Sankala Group

Understanding Equity Duration

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The impact of interest rates on equity prices is a topic we explored in Q2 2020. Since writing that letter, my mind has been preoccupied with the subject. In this letter, I will dive deeper and cover a concept called *equity duration.* While equity duration is primarily the domain of institutional investment consultants who serve the world's largest pension funds and insurers, I promise to make the conclusions clear, illuminating, and actionable.

First, we need a reminder of what *duration* is. Duration is a metric describing bond investments which is similar (but crucially different) than the bond's maturity. The maturity is simply the time until the bond's principle is required to be returned to the investor. Duration, on the other hand, is the *weighted average time to receive all the bond's cash flows*, *including the interest payments and return of principle*. It is a very helpful metric because it

can be used to calculate how the value of a bond will change given a certain change in interest rates.

Bond duration is useful because of the simplicity of the math behind it. It describes a fundamental truth about a bond and its interest rate risk, and it can be calculated very confidently because a bond is essentially a commitment by the borrower to pay a specific stream of cash flows in the future.

When we try to apply this same math to equities it is called *equity duration*. The reason it is much less understood is that companies cannot and do not commit to a specific set of cash-flows for a common stock. Each year, as the company operates and generates free cash flow, it has choices of what to do with that cash which are at the discretion of management and the board of directors. Some examples are payment of cash dividends, authorization of share buybacks, or capital expenditures on the company's assets and growth strategy. In short, the future cash flows of a common stock can only be predicted – they cannot be known in advance.

That said, many companies actually do have very predictable cash flows, and analysts are often quite clear on the likely path ahead as that path has been signaled outwardly to investors by management and the board of directors. So, while we don't have an exact future cash flow map like we do with a bond, we are often quite sure about how one company's cash flows are different from another's.

Let me offer an example:

	Buy	1	2	3	4	5	Sell	IRR - Return
Company A	$ (1,000)	$ 50	$ 50	$ 50	$ 50	$ 50	$ 1,440	10.0%
Company B	$ (1,000)	$ 10	$ 10	$ 10	$ 10	$ 10	$ 1,700	10.0%
Company C	$ (1,000)	$ -	$ -	$ -	$ -	$ -	$ 1,775	10.0%

Company A is like a cellular phone services provider. They pay a high dividend of 5% per year, or $50 each year on $1,000 invested. Then, you eventually might sell the stock 5 years down the line when the company has grown somewhat bigger for, say, $1,440. We call this profile generally a "value" stock.

Company B is more like a maturing software firm. This company is growing very fast and reinvests heavily in itself, only paying dividends of 1% per year, or $10 per $1,000 invested.

However, since the company has grown so much after 5 years, you can then perhaps sell the shares highly appreciated at $1,700. We call this profile generally a "growth" stock.

Company C is like a start-up that is burning cash to build a product. This company only reinvests in itself, pays no dividends, and the hope is that the company can be sold to a larger company down the road.

Despite the different expected cash flow maps, all of these investments produce the same expected internal rate of return (IRR) of 10.0% per annum – and in that regard they are similar.

Critical to our discussion, however, is that the "*weighted average time to receive all the common stock's cash flows*, *including dividends and return of principle"* are materially different. In the case of Company A, more money is returned to the investor sooner, loading the cash flows closer in time. Company B on the other hand, has less cash flow soon and a lot of potential cash-flow later, and Company C has no cash flow now, and a big chunk in the distant future.

While that nuance is subtle, it makes a world of difference in how each investment will act during periods of changing interest rates. Company A is what we call *low duration equity,* while Company B and C are *high duration equity.* Just like a low duration bond is less impacted by changes in interest rates, low duration equity is less impacted by the same rate changes. This is not a matter of thoughts or feelings; it is matter of mathematical truth buried (albeit somewhat obscurely) inside the discounted cash flow models that Wall Street analysts use to decide what they think a stock is worth. In brief – **Company A has materially less interest rate risk than Company B and C.**

I say it is obscure because someone looking at such a model likely is *not* considering how the valuation they are predicting will be impacted by this seemingly secondary variable, which therefor might qualify as "information other people don't have."

Looking back at our work in 2020, we found the following theoretical (*Figure 1*) and historical [1962-2020] (*Figure 2*) relationships between interest rates and S&P 500 valuations:

Figure 1 | **Theoretical Relationship of Equity Valuations to Interest Rates**

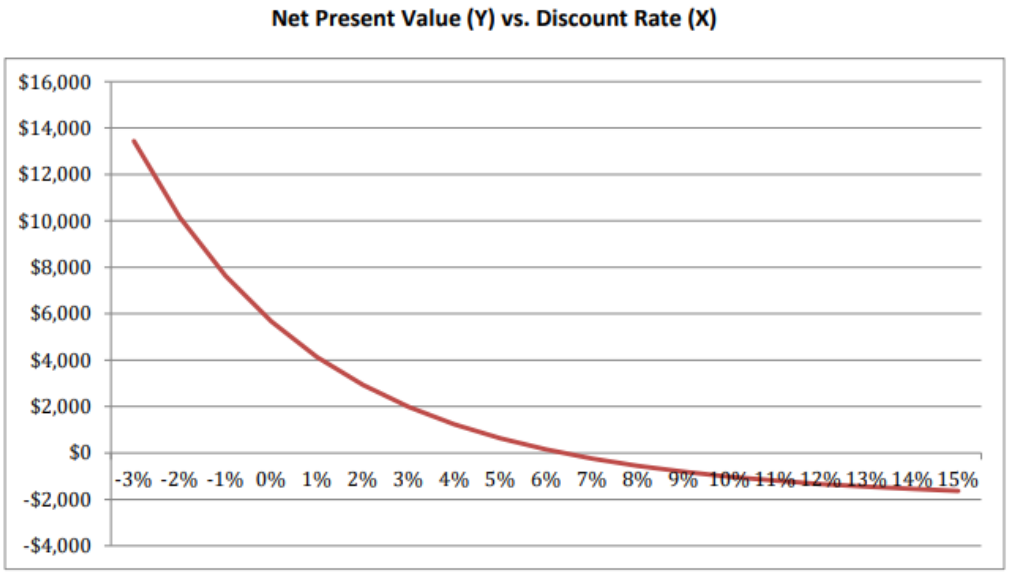
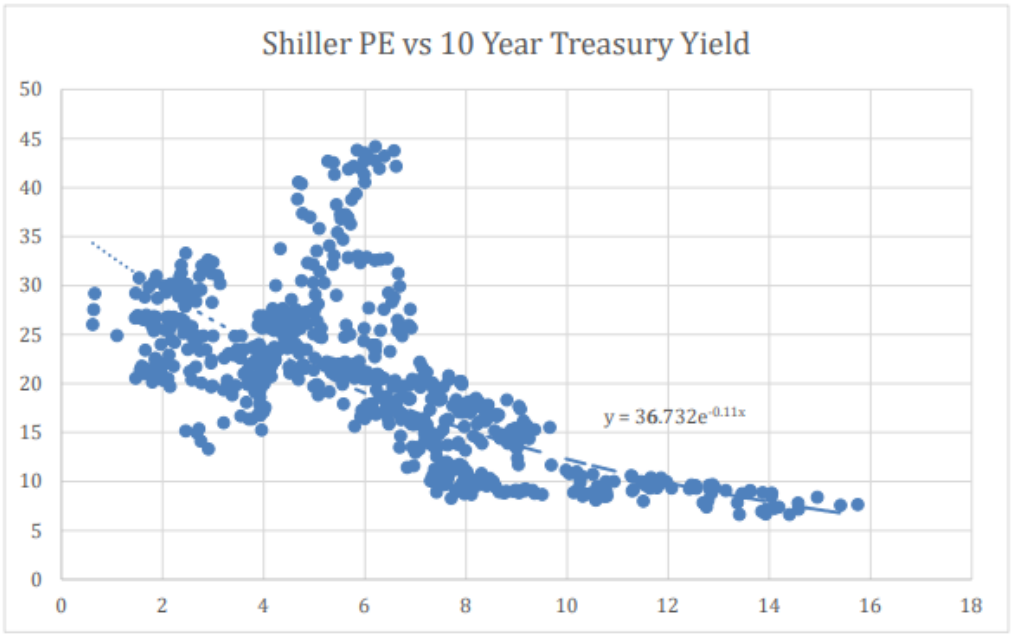
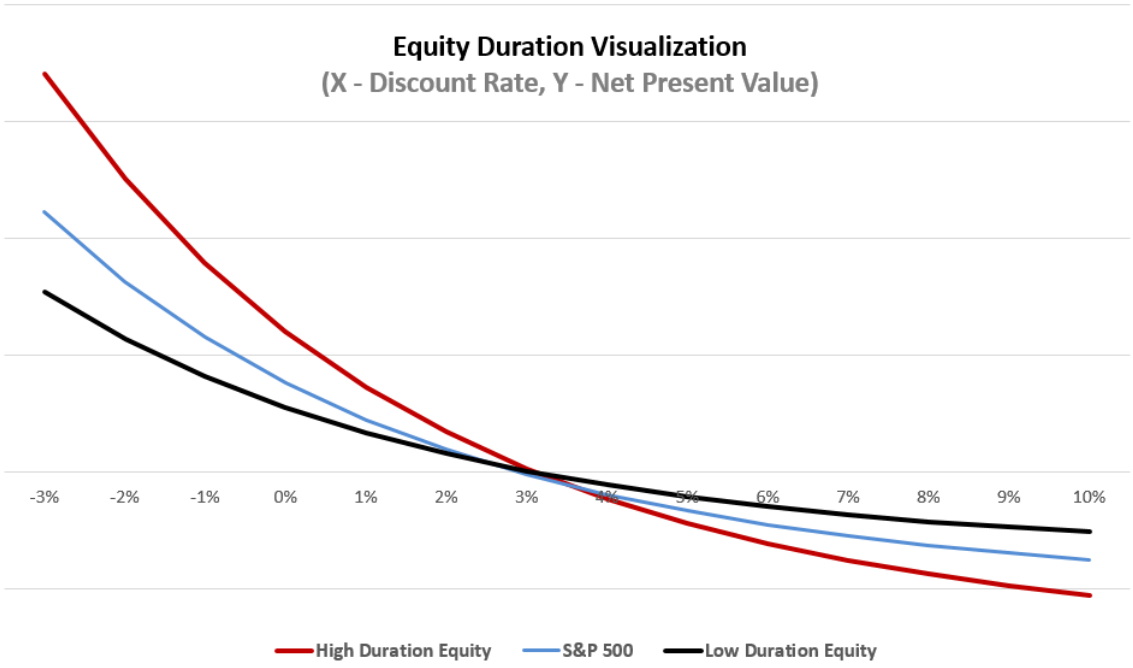


Figure 2 | **Historical Relationship of Equity Valuations (S&P 500) to Interest Rates**



Cutting right to the chase, the concept of equity duration reveals a very important new layer to our understanding of interest rates and asset prices:



In our 2020 letter, we described the situation of plunging interest rates during COVID as being akin to pushing equity valuations up the steep end of a playground slide – and we also pointed out that interest rates had become a *more* controlling variable in equity valuation. This is an extremely important point. It can be visually verified in both the theoretical and historical relationship between net present value and interest rates. A move from 0 to 1% discount rate has a much larger effect on net present value than a move from 9 to 10% discount rate does.

In the period since interest rates collapsed during the pandemic panic, Thomas and I agreed it was important that we start to get some money off the steepest slides because rates continuing to fall was very unlikely. Of course, being professional investors, that did not mean climbing down and exiting the playground. It simply meant looking around for other slides which looked less intimidating, and proactively managing our interest rate risk. **We need to stay invested, year after year, decade after decade, collecting dividends and interest, and cannot stop that collection process simply because some variable has grown more volatile.**

In practice, what that has meant is focusing on low duration equity – companies that have real cash flow in the near-term. While we own a whole range of equity investments around the world that exhibit low duration (a theme we have been acting on, including the conscientious exclusion and even selective short sale of growth stocks) the performance results through the end of May in U.S. markets show exactly what this concept of equity duration has been worth. See below a list of some well-known U.S. equity investments with different duration characteristics:

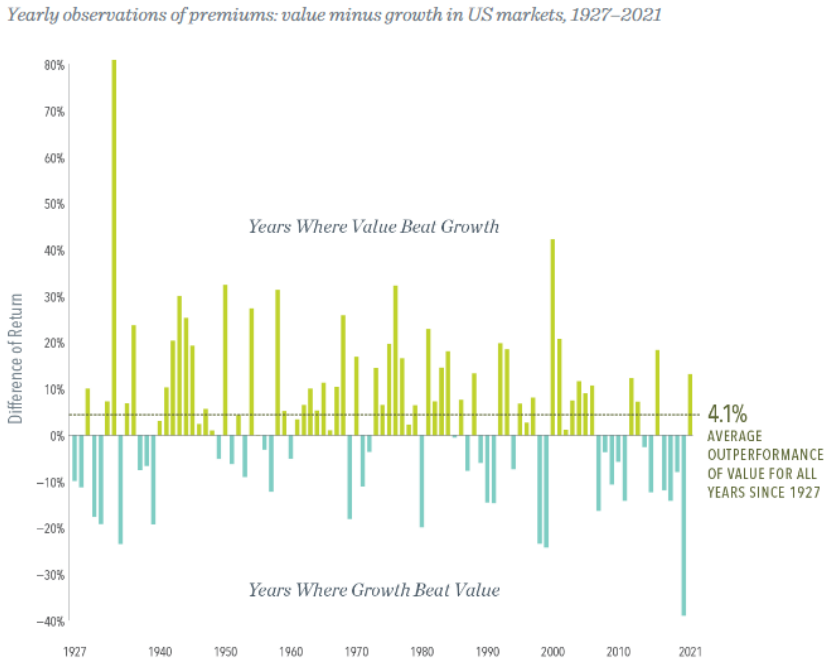
Investment		YTD (5/31)	Duration Notes
(ARKK)	ARK Innovation	-55%	Extremely High Duration (Many holdings with negative cash-flow)
(QQQ)	Nasdaq	-23%	High Duration
(SPY)	S&P 500	-13%	Medium Duration
(SLYV)	Small-Cap Value 600	-6%	Low Duration
(DVY)	iShares Select Dividend	5%	Extremely Low Duration (All holdings high positive cash-flow)

To that end, our firm's results year-to-date in 2022 are beating our benchmarks materially. We have lost significantly less money than the broad stock market and the standard 60/40 allocation model - the long held gold standard of Wall Street - which is having its worst year ever. That outcome has been driven by proactive management of interest rate risk. During the first part of the year, this was largely a product of our decision to underweight bond investments (which decline in value when interest rates rise) and to instead take an unusually large position in gold. But as the months continued on, it has become clearer **our current bias to low duration equity is the more significant driver of the performance differential.**

Our base-case outlook right now is that we expect markets to float higher for a while given the extreme nature of the early 2022 sell-off. However, interest rates have risen even further and faster than we anticipated in our aggressive modeling for interest rate increases this year. Due to that, we are prepared to see the S&P 500 move perhaps to a level around 3,400, which represents fair value according to our in-house S&P valuation model – given the current interest rate environment. Lower duration equity is likely to continue to see better results in that scenario.

We plan to hold this lower duration equity bias for some time, and if such levels (~3,400) emerge in the S&P 500, we might step duration back up a bit. However, one thing our clients should understand is that our firm has low duration and "value investing" in our

DNA. We understand that value (generally low duration) has outperformed growth (generally high duration) materially over history, as seen in the illustration below from Dimensional Fund Advisors.



While the recent era of growth speculation (akin to a similar episode back in 1998-1999) garnered a great deal of investor attention, it left our approach looking a bit boring and old-school. What we see now (and again) is that such promises of big cash flows in the future have a funny way of turning into mirages. Real cash flow today, on the other hand, as boring as it might be (coming from "less-innovative" businesses) tends to carry the day. Our job is to study that reality[1], and steer clear of elaborate stories of riches just over the next hill…or two…or three.

We sincerely appreciate your patience during COVID, where very low interest rates combined with the "reality distortion field" of quarantine, led investors to look multiple hills into the distance.

So far in 2022, investors see once again that the hill directly in front of us is the one that needs to be climbed.

[1] For deeper reading on this important topic please see, A New Measure of Equity Duration: The Duration-Based Explanation of the Value Premium Revisited, *EDHEC-Risk Institute*, Dec 2011

Onward,

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