CORPORATE VALUE PARTNERS
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CORPORATE FINANCE INSIGHTS
Fall 2023

Interest Rates and Valuation

We are about 18 months into the Federal Reserve Bank's (the "Fed") efforts to tamp down inflation in the United States. The Fed goes about fighting inflation in a couple ways, with the most visible result being a significant increase in interest rates throughout the economy. Both short-term and long-term interest rates have increased sharply as a result of the Fed's policies.

Interest rates are important in our economy because they affect everybody, including businesses. A direct effect is an increase in interest expense which reduces earnings. A less direct effect is that rising interest rates can also reduce the value of a business.

A Little Theory

The discounted cash flow (DCF) method is a touchstone for valuation analysts because it directly captures corporate finance theory that we rely on. An important part of the DCF method is a discount rate (or rate of return), that is a weighted average of the cost of equity (Ke) and the cost of debt (Kd), which is often referred to as the WACC (weighted average cost of capital). As a formula, it looks like this:

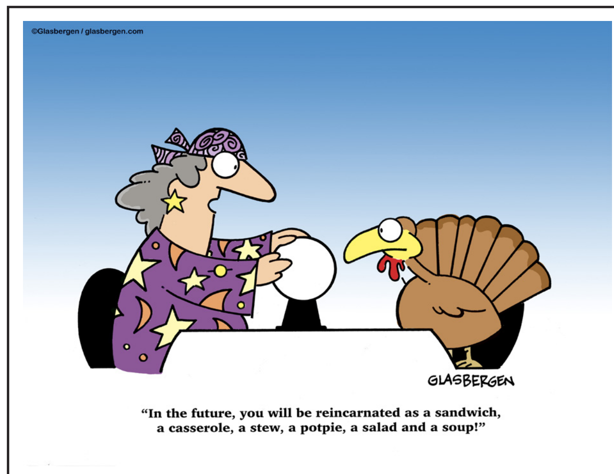
WACC = (Ke*We) + (Kd{after tax}*Wd)
(Where We and Wd are the weightings of equity and debt in the capital structure. We use the cost of debt on an after-tax basis because interest expense is tax deductible)

The cost of debt represents the interest rate on long-term debt for a business and is directly affected by increases in interest rates. Many companies have seen steep increases in their interest expense. As interest rates go up, the Kd goes up, which causes the WACC to increase. But the effect of rising interest rates on WACC does not stop here.

The cost of equity is also affected by interest rates, because we believe that the starting point in calculating Ke is a risk-free, interest-bearing security which we call Rf. Many analysts use a 20-year constant-maturity US Treasury Bond as their Rf, which has also seen significant increases in its yield. We calculate Ke using a Nobel Prize-winning theory called the capital asset pricing model, which looks like this:

Ke = Rf +(B*RPm)
(Where B is beta {a measure of riskiness} and RPm is the risk premium that investors require to buy stocks instead of US Treasury Bonds)

The formula for Ke shows that as interest rates for long term US Treasury Bonds increase, so does the cost of equity. As a result, WACC has increased significantly in recent months due to a combination of a higher cost of debt and a higher cost of equity.



"In the future, you will be reincarnated as a sandwich, a casserole, a stew, a potpie, a salad and a soup!"

How it Affects Value

Importantly, as WACC increases, the value of a business decreases using the discounted cash flow method (all else equal). That is because the DCF method is based on the cash flow that a company is expected to

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I wish you a Happy Thanksgiving!

generate in the future. When interest rates go up, that means a dollar earned in the future is not worth as much today compared to when interest rates are lower. Think of it as the power of compounding interest, but in reverse.

While the DCF method is theoretically correct, most people in business like to use multiples of EBITDA (earnings before interest, taxes, depreciation, and amortization). There is a relationship between the assumptions in the DCF method and EBITDA multiples. If you think of all the assumptions and theory in the DCF method getting collapsed into a single number, the result would be an EBITDA multiple. As the WACC increases the EBITDA multiple would fall (all else equal), which would result in lowering the value of a business.

It is hard to tell how long rates will remain elevated. If they remain elevated, there will be continuing downward pressure on EBITDA multiples and the value of businesses. But remember, the value of a business can improve during periods of rising interest rates if the company's cash flow improves to a greater extent. Interest rates and EBITDA multiples are out of a company's control, but operations and the ability to generate cash flow are largely controllable by a company. That is where our focus should always be, because it is the only sure way to increase a company's value.

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Please contact Ronald DiMattia at Corporate Value Partners at (216) 741-1330 or ron@corporatevaluepartners.com with any questions or if you need help with a valuation or corporate finance matter.

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