EPISODE 72:

Interest Rates, Optimal Asset Location, and Reverse Mortgages

[INTRODUCTION]

[0:00:05.8] Benjamin Felix: This is the Rational Reminder Podcast, a weekly reality check on sensible investing and financial decision-making for Canadians. We are hosted by me, Bejamin Felix and Cameron Passmore.

I know I've said this before, but I say in the intro that it's for Canadians, but I know we're getting a lot of non-Canadian listeners. Everyone's welcome.

[0:00:23.9] Cameron Passmore: Of course, naturally. Downloads are certainly trending up. I think this month we could hit 30,000 downloads this month, which when we started this a year and a half ago, we've got 50 people a week listening. We thought that would be a success, so we're frankly blown away by the response we're getting.

[0:00:38.2] BF: Yeah. Last month, we almost hit 30,000. I think this month based on the way that trend is going, it will be well over 30,000 downloads for the month, which is yeah, like you say, pretty cool.

[0:00:47.5] CP: A lot of comments are coming in. One of the comments we've asked about the length. Yes Ben, every single comment on the length is that the length is fine. If there's anyone out there, even one person that thinks it's too long, that's in my camp. Please drop us another.

[0:01:00.6] BF: I don't want to talk with length anymore. We keep bringing it up.

[0:01:03.8] CP: No, I know. It's my last time we'll mention it. There you go. We do appreciate comments. We're getting a lot more comments on the rationalreminder.ca website.

[0:01:12.0] BF: Sometimes. Some episodes, it's like the weird ones where we go – the valuation theory episode I think has the most comments. I was like, "Why? Why this one?"

[0:01:21.7] CP: Yeah. They're also leaving comments on your common sense investing YouTube channel. People are mentioning it there too.

[0:01:26.6] BF: Yeah. People in there say that they listen to the podcast, which is good. One thing that we haven't mentioned in a while is we always appreciate people reviewing the podcast on iTunes. We hadn't had any new reviews for quite a while and we just hadn't talked about it I guess, but over the weekend we had three new reviews coming and they're all – I mean, I don't know if they do anything good for us, but they're nice to read.

[0:01:48.5] CP: No, it's good feedback. We've wrapped a 184 reviews.

[0:01:53.4] BF: Yeah, I don't know. I haven't checked.

[0:01:54.6] CP: I don't know. Anything else? Good show today. I think lots of different topics, asset allocation, reverse mortgages, life insurance. Ben always laughs.

[0:02:05.3] BF: I'm laughing at asset allocation. It's not the most exciting topic. I think it is.

[0:02:11.3] CP: Yeah. Well, some people do.

[0:02:12.8] BF: Go ahead with the episode?

[0:02:13.8] CP: Go ahead. Thanks.

[EPISODE]

[0:02:18.9] BF: Welcome to episode 72 of the Rational Reminder Podcast. We have a listener question to kick off with today.

[0:02:26.8] CP: I'll ask the question. Do lower bond yields also decrease the expected return of equities? This is a question that's come up a fair amount, also in client meetings lately.

[0:02:37.5] BF: Yeah. Dimensional has done a few different research papers on specifically this. Well, not specifically this topic. That's not true. They haven't looked at do lower yields –

well, I guess they did. Not specifically the lower yields lead to lower stock returns, but do interest rate changes affect stock returns? A similar question.

They basically said that number one, rate changes are unpredictable. Trying to base investment decisions on them in the first place probably doesn't make sense. Then they also talk about what is a stock's price based on? It's based on expected future cash flows and the discount rate applied to those cash flows. There is an argument that when rates change, the discount rate might change, which could affect returns.

Then the expected cash flows can also change based on interest rate changes. Theoretically, the impact on stock returns of rate changes should be unpredictable, because we don't know how the discount rates going to change. When the rates change, we also don't know how cash flow expectations are going to change based on interest rate change.

[0:03:41.1] CP: It's actually a little more complicated than at the service when you think about it, right? Because those decreasing bond yields also impact the companies and lowers their cost of capital, which theoretically could increase profitability.

[0:03:53.0] BF: It could.

[0:03:53.5] CP: Right? There's a whole lot going on in that simple question.

[0:03:57.9] BF: Yeah. Dimensional basically says that at a theoretical level, you wouldn't expect any predictive power in interest rates over stock returns. Then of course as they do, they tested this empirically. They just looked at the correlation between rate changes and stock returns in the paper, there's a – I don't know what you call, like a scatter chart. It shows zero relationship.

[0:04:20.4] CP: Zero, wow.

[0:04:20.9] BF: It’s a totally random relationship.

[0:04:23.4] CP: All things being equal in simple terms, and those are rates are falling, would you expect just the way the discount formula works that the price of equity should go up?

[0:04:34.3] BF: All else equal, I guess. Sure.

[0:04:37.0] CP: Just in principle, but the thing is how fast does that happen?

[0:04:41.9] BF: The big thing is the cash flow expectations change too. That's why it's unpredictable.

[0:04:46.0] CP: Exactly.

[0:04:47.7] BF: Yeah. Anyway.

[0:04:48.9] CP: Yeah, I just think about the denominator in that equation. If your discount rate goes down, you expect it to go up, but maybe might add to momentum. People might start predicting interest rates therefore, pre-pricing stocks. Therefore –

[0:05:02.4] BF: I think it's both sides of the equation. It's the – or not both sides; the numerator and the denominator. That's why it's hard to use as a predictor, because even if we know the discount rate is going to change. Say we knew that, I mean, number one, we don't know when interest rates are going to change. Given that we knew that if we did and say that that does impact the discount rate and maybe you could predict, but it also affects the expectations of future cash flows. Those two things happening at the same time makes it really hard for there to be a reliable relationship.

Anyway, so in the paper they say there's no way that interest rates can be used to make investment decisions and then they also looked at the equity risk factors to see if interest rates affect those and same thing, no meaningful relationship.

[0:05:43.0] CP: Cool. Current topic number one this week, I suggested we talk about Barry Ritholtz's Masters in Business interview last week, which I think was a complete blockbuster, where he interviewed Professor Eugene Fama, Nobel Laureate at University of Chicago and arguably, the Father of Modern Finance, along with David Booth, who is the founder of Dimensional Fund Advisors that as listeners know, we have worked with here in our office, our company since they came to Canada in 2003.

I thought it was a phenomenal interview. I don't think you've had a chance to look at it all yet, have you?

[0:06:16.0] BF: No. I saw the clip about behavioral finance, which was pretty classic. We've talked about Fama saying this before.

[0:06:24.1] CP: Yeah, it's pretty funny.

[0:06:25.1] BF: Yeah, it is funny. He says that behavioral finance is not actually a thing. It's just a criticism of efficient markets.

[0:06:32.6] CP: He said he's the most important person in behavioral finance. Then Ritholtz says, "What do you mean?" "Without me, they'd have nothing to take a potshot at basically." Then he said that's been going on for 30 years. He's very good friends with Dick Thaler, who's the famous behavioral economist at Chicago.

Anyways, it was a fabulous interview. About an hour and 15 minutes. There's a video of it, as well as the audio in Barry's Master in Business that came out last week. It's interesting to hear them describe what happened and how they met and how –

[0:07:03.4] BF: You're talking about Fama and Booth.

[0:07:04.4] CP: Fama and Booth. David Booth was a top student in the class, whatever, 50 odd years? 50 years ago this fall he was. Then Fama invited him back the following year to be the teacher's assistant, which is always given the top student of the previous year.

David Booth is such a humble guy, talked about basically right place, right time and how this has such a profound impact on him. He could have followed a career in academia, but decided to take what was learned in academia and applied to the real world, which was he found out then was his true passion. He went on to start the first index fund and then Dimensional Fund Advisors 38, 39 years ago now.

[0:07:45.9] BF: The story is pretty crazy. I think, I don't remember where Booth was. Do you member where it was that he started the first index fund?

[0:07:51.0] CP: I guess at Wells Fargo, which then became Barclays and it's now BlackRock.

[0:07:55.6] BF: That's right.

[0:07:56.4] CP: He was at the creation of the very first index fund.

[0:07:58.9] BF: Yeah. That's an amazing thing about Dimensional is to know that its roots started with the guy who started what has now become effectively iShares.

[0:08:07.3] CP: Yeah. When we've talked about this story in the past as well I think about Fama being also humble about the whole thing. I mean, he's clearly brilliant, unbelievable pedigree of what he's written. He says, "Look, I was at the right place, right time with smart people and a whole lot of technology." Was able to build this crisp database.

Then you'll come out with the famous paper in 1992, was a cross-sectional paper that discovered especially the value factor. Then have the ability to go back through time and test it out a sample, not only in the US but around the world. He says, "Look, it was going to happen. I just happened to be the guy that helped the small part, get this to happen." I highly recommend you listen to this.

Another thing that he talked about, you haven't heard this I don't think Ben, we talked about bubbles, because that comes up a fair amount, right? Classic Fama, still basically laughed and said, "Bubbles are only visible in hindsight." Yet, you'll see a bubble in hindsight quite often, but he says you have a Tesla proposition ahead of time that might explain why this would happen. He said there never is one.

[0:09:09.1] BF: I think I've heard him say that it's only a bubble if you can predict when it's going to pop. Otherwise, it was just a reflection of expectations. That's one of the things people struggle with with the concept of efficient markets is that it doesn't necessarily mean that –

[0:09:21.6] CP: Prices are right.

[0:09:22.4] BF: Prices are rational.

[0:09:23.9] CP: Or right.

[0:09:24.7] BF: Sure. Well, it just means that information is in prices. That information is not necessarily rational.

[0:09:29.5] CP: Correct.

[0:09:30.1] BF: That that parts are really hard to test, which is I think why we now have both rational and behavioral or risk-based and behavioral explanations for the factors that we see empirically in asset prices. There's no way to test are they rational. Well, no way that I know of anyway.

[0:09:45.5] CP: Then Barry also asked Professor Fama about the recent disappearance of the value premium. I get another laugh and that Professor Fama says, “I don't think that there are cycles to the value premium. It's just random that you go through good and bad periods and you can't recognize them, except after the fact. You really can't predict them.”

[0:10:05.0] BF: It’s a very Fama thing to say.

[0:10:06.5] CP: Very Fama thing to say. He says, “Look, there’s a persistent factor long-term. It is a risk factor and why would you not want to use that information in making your best decisions, knowing that these kinds of events can happen?” We've said that countless times on this.

[0:10:19.7] BF: Yeah. I think that's one of the things about expected returns. If you expect a positive premium, you expect it every single day. That doesn't mean it's going to show up, but you expect it every single day. When you're making investment decisions, that's the way you've got to think about it.

[0:10:32.5] CP: As we're talking about things to listen to and watch, I would highly suggest that people check out your video that you put out last Saturday on market efficiency, links with this discussion. In a matter of an hour and a half, you can get your perspective on it, as well as

Fama's perspective, which is a pretty cool one-two punch, just to explain this whole framework of market efficiency.

[0:10:53.5] BF: To be fair, my perspective is really just Fama's perspective. I don't think I have my own perspective.

[0:10:58.7] CP: Oh, your take on how you explained it. It was a great video. I highly recommend people check it out.

[0:11:03.5] BF: The thing that I found interesting about that video is that it wasn't in how it did after it was posted. It wasn't super timely, like I did one on recession, I did one on the index bubble and those got a ton of views, which is great. This one got less views, but the comments on this video were so highly engaged. The types of questions people are asking it's like, man, people are really paying attention to this stuff.

[0:11:26.1] CP: Yes. For something completely different, I just want to throw in this book I started reading. Again came off of – I heard Barry talk about on his podcast a couple weeks ago. It's a book called *The Man Who Solved the Market: How Jim Simons Launched the Quant Revolution*. May not sound exciting, but boy, I'm only about a third of the way through, what a great book. Written by Gregory Zuckerman. Jim Simons is the famous founder of Renaissance Technologies, which is probably the highest performing investment fund of all time.

[0:11:59.4] BF: Absolutely. You said –

[0:12:00.6] CP: Blows away. Soros blows away Buffett.

[0:12:02.4] BF: You said this doesn't sound exciting, but if anyone knows who Jim Simons is, it is. It's thrilling. Like you said, it's the best performing fund ever. No one comes close.

[0:12:12.5] CP: He was a failing investment manager before when he started, but he had a math background. He basically decided 30 years ago to scrap his style at the time of investing and go on what he called a radical investment style. He built a computer model capable of digesting massive data and followed a systematic approach.

[0:12:30.7] BF: The tricky thing is that that sounds like something anybody could do. There's always a question of if it just takes computing power and money, then there are a lot of huge asset managers that should be able to do the same thing. He should be competing with them. It really is a mystery how they've been as successful as they have, for as long as they have. It's a true mystery.

[0:12:47.7] CP: Give this for success, their flagship Medallion hedge fund has generated returns pre-fee of 66% per year for the past 30 years with profits of more than a 100 billion dollars US. Nobody comes close.

[0:13:01.6] BF: No one know. Does the book talk about what they're doing in there?

[0:13:04.1] CP: Haven't got to that yet.

[0:13:06.0] BF: Probably not, because I don't think anyone knows.

[0:13:07.6] CP: Extremely private, but I mean, Greg Zuckerman is a pretty famous writer. I guess was working away at them for years to get them to talk and share their story. They all participate. Jim Simons spent 10 hours with him.

[0:13:19.4] BF: Wow.

[0:13:20.1] CP: Yeah, and giving his perspective on the story.

[0:13:22.1] BF: I'll have to read the book too. What's the title again?

[0:13:24.6] CP: *The Man Who Solved the Market: How Jim Simons Launched the Quant Revolution.*

[0:13:29.6] BF: He comes up all the time too. In the video that I just did on efficient markets, a couple of people commented, “Well, what about Jim Simons?” Which is fair, I guess.

[0:13:38.2] CP: Yeah. You know what Fama would say. You throw a 100,000 manage, you're going to get some outlier. He said luck is a skill.

[0:13:45.5] BF: Yeah. The statistical likelihood of the Renaissance Technology's performance being luck is pretty small, but who knows? I think I said in that video on efficient markets that asking why someone like that has done well is not the right question to ask. I can't remember my exact analogy, but I think it said like asking why your 98-year-old grandfather who smoked lived to be 98? You don't know.

[0:14:10.9] CP: Saying is because he smoked.

[0:14:12.4] BF: Science doesn't have all the answers. Yeah.

[0:14:15.4] CP: On to current topic number two. We're fitting a lot more than two into the frontend of this podcast. Anyways, so a few industry updates you wanted to talk about?

[0:14:24.4] BF: Yeah. A couple things that were just interesting in the Canadian space, Planswell, which is one of the – was one of the robo-advisors that we have in Canada, they've shut down now. They lost their funding and they didn't have any money to pay their employees, so that's it. They closed.

[0:14:40.1] CP: Serious funding for some serious players.

[0:14:42.7] BF: Yeah. I mean, Planswell had a really – compared to the other robo-advisors that have launched, they had not a unique business model, but a more – on paper, a more robust business model, in that they were doing investment management just like Wealthsimple.

But when they launched, they also had a mortgage brokerage and an insurance brokerage. Their whole concept was that they had this financial planning software that they'd built. I went through their financial planning process when they launched and it was pretty good. You put in all your income, your assets, your dependents, everything that would go into a normal financial plan and they had built a little algorithm that spat out recommendations, which is neat. It would say, "You should pay down this debt first and then you should whatever, refinance your mortgage. You need this much life insurance."

[0:15:27.4] CP: The interface was pretty nice.

[0:15:29.2] BF: It was nice. It spat all these recommendations. Then the whole concept was that the plan was free and you were free to take it with you and do as you wish, but they would also implement for you. If you said, “Yes, I want Planswell to implement it for me,” then you could invest with them. They would do your insurance, they would do your mortgage. From that perspective, their business model was pretty good, because they had all these different revenue sources.

[0:15:51.5] CP: It was predicated on those revenue sources.

[0:15:53.7] BF: Yeah, and then it didn't go so well as we can see now from them shutting down. When I did their planning process, it ended up being very obvious that it was just a funnel to find leads and then very aggressively sell them. I think I had to field three or four calls from representatives.

[0:16:11.4] CP: Oh, wow. I didn't know that. There's aggressive cross-selling on the back-end.

[0:16:13.9] BF: Oh, it was aggressive. I told them that because it's – that I feel that the questionnaire not fully, truthfully, just to see what recommendations I would get. It told me that I needed more life insurance than I said that I had. When they called me I said, “Well, no. I actually have this policy in place that covers what I need.” They kept trying to push. Eventually I was like, “Listen, I'm insurance license. If I really needed this, I can just do it myself.” After that call when I said that, I still got two more calls. Anyway, it was a lead generation system with aggressive sales tactics.

[0:16:50.7] CP: A tough economic model.

[0:16:52.6] BF: Yeah. Well, so as Wealthsimple though. Difference is Wealthsimple has basically unlimited funding. Anyway, so Planswell shut down.

[0:16:59.5] CP: Number two, Vanguard has lowered the fee and restructured the VXC, which is the Vanguard FTSE All Cap Ex Canada ETF.

[0:17:07.7] BF: This has always been Vanguard's –

[0:17:09.4] CP: Bugaboo. Parts of bugaboo?

[0:17:11.4] BF: Well, sure. That's not what I was going to say, but yeah. It's their –

[0:17:13.0] CP: Tactical term.

[0:17:15.5] BF: It's comparable to iShare's XAW. I think XAW is more commonly known, at least from what I see discussed online. That's largely because VXC had a higher fee, but it also had a less tax-efficient structure. They've changed that now. They've lowered the fee and they've re-jigged the underlying ETF holdings of VXC owns ETFs, like VGRO and VBAL and those ones, except this one is just global equities Ex Canada. Yeah, it was less favorable because of the higher fee and because of the higher withholding taxes, but they've fix that now. Now VXE is much more comparable to XAW, which is I guess good for the marketplace.

[0:17:54.5] CP: Terrific.

[0:17:56.5] BF: Okay, onto your happy place?

[0:17:59.7] CP: This week's investment topic is based on a paper you're about to release. I think it's all pretty much done and ready to go.

[0:18:06.3] BF: It should be out by the time this episode airs, I think.

[0:18:09.0] CP: The topic is asset location. We've talked about this in the past.

[0:18:13.4] BF: Yeah, we have talked about in the past. I think that now that the paper's done, we have maybe a little bit more to say about it.

[0:18:19.4] CP: You've had some clarity working through this paper. There's been some things have been gnawing at you, safe to say?

[0:18:27.0] BF: Yeah. Well, I mean, yeah.

[0:18:28.5] CP: You just been thinking about this a lot, right? What's the proper way to frame this decision in this explanation?

[0:18:33.5] BF: Yeah. I think the biggest challenge that I had was the utility maximization framework, versus pre and post-tax asset allocation. That'll make sense in a second, because we're going to talk about it.

[0:18:43.9] CP: This is the key. This is about asset location, not asset allocation.

[0:18:47.9] BF: But both.

[0:18:49.3] CP: The punchline is location, right?

[0:18:51.6] BF: The punchline is it's both, that's the tricky part about it. It's like, your pre-tax asset allocation is what you see in your accounts. That's super easy to understand. The example I give in the paper is if you put $400,000 of bonds in your RSP and $600,000 of stocks in a taxable account, your pre-tax asset allocation?

[0:19:11.3] CP: 60/40.

[0:19:12.2] BF: 60/40.

[0:19:13.2] CP: Easy.

[0:19:13.5] BF: That's how people generally think about it.

[0:19:15.0] CP: A lot of people think about it that way by putting their fixed income in their RSP just like that.

[0:19:18.9] BF: Right, because that's the common wisdom is that your bonds belong in the RSP account. Because it does give you a better expected outcome, but the key is why? The trick is that your pre-tax asset allocation doesn't actually matter in terms of your expected outcome. It's only your after tax asset allocation the matters.

[0:19:38.1] CP: Okay, this is critical for people to understand.

[0:19:40.3] BF: Right. Let's assume a 50% tax rate, future tax rate. If you put those $400,000 in bonds inside of your RSP, you don't own $400,000 in bonds. You only own $200,000 in bonds. Your after-tax wealth, which is what matters to you in the example we gave with a pre-tax 60/40 portfolio, your after-tax wealth has a 75-25, 75 stock, 25 bond.

[0:20:08.8] CP: 600,000 in equities and 200,000 after tax in fixed income. 600 and 800 is 75% equity.

[0:20:17.0] BF: Right.

[0:20:18.0] CP: That is key to get.

[0:20:20.0] BF: Yeah. Now the trick is if you are focused on pre-tax asset allocation, which most people are, if you're focused on that, then putting your bonds in the RSP will give you a better outcome, but it will give you a better outcome because even though it looks like a 60/40 portfolio, you're really invested in the 75-25.

[0:20:40.2] CP: Exactly.

[0:20:41.4] BF: Now if we say okay, well, if we go 60/40 in both the RSP and the taxable account, versus 60/40 with all the bonds in the RSP, the case with all the bonds in the RSP gives you a better expected outcome, but because it's a 75-25 portfolio. You're not comparing 60/40 to 6040, you're comparing 60/40 to 75-25.

[0:21:01.8] CP: You’re basically fooling yourself.

[0:21:03.1] BF: You're taking more risk by reducing your fixed income allocation. It's this trick where pre-tax, which is what you see in your accounts it looks like a 60/40 portfolio. We're actually going to talk more about that trick in a second. To map this out and build a framework to think about it, we built a simple model, like nothing crazy.

[0:21:23.9] CP: We being you.

[0:21:24.9] BF: Yes, that is true.

[0:21:27.2] CP: Like the listeners don't know that.

[0:21:29.7] BF: We just modeled this out with the two asset classes. I said that we had stocks and bonds and I gave them expected returns for each, with a dividend yield for stocks and a capital return for stocks and the only interest returned for bonds. Then I said, we have a $400,000 RSP and a $600,000 taxable account.

Then we use the solver function in Excel to find the highest after-tax value after a single time period. What we let the solver play with was the location of the assets. The solver could put more stocks into the RSP or whatever, to increase the after-tax wealth after the single period.

As we would expect, the optimal location if we constrained for pre-tax allocation, put all the bonds in the RSP. Nothing new. That's what we expected. Then we said, okay, so that really gives us an after-tax 75-25 portfolio. What happens if we compare that to a 75-25 mix in both accounts? Actually, there's something worth pointing out. If we put a 75-25 mix in both the taxable account and the RSP, your true pre and after-tax allocation is 75-25.

[0:22:39.9] CP: Exactly.

[0:22:40.5] BF: Because both the stocks and the bonds in the RSP are reduced proportionately by tax.

[0:22:44.9] CP: Exactly.

[0:22:45.9] BF: Now we compare that true 75-25 pre and after-tax allocation to the 60/40 pre-tax, but 75-25 after-tax allocation.

[0:22:56.0] CP: What happens?

[0:22:56.4] BF: Going just all in 75-25 in both accounts gives you a better after-tax outcome.

[0:23:01.8] CP: That's so cool.

[0:23:02.8] BF: Yeah. Yeah. It is cool. It's also tricky, because if someone's going 75-25 by accident, by controlling for their pre-tax allocation, if they just understood that they were really in a 75-25 portfolio and put that in both of their accounts, they've got a better expected outcome.

[0:23:22.2] CP: And an easier portfolio to manage.

[0:23:24.0] BF: Yeah, an easier portfolio to manage. Then I also did just let solver optimize based on the after-tax allocation, so constrained after-tax allocation must be 75-25 and it actually put all stocks in the RSP. That gave you an even better expected outcome. Yeah, that was all interesting.

Then the reason this paper took me so long to finish was that there's a 2004 paper that I found, journal finance paper called Optimal Asset location and Allocation with Taxable and Tax to Fruit Investing.

[0:23:57.6] CP: Pretty catchy title. I can see why you picked that up.

[0:24:00.8] BF: Yeah. It threw off my thinking for a while, but it uses a utility maximization framework. We're talking about pre and after tax allocation, which is thinking about after-tax allocation is more rational than with pre-tax allocation. Pre-tax allocation makes no sense. You would never constrain for that rationally.

[0:24:22.2] CP: It's taking you a long time to get to that statement though, like a lot of thinking and playing around with this.

[0:24:26.6] BF: I think the part that we're talking about now, the utility maximization is the part that was the trickiest. This paper basically says that stocks are less risky, which alone is take some thinking, but they're less risky because when you have a loss in stocks in your taxable account, you pay less tax. Losses aren't as bad in a taxable account, because it reduces the amount of tax that you're going to pay.

Stocks also have lower expected returns. The less risky, but also less valuable in a taxable account. Their argument, they use a no arbitrage argument, which I didn't fully understand. They've drawn a bunch of other academic papers from the past that I tried to read to understand what they're talking about and I didn't get it.

Anyway, so they basically say that when we're changing the location of assets, if you're moving from stocks to bonds in the registered account, you have to offset that by some multiple, which they call XI in the paper in the taxable account. If you make a move in the RSP, you have to make a different move in the taxable account to maintain your risk return characteristics.

[0:25:34.4] CP: To maintain the same after-tax asset –

[0:25:36.6] BF: This is why it's tricky. It's not even about after-tax allocation. It's just because the assets have different characteristics in each type of account, you can't just dollar-for-dollar trade-off the shift. They're saying if you go from stocks to bonds in the RSP, you need more stocks in the taxable account to compensate for it, to compensate for that shift.

Anyway, they used that framework to develop what they called a risk-free shift; a shift that you can make without taking any additional risk, which again this is more rational than thinking about after-tax asset allocation. This is now a risk-free shift in location. We looked at our framework in the paper too and we modelled it as well. The big take away from that paper and probably the most interesting point is that they actually say in the paper that it should be bonds in the tax-deferred account, the RSP account.

In 2004 when that was written, bonds were the highest yielding asset classes. Within the paper they actually say that it's the asset with the highest yield that belongs in the tax-deferred account.

[0:26:38.8] CP: Did you reach out to one of those professors?

[0:26:40.7] BF: Yes. I e-mailed them for some clarification on something. One of them answered me the same day, which was neat. Yeah, so it's the highest yielding asset classes that belongs in the tax-deferred account. That's tricky anywhere, I guess. If we look at a as a

Canadian investor looking at XEF, which is the iShares Core EAFE IMI index ETF, its trailing 12-month yield is 2.72%.

[0:27:08.3] CP: Is that the highest one?

[0:27:09.7] BF: XEC is a bit higher, 2.77. You start looking at stock yields and stock average coupons. For the most part, they're lower than that. That question of if your highest yielding asset belongs in the RSP account, that's not bonds right now.

[0:27:30.0] CP: To your emerging market.

[0:27:31.6] BF: It gets even trickier because of withholding tax. Even though emerging market is the highest yielding, it also has the highest amount of undercover withholding tax.

[0:27:38.7] CP: Which we talked about two weeks ago.

[0:27:40.6] BF: Yeah.

[0:27:41.7] CP: Boy, we're covering a lot of hot topics, aren't we?

[0:27:43.5] BF: Yeah. Then I looked at what if we weren't just using Canadian bonds? What if we're using global bonds? Vanguard has a VBG, which is global fixed income hedged to Canadian dollars, but it also has withholding tax. It starts to get pretty tricky depending on the asset classes that you're looking at.

Now I think that one of our podcast guests that we have coming up before I finished this paper, we had a long e-mail exchange about it, because he had written something that was contrary to what I was going to say in the paper, so I just shot him out and said, "Hey, what do you think about this?" We ended up discussing it at some length. His main thing on the asset location discussion is that that first thing that we talked about where you're tricking yourself into a more aggressive portfolio. He's actually saying that he thinks that is a good thing.

[0:28:31.3] CP: Because you see the total portfolio movement based on the whole pre-tax dollar value, not the post-tax. Therefore, it's not as volatile, but general higher equity allocation.

[0:28:40.9] BF: That's right.

[0:28:43.5] CP: Which tough to argue with, I guess from purely rational standpoint, because people are not necessarily rational.

[0:28:48.5] BF: That's right. You can't make a rational argument against a rational human behavior. I looked at that in the paper after my e-mail conversation with this person. I modeled a 50% drawdown in stocks and a flat return for bonds over some time period and looked at three different location strategies all with a 75-25 after-tax allocation. The change in your after-tax wealth is the same across all location strategies, which is exactly what you'd expect.

The difference between all bonds in the RSP, which is sub-optimal in terms of expected outcome, versus all stocks in the RSP, which gives you a better expected outcome, there's a 10% difference in the drawdown.

[0:29:36.0] CP: Because?

[0:29:37.5] BF: At the pre-tax drawdown, because of what you see in your accounts. When you have a 75-25 mix, but you've got $400,000 of bonds pre-tax, which is what you see, your drawdown is going to be less, because pre-tax you have a higher allocation to bonds.

[0:29:52.5] CP: Oh, yeah. For sure, pre-tax. Absolutely.

[0:29:54.9] BF: What you see, I think in my example it was at 30% drop with all bonds in the RSP, versus a 40% drop for all stocks in the RSP, pre-tax, which doesn't matter. Your after-tax drop in wealth is the same in both cases. What you've seen your accounts looks a lot less scary if all of your bonds are in the RSP account. It's tricky.

[0:30:16.4] CP: Your main takeaways?

[0:30:18.6] BF: Yeah. Well, I think it's pretty tough to get this right. We did another paper in 2017 from a slightly different angle, where we've modeled an optimal asset location strategy, but then tested it with uncertain returns, like we just used Monte Carlo both with a known mean

and with an unknown mean. Showed that even if you get it right at a point in time if future outcomes are different from what you optimize based on and you can actually make yourself worse off anyway. Then now with this stuff that we're talking about, it's really splitting hairs and I think it's really hard to get a truly optimal location right.

[0:30:56.2] CP: It's pretty reasonable and it's practically more feasible to do a same asset allocation per account.

[0:31:01.8] BF: Yeah. That's the way that we do it. I think that the work that we've done on asset location justifies thinking about it that way. I think doing it differently, trying to optimize really complicates things and doesn't necessarily give you a better outcome.

[0:31:15.1] CP: That's the key takeaway. It's also important for people to think of their asset allocation and after-tax terms. Cut your RSP by your tax rate in the future.

[0:31:25.9] BF: Yeah. I think that the concept of putting bonds in your RSP intentionally to trick yourself in a more aggressive portfolio is interesting. You're buying behavioral management with the basis points that you would have otherwise earned with truly optimal asset location.

[0:31:40.9] CP: Exactly. On re-planning topic. Reverse mortgages. This is something we've heard about for years. I'm not sure I know of anyone that's actually done one. I think they get a bad rap by a lot of people that don't think they would ever consider it.

However, in a couple meetings over the past couple of weeks, this has come up as a question about funding retirement. Then as luck would have it, I came across a column that our good friend Alexander McQueen wrote on exactly this topic in Money Sense. I thought it was a terrific, terrific article. Outlined the issues around this. Didn't make recommendation either way, but just was good thought-provoking article.

[0:32:21.5] BF: I think before you jump into the issues that Alexander outlined, it's interesting to think about the research that Wade Pfau’s done on reverse mortgages. He doesn't really propose it a use of a reverse mortgage to fund your retirement. He proposes it as something that you set up at the beginning of retirement, so that it's there. Now it sounds market timing and

I think it is market timing, but if your portfolio is doing poorly for a period of time, you can then draw on the reverse mortgage to fund retirement spending while the portfolio recovers.

[0:32:58.3] CP: That's really interesting as a practical application.

[0:33:00.8] BF: Yeah. His research suggests that this can dramatically improve your expected outcome.

[0:33:05.2] CP: It’s the escape hatch.

[0:33:06.7] BF: The escape hatch.

[0:33:07.6] CP: Pretty cool.

[0:33:08.5] BF: The reason I say it’s market timing is well, it is market timing. You're drawing in the reverse mortgage and then waiting, timing until you can use the portfolio to pay it back.

[0:33:18.0] CP: Okay, let's go back to basics. What is a reverse mortgage? Unlike a traditional mortgage or conventional mortgage that you borrow money to get into a house, this is once you have a paid-for house, you start to extract money from it through a reverse mortgage. For a lot of people as they hit retirement, the houses are largest asset. A lot of people want to stay in a house as long as possible. If that's the case, this can often be a very sensible thing to consider doing. Unlike a regular mortgage, which you could get on your house, or unsecured line of credit, there's no income qualifications, no repayments are needed.

How it works is you borrow money from your house and then the amount of interest you owe back comes out of the remaining equity in the house. Just over time, that interest payment starts to eat into your remaining capital. It's actually pretty interesting when you look at the numbers on it, how in many scenarios when you run it, your remaining equity in dollar terms, not inflation protected, are not real dollars, but in absolute dollars does continue to go up on some pretty reasonable assumptions.

That's because you can only borrow a certain percentage of your house value and you’re only paying interest on that smaller percentage and depending how much the rest of your house

grows, because you own all the equity growth going forward, right? The issue of the reverse mortgage just charge you interest rates, which are roughly so five-year fixed term mortgage, a conventional mortgage now in the 2.50 to 2.75 range. The reverse mortgages are in the 5.50 range. There's two main suppliers in Canada.

The interest rate is higher, but it's higher because they're taking on risk, but you can never be kicked out of your house. That the house price collapses, they don't hook for that. They don't look for how long you stay, how healthy you stay and what the housing market does. They are taking on a lot of risk.

[0:35:08.7] BF: I think one of the other things that I don't know if this was in Alexander's article, but Wade Pfau talks about it is that when you take income from a reverse mortgage, it's not taxable.

[0:35:19.2] CP: Cash.

[0:35:19.7] BF: It's not going to affect any of your government tested benefits or anything like that.

[0:35:22.0] CP: Not at all.

[0:35:23.9] BF: That's another interesting angle to think about.

[0:35:25.8] CP: The basic rules, you can borrow up to 55% of the current value of your home, but you must be 55-years of age or older and you must own your house and take care of it and has to have property taxes paid and current and also have home insurance in place. I did a test just this afternoon on my own house, which is in suburban Ottawa.

At age 55, I can borrow up to 15% of the house value. 65, they can borrow 20%, 75, 30%. At age 85, I could borrow up to 40%. That's where I capped out. I don't know if it's because of the housing market in Ottawa. I don't know if it's a dollar value of my house. I couldn't find out what those rules were, so I could not push myself to 55%. If one spouse dies, the loan is not called. In fact, that loan is never callable until you either pass away, or the last remaining spouse

passes away or you move. At that point, the loan is – the amount due is calculated and taken out of the proceeds of the sale.

[0:36:23.6] BF: That's a big thing, because I think sometimes people think about a home equity line of credit as something they can use for a similar purpose and it's cheaper to set it up. The interest rate is going to be a bit lower, but it's callable.

[0:36:35.5] CP: It's not a lot lower. Prime is 3.9. A lot of people have secured line of credit at prime plus a half, prime plus one. You have been mid to high fours?

[0:36:43.4] BF: There's some set-up cost too though, I think with a reverse mortgage.

[0:36:45.6] CP: A 1,000 bucks.

[0:36:46.7] BF: That’s it.

[0:36:47.4] CP: A 1,000 bucks. That's added to the – taken away from the first payment that you get. You can do it lump sum, well you can grab the whole 15% upfront, or you can do it in $25,000 chunks. I didn't get into too much of the weeds, but I thought the question she asked was an interesting one. Is this a good thing to consider? Is it a godsend for people who want to stay in their homes and take advantage of low interest rates? Or is it a symptom of a debt addicted society?

[0:37:15.0] BF: It is a good question. I mean, I think that and I know I keep referencing Wade Pfau, instead of Alexander, even though she's the one that wrote the article we're talking about.

[0:37:23.2] CP: They're good friends. I'm sure she won't be upset.

[0:37:25.7] BF: That’s fair. He talks about the discipline being exceptionally important if we're talking about using reverse mortgage. When he's talking about using it, it's to act as a buffer for the portfolio, but you still have the liquidity. Once a reverse mortgage is there, you can take the money out. He talks about how important it is to make sure that there's a very specific plan in place for when it's going to be used and how it's going to be used, so that you don't run into that problem of a debt addiction.

[0:37:51.3] CP: Right. So many plans we run, people don't want to include their home equity in the plan. Often, it's $500, $800,000 or more. That's basically like an asset. Well, yeah, might go to the kids, it might not, but I'm not sure they don't need it. I want to enjoy my assets. Well, how else are you going to do this? You may not have the income to qualify for a mortgage, or a line of credit. It could be a very appealing option.

[0:38:13.3] BF: It could be. I think in a lot of cases, we model selling the house at an advanced age, maybe age 85 and then increasing expenses to cover a retirement residence. I think the concept of using the reverse mortgage more tactically and again, that sounds market timing because it is, I think that's a really neat concept.

[0:38:29.5] CP: It seems sensible. If prices go down in your portfolio, their returns are mathematically going up, higher expected returns if you can borrow low interest rates.

[0:38:39.1] BF: I tried to model it a while ago and I think that you have to get the timing right to make it work, because you're paying interest on whatever you take out at a fairly high rate. It does end up being a market timing decision. Having there as a buffer, it seems like a good idea. A buffer that you know you have access to. Because once the reverse mortgage is in place, you have access to the capital. During a market crash, you might not have access to a home equity line of credit.

[0:39:01.3] CP: Anything else to add?

[0:39:02.4] BF: On reverse mortgages, no. All good.

[0:39:04.4] CP: Okay. On to bad advice of the week. Although this week, it's not so much bad advice, but more about bad behavior or bad observation on bad behavior. I don't know if you saw the study or not, but policyadvisor.com had their Inaugural State of the Nation, Canadian Life Insurance Trends 2019. Survey of 500 qualified respondents. Anyways, so it's a poll by Insurtech Firm Policy Advisor and they –

[0:39:31.9] BF: Insurtech. Like Fintech.

[0:39:34.6] CP: Yeah. Insurtech. Okay. Anyways, what they found, so they did the survey of 500 people who own life insurance and they found that 49% of respondents with dependents have never purchased life insurance before.

[0:39:48.1] BF: Wow.

[0:39:48.8] CP: Can you imagine? Among those that have life insurance, 40% are only covered by a workgroup policy.

[0:39:56.0] BF: I mean anecdotally, this is – whenever we're bringing on a new client that would be at a life stage that they would have an insurance need that they almost never have the appropriate amount of insurance.

[0:40:06.1] CP: Oh, unequivocally.

[0:40:07.2] BF: So many cases people just say, “Oh, well. I have this thing through work,” and it's one year of salary or two years of salary.

[0:40:13.0] CP: Yeah, it's done. Just tick boxes, done, but haven't done the math and is it enough or not.

[0:40:16.3] BF: That's right.

[0:40:17.6] CP: They say, “Oh, well. My spouse doesn't need more than that.” It’s like, well, it's really not up to you. It's up to them what lifestyle they want. It's so cheap. It’s so cheap. Having gone through a number of scenarios where something catastrophic has happened, it takes a lot of money to replace an income, a lot of money. Way more than even –

Here's another statement here. According to FCAC, the Financial Consumer Agency of Canada, policyholders should have seven to 10 years of salary in life insurance. I would say that's low in my opinion.

[0:40:47.9] BF: It's a blanket statement too.

[0:40:50.0] CP: It's low.

[0:40:51.1] BF: Sure. Yeah.

[0:40:51.9] CP: What they found is that 91% of respondents have less than this and only 9% have the recommended level of insurance. That level I would say is low.

[0:41:02.1] BF: Yeah. Seven to 10 years is most likely low.

[0:41:05.0] CP: The average shortfall of coverage is $256,000. 43% said they have adequate coverage, but in reality less than 10% do.

[0:41:14.2] BF: That's based on the framework that they're using for what is sufficient.

[0:41:16.5] CP: Correct.

[0:41:17.3] BF: Which we think is probably way too low.

[0:41:18.4] CP: Probably way too low. One-third said they do not understand their life insurance. For example, you have a group insurance policy, you change jobs, your insurance is gone, right?

[0:41:28.4] BF: Yeah. Oh, the amount of people too that I've seen that have a relatively low amount, like too low for their insurance needs of permanent life insurance. Meanwhile, they don't have maxed out registered accounts and so on and so forth. I think that's just that issue of insurance being mis-sold, because the commissions are obviously higher on the permanent policies.

[0:41:47.2] CP: Yeah. There's that stat on one of my Twitter feeds last week talking about the ratio of permanent policies to term policies that are sold in the industry. I can't find it around the exact number, but it was staggering how many more permanent policies are sold than term insurance. I couldn't find. I wish I could. I'd love – If anyone has that stat, I'd love to have it for a future show. Yeah, people are way under assured. To buy lots of insurance, if you're young and healthy is so cheap.

[0:42:13.4] BF: So cheap.

[0:42:13.8] CP: Like I tell people, don't get too scientific about it. Buy lots, especially when your kids are at home.

[0:42:18.6] BF: Well, you might tell people that, but we do take a pretty scientific approach to figuring it out.

[0:42:21.6] CP: We do. We do the math, but we should be 1.5 or 1.8 million. Who cares? It's $7 more a month just to get the bigger amount.

[0:42:27.6] BF: Yeah, take the higher amount.

[0:42:29.1] CP: Take the higher amount. Yeah. Anything else for today?

[0:42:32.8] BF: No. I think that's all we had.

[0:42:34.8] CP: Great. Well, thanks for listening and thanks to all the people reaching out to us on our website and all the people that have dropped as kind notes online. Thanks for listening.

[END]