9.1% backwards, right? And 8% in Canada backwards. But the market is aggregating new information, and they're looking forward, right? They're saying, looking forward, we see all of this that's happening in the economy, central bank policies, X, Y, Z. We're aggregating all of that wisdom, and we're looking forward. So that's really why you do see kind of these breakeven rates come down. Let's think about just from a yield curve perspective. You're absolutely right. The market is brutally efficient. It definitely aggregates the wisdom and expectations of all market participants very quickly into market price. If we think about the U.S. Treasury markets, Keith, they trade $600 billion every single day. So you can really see how dynamic that market is in digesting new information as it becomes available. The market is certainly not sitting on its hands waiting for the Fed to do something and then reacting.

Keith: Absolutely. And of course, from our perspective, sometimes we're just having casual conversations with individuals, and they would say something like, "Everybody knows that the Bank of Canada is going to raise rates. I've seen the pain already. There's more pain coming." And what you're saying essentially is things are priced in to the extent that looking out into the future, people, investors are actually predicting much lower levels of inflation. And so the individual who makes that statement may not be aware that the markets are really pricing this in to the level that they are, or even aware of the concept of forward thinking.

Sooyeon: Yeah, Keith, absolutely right. The market has all this information. It's not sitting around waiting for someone to do something and then reacting, right? If we again, we talked about this a little bit earlier, but we can look at what the market is expecting Fed funds and Bank of Canada rates

to be, and they do seem to be pricing in as of right now these terminal rates of 3 to 3.2%. Let's take a look at the yield curve today. Okay. In the U.S. and Canada, short-term rates are right around 3 to 3.2%. So it's not saying, "Oh, we still have so much room to grow to this expectation." Certainly, those rates are certainly pricing and all of those future activities already.

Keith: Okay. That's to me, that's one of the major takeaways in your message and in today's show for our listeners. And one of the other big ones that I want to spend some time focusing on right now is the idea that rate hikes, Federal Reserve or Bank of Canada rate hikes, don't give investors information about the returns that are about to come, the returns in the bond market. Because everybody's saying rates are going up, but what I don't think people know is that doesn't actually tell us what's going to go on in the bond market.

Sooyeon: Absolutely, Keith. I know we touched on this, but let's expand because Dimensional has done a lot of research debunking this logical fallacy for lack of a better term, right? Where if central banks are expected to raise rates, does that mean that I should go to cash? Or does that mean I should shorten duration? Because why wouldn't I? Rates are going to continue to rise, so I should definitely try to be tactical and shorten my duration. What we have found is that the Federal Reserve, Bank of Canada, and central banks at large do not control the yield curve broadly, right? So beyond the short-term part of the market, five-year, 10-year, 20-year rates, they do not move in lockstep with what the central banks do. And then secondly, they don't give you reliable information about future bond performance. We've taken a deep dive into this analysis, Keith, our great analysis from our research team that actually took a look at central bank policy and subsequent bond returns in excess of cash. Because I think a lot of people have the thesis that when central banks hike or raise rates, then you would be better off in cash, right? I think that tends to be the thesis that people follow. But what we did is when we analyze that from 1984 to present day, there's actually no reliable relation between central bank policy and bonds outperforming cash. In fact, across all time periods, really, we do see a reliable bond premium over cash. And that might be a little bit of a dramatic example, Keith. Maybe investors are not thinking about abandoning bonds altogether, but they are saying, "I want to be shorter in duration. I want to take less interest rate risk than before because, again, I think rates are going to continue to rise." We've done a deep dive on that as well. Same exact analysis where we took a look at central bank policy and what happened to bond returns, longer-term bonds versus shorter-term bonds in the following year. And again, there's no reliable relation between that. And again, similarly to what we saw in bond returns in excess of cash, we do see a positive term premium generally speaking across all Fed cycle periods.

Keith: Yeah, the research that Dimensional has done and that your team has provided to me is mind-blowing because when I looked at it the first time, I go, "Wow, it is counterintuitive." And I'd like to think of myself as a somewhat seasoned investor with fixed income background, 20, mind you, 25 years ago, but still, by looking at the plotted charts that you're alluding to, there is no pattern whatsoever in terms of what bond returns provide when Fed changes their rates either up or down, and you would expect a negative slope, and you do not see any slope.

Sooyeon: Exactly right, Keith. And we've also been tested on that's a little reactionary, like these two analyses that we just talked about, right? Because we're saying if the Fed hikes in year zero, what happens next year? What if we knew with certainty that the Fed was going to hike and we knew exactly when, for how long, for what magnitude that the Fed or the Bank of Canada would hike rates, would then would we then have any more clarity on if longer duration would outperform shorter duration? Of course, Keith, we've done that as well, where instead of saying what happened in year zero and then year one, we've said, "Let's just look at major rate hike periods as well as cut periods. And is there a reliable relation between longer-term bonds outperforming shorter-term

bonds?" And even then, we still have no reliable relation between the two. So even if we knew with a crystal ball, Keith, exactly what the central banks were going to do and when they were going to do it, that still would not give us any additional information on making duration decisions.

Keith: Yeah. So what you're talking about is the chart that goes back to '76 that reviewed every single interest rate hike, and you classify them as periods of hikes or periods of decreases.

Sooyeon: Exactly.

Keith: And I'm looking at the data right now. And again, to me, this was eye-opening because I've broken it down. I took your report and broke it down into two main sections: the rate hike, which you speak about, and the rate cut. And I've calculated 13 different periods, and of the 13 periods, if you followed a traditional concept of if rates are going to be hiked, you should shorten duration and just hold short. And the opposite would be true if rates are cut. Lo and behold, six out of the 13 outcomes are not what you would expect. So not quite 50%, but pretty close. And my takeaway to that would be for any, whether it be a client, investor, friend, contact, saying, "It's obvious that this is what's going to happen in the bond market," I would say absolutely not obvious. And so what are the implications when we think about investors now? So you've now shown us the research that Dimensional has done on hikes by the Fed or the Bank of Canada. Don't give us any information about future bond returns. How should one think about bond returns, and how should one think about where we are right now with these hikes coming, but we still want to own bonds in portfolios?

Sooyeon: Yeah, Keith, again, it's such an interesting time to be an investor, and it does really battle test, right, your way of investing, the way you're thinking about things. And what I would urge clients and investors to think about now is make sure that you have a long-term strategy, right, that can battle test and weather these volatile times. We'll bring it back to Fed watching. I'm not going to discourage anyone from Fed watching. I'm certainly going to continue to tune in to what Chair Powell's remarks are, but I'm certainly not going to use his comments to make duration decisions. I think in times of volatility, it's really important to have a long-term strategy that you can weather through the storm, right? If we think about the way that Dimensional has been investing stocks and bonds for the last four decades, and what really drew me to the firm, Keith, is that it is a battle-tested strategy. We've seen market periods of rising rates in these last four decades, falling rates, inflationary periods, deflationary periods, and our systematic approach remains true throughout all of these periods, right? We're not going to be jumping on the bandwagon based on what's hot in the day, and we really are going to be focusing on that long-term investment horizon. So we don't have a crystal ball, but here at Dimensional, we believe that there's enough reliable, rich information in current market prices to help you position your portfolios for the highest probability of success in the midst of all of this uncertainty and volatility.

Keith: So what exactly does that mean? I know that you're going to add in here that the markets are forward-thinking, that the yield curve is the best indication of where we should be given all the information we know today. And so therefore, there's a strategy you have which is going to work on this efficient market concept.

Sooyeon: Absolutely, Keith. Again, we really believe that market prices contain really rich, reliable information about expected returns in the future, which ties in exactly to what you said about markets being forward-looking. On the equity side, we're going to have that constant exposure to small value and profitability based on what we see are the long-term drivers of return. On the equity side, on fixed income, we have a lot of information in changing market environments because we do have a yield curve, we do have credit spreads, and as a result, we can vary our maturity or duration

and credit quality in a systematic way that relies on market prices to again target credit and term exposure when we're likely to be compensated for doing so, and then taking our foot off the gas when we aren't. So it's a really thoughtful approach that takes advantage of current market prices, which we believe aggregate all of the wisdom of market participants, are incredibly forward-looking, and have a really strong, reliable pattern to what we see actually materialize in term and credit premiums.

Keith: In a traditional bond market, you have active money managers basically picking calls on duration, going long duration or short duration, or calls on credit. I remember when I was a bond trader, at the end of the year, whoever had the top-performing strategy would always sort of boast about how great they were at being able to forecast the future. In hindsight or pretty much right after, I started to realize, unfortunately, it's a bit of a lucky guessing game. So one year, you might have called duration, how much duration you should have in a portfolio correctly, and another year, you may have gotten it wrong. So it was really a hit and miss. I know that you have a systematic approach at Dimensional. Do you want to take a stab at giving us sort of the highlights of the strategy?

Sooyeon: Absolutely, Keith. And coming also from the fundamentally active side, I relate very strongly to your experience as well, where we are similar to our fundamentally active counterparts in many ways, right? We are expected return maximizers here at Dimensional as well. We want to beat the benchmarks. We want to beat the market. But we can do that without focusing all of our energy on what's going to happen to rates or spreads in the future. At Dimensional, we think about expected returns and fixed income in three components. There is going to be that third component that is what we just talked about, future changes in rates, where it's not known or observable where that's going to go. I wish there certainly was, Keith. I think my career in fixed income would have been a lot easier if I could predict with certainty what was going to happen in rates, but it's a moot game. There's just no reliable way to do that without having a crystal ball into the future. But for us at Dimensional, again, we're going to be using Professor Fama's research back to the '70s and '80s. There's reliable, rich information in today's yield curve to position our portfolios from a duration perspective without having to guess what's happening in the future. And those two components are going to be yield and capital appreciation. So if we think very simply about how you make money as a bond investor, right? One is going to be that yield from a bond, right? You have a coupon. That coupon payment pays you. That's one way—income. And then the second way is, of course, if you sell your bond for more money than what you bought it for, right? There's kind of those two levers that you can pull. So at Dimensional, we're using today's yield curve to maximize the combination of those first two components, yield and term capital appreciation, carry and roll, level and slope. That's what you hear in fixed income jargon. And generally speaking, what we see is that those first two components are maximized in an upwardly sloped yield curve environment, what we would call normal, along the longer end of the duration range. Of course, each portfolio will have different parameters, but generally speaking, you will see us lengthening duration to take advantage of higher expected term premiums, right, with one and two being larger. But of course, in a flat or inverted yield curve environment, that second component, there's not really going to be an expected capital appreciation anymore. There actually might be an expected capital loss due to the shape of the curve. So components one and two in those scenarios may actually be maximized on the shorter end of the curve. So in those yield curve environments, you may see Dimensional shorten up duration in relation to its overall duration parameters to, again, maximize expected returns in a changing environment. So we are very dynamic here at Dimensional on the fixed income side, Keith. We're going to look different from the market. We will be changing duration and credit quality, of course, within the parameters of each portfolio, but it's just done in a systematic way. We don't have to do the finger lick test to the wind to see where rates are going to go or where spreads are going to go

because we have enough ample, rich information in today's market prices to position our portfolios for the highest probability of success.

Keith: Thank you for that. And it truly is systematic, and there is a rhyme and a reason. There's a strategy behind what you do, and a lot of it is predicated on the idea that markets are forward-thinking, and the yield curve is the best indication of where we should be given all the information we know today. And it's not a guessing game. And so many, even at the institutional level, they'll back it up with a very bright narrative about why they think this is going to go on. But at the end of the day, as all your research shows, it is very hard to figure out where bond returns are going to go next year.

Sooyeon: Sure, Keith. And I will say, I sleep a lot better at night now than I used to in my previous roles because when I was making duration or credit decisions in my previous roles, it was based on my hunch. It was my best guess on what I thought rates were going to do, what I thought spreads were going to do. I sleep so much better now investing clients' money based on this body of work that we have. We have decades and decades of empirical research that are making deliberate choices on duration and credit within our portfolios.

Keith: That's fantastic. I can see why you'd sleep better.

Sooyeon: Absolutely. And I think it would make clients sleep a lot better too because the process is so transparent. If broadly speaking, where rates are and what the yield curve's shape looks like and where credit spreads are, you're generally going to know how your portfolios are positioned.

Keith: 100%. 100%. Listen, Sooyeon, thank you so much. We're going to start wrapping up here, but before we get to the final wrap-up, I'm looking for one or two takeaways for you. Now, we covered so much ground today, but let's go back to the basics here about if you're an investor or a Canadian, you're living through a lot in the last six months to a year. What are your big takeaways for our listeners?

Sooyeon: Yes, I want to acknowledge that it has been a challenging time for all investors out there. And certainly, our goal is not to dismiss the concerns that you are having, but really to help you think through how to manage these challenging times. I also like to remind our clients that you do take on risks as an investor, right? We do need to see these left tails for the equity premium, the term, and credit premiums to exist. And certainly, in the midst of all this, although they are challenging, there are opportunities. Stay invested, right? You're going to have higher expected returns in the bond market going forward. Certainly, don't abandon all the planning and goals that you've done because it is challenging or based on what you think will happen in the markets based on central bank policies. Think again. Another takeaway that me and you, Keith, really want to belabor is that don't confound rate hikes with negative returns. The bond markets, there is no empirical evidence that there is a link there. So don't be reactive. Stick to your investment plan, whether that's across borrowing—I know we briefly touched on mortgages—your fixed income, equity allocation, really stick to that empirical evidence that can withstand volatile times.

Keith: I think that's amazing, Sooyeon, and you've helped so much in the last few weeks in terms of the advisor presentation that I attended three weeks ago. And then today, thank you so much for sharing all your insights and your experience and adding so much clarity to this complex world of interest rates, bonds, and investing at large. So on behalf of our clients and listeners, thank you for participating in today's podcast.

Sooyeon: Thank you so much for having me. This was such a fun time.

Keith: Great. Thank you.

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