

Moderating the Alarm on Interest Rates

Interest rate increases are discussed a great deal in the media. The rates are at historically low levels and they are bound to rise at some point, though it might happen later than many expect. But the real danger in fixed income for investors is not in the price losses, but in the long-term destruction of the purchasing power at current yields. Spread risk in corporate debt is also increasing, but we will focus on high grade bonds in this discussion. Let's try to bring some clarity to this subject and to moderate the alarm on large price losses in fixed income with some simple tools available at every advisor's disposal.

I have recently come across an [interesting blog post](#). It shows an example of an interest rate stress test for a portfolio. Interest rate stress testing is something we focus on, so I was quite curious. Since I could not find any scientific papers detailing the math behind the Riskalyze model, this article would present a chance to understand how the model works. The portfolio described in the story contains some stock funds and a great deal of fixed income. The article states that a 'risk number' for that portfolio is 45. Interest rates stress test is shown as Treasury rates moving up 100 basis points i.e. rates rising by 1%. The risk number immediately jumps to 65 after that stress test. According to the author, the risk increases by 70% in a 1% move up in interest rates! Let's leave for the moment the question of why a risk number goes up 70% when risk score goes from 45 to 65 i.e. an increase of only 44.4%. A more interesting question for the advisor is how worried should a client be about an interest rate increase of 1%.

How To Calculate Portfolio Return In a 1% Interest Rate Move

So, how could risk increase by 70% from a 1% rate move? There is no scientific paper that explains what this risk number means. But we do know how to calculate a loss for a portfolio in a simple interest rate stress test such as the one done by the author. Effective Duration exists precisely for that reason, that is to measure interest rate risk. We looked up durations for all the funds in a portfolio and made the easy calculation to find out how it really performs in a 1% move.

ID	Name	Weight	Duration	Return in 1% IR Move
VTI	Vanguard Total Stock Market ETF	35%	0	0.00%
BND	Vanguard Bond ETF	20%	5.6	-1.12%
BIV	Vanguard Intermediate Bond ETF	11%	6.5	-0.72%
EDV	Vanguard Extended Duration ETF	9%	24.92	-2.24%
BLV	Vanguard Long Term Bond ETF	8%	14.44	-1.16%
VCLT	Vanguard Long Bond	5%	14	-0.70%
Cash	Cash	6%	0	0.00%
Household Finance Bond 15 Year		3%	10	-0.30%
AAPL	Apple	3%	0	0.00%
	Total	100%		-6.23%

We take the weight and multiply by duration and that is our loss. The portfolio loses 6.23% in a 1% interest rate increase. Simple! Any advisor can (and should) perform that exercise regularly for their clients. In fact, this portfolio's biggest positions are relatively low duration. Its biggest duration positions, the EDV, BLV & VCLT are 22% in total. But the relatively low duration – low interest rate risk funds like BND and BIV combine for 31%. And then there are stocks. We assume that they do nothing, but in many scenarios involving interest rate increases stocks will actually go up. So, this portfolio would likely be flat or even go up in a 100bp rate rise. Does this portfolio have too much risk? It may or may not; we have to look at the specific client risk tolerance to decide that.

I am sure I am not the first one to say this, but financial advisors are a lot like doctors. They diagnose, create plans and prescribe when necessary. They will combine different prescriptions (investments) and monitor how medicines might interact to avoid trouble. Where am I going with this? Risk analysis should be based on sound science. Desire to close business does not negate the need for all these diagnostic tests to have solid foundation. Getting new clients is important. But scaring them to make sure they "...beg you to sign the paperwork" as the article states is not, in my opinion, a way to get loyal long term clients that are most profitable for your practice.

Imagine a doctor that runs an EKG and some bloodwork. He then proceeds to tell every patient who walks through the door that they have heart disease and only he can save them. Yes, that doctor may get some business in the short run. But would it not be better in the long run to earn patient's trust with clear and simple explanations of what could happen?

We need to moderate the alarm on interest rate risk and explain that the real danger in fixed income is not some 2008-like crash, but the gradual erosion of purchasing power. That means advisor need to be moving investors out of fixed income, but they should look for good value before doing so. There is absolutely no rush to jump into stocks. Watch the equity markets, look for a stock 'sale' to gradually adjust the stance.