Comparison of Eli Lilly & Co and Charles Schwab Corp. for potential inclusion in a portfolio

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Introduction

In preparing to invest there is a great deal of detail that must not be overlooked. Although very cumbersome, it is the opinion and position of the authors of this paper to do thorough research into the aspects and financials of Stocks from both the side of owner equity and shareholder liability. The purpose of this paper is to do just that for a selection of two firms, Eli Lilly, and Company (NYSE: LLY), and The Charles Schwab Corporation (NYSE: SCHW). While the stability of these firms is not in doubt to a large degree, their suitability for investment in the medium to long term is.  However, taken together into a single portfolio does seem to mitigate some of the unsystematic risk for the investor.

For a brief overview of the firms under study, Eli Lilly is a pharmaceutical and biomedical research corporation, that made $5.582 billion last year. Their assets include $48.806 billion total, expenditures and liabilities are about $1 million less ($48.805 billion) total (Eli Lilly 2021 Annual Report).  In all, a very stable company that is relatively fairly valued, something discussed later. On the other hand, the Charles Schwab Corp. primarily operates in the financial services sector. They manage $77.799 billion in assets and have liabilities and shareholder equity of a similar number. Charles Schwab Corp. made $5.855 billion last year (Charles Schwab 2021 Annual Report). As will be discussed, both are stable companies with average volatility lower than the market. The challenge is finding the correct balance when weighing them in relation to each other. Although Charles Schwab is most definitely the least valuable of the two when considering their required rate of return, it is more valuable when doing a direct stock valuation, Charles Schwab is significantly undervalued.  Eli Lilly on the other hand is quite valuable when considering the average rate of return versus the required rate of return and overvalued when considering a direct stock valuation based on dividends yield and growth.

Risk and Return Analyses

So, to calculate the average rate of return it was important to first collect the necessary information on the adjusted closing prices monthly for the past 5 years of both Charles Schwab and Eli Lilly, which was collected from publicly available data by Yahoo Finance. To convert the prices into effective monthly rates, we took the new monthly price subtracted from it the previous monthly price and divided the difference by the old monthly price, this rate was then stated as a percentage by Microsoft Excel. Thus, we took those numbers and discovered the monthly average rate of return, shown below. Similarly, to discover the risk, the standard deviation was calculated. To reaffirm that this would at least be a weaker example of diversification, the correlation in their returns was calculated and shown to be -0.0121, reaffirming our standard.

While those all affirm a passable investment opportunity, when calculating the beta of each stock, one will discover that in relation to the market both perform well, with betas under 1 in the case of Charles Schwab and below 0, i.e., negative, implying an inverse relationship to the market. This contributes, in the case of Eli Lilly, to a valuable trading opportunity with a CAPM of nearly 1/2 of the average rate of return. However, in the case of Charles Schwab, especially with the high average returns in the market referenced by NYU Stern and a risk-free rate of return of 2.51%, its required rate of return is significantly higher than the CAPM initially calculated, with a required rate of return in excess of 5%. While our calculations and formulations of the average rate of return with respect to the required rate of return paint a picture of a clear buy, in the case of Eli Lilly, or don’t buy, in the case of Charles Schwab, the following calculations muddy that picture a bit. The standard valuation strategy employed seems to indicate the opposite. This is partly why we theorize this is a good diversification opportunity. Using a trial-and-error method, we discovered that an optimal weight of 80% for Eli Lilly and 20% for Charles Schwab yielded a 2.46% expected rate of return, and a 6.37% expected risk, forming a 2.59 coefficient of variation. Even more encouraging, the calculated beta for this portfolio is 0.0068, with a required rate of return of 2.15%. Although it has a relatively high required rate of return, this portfolio still has an expected rate of return above required. Furthermore, it has a very low beta and coefficient of variation, making it a relatively safe asset, with very low risk relative to expected return. As a result, this portfolio, according to our calculations, is recommended as a definite buy.

Stock Valuation

A stock valuation using intrinsic values compared to the actual price of the firm was used to evaluate further whether the stock is over or undervalued at the current market price. In addition, the analysis provides an indicator of the stock that should be purchased based on the company's cash flows, dividends, and growth rates. Charles Schwab and Eli Lilly companies have displayed consecutive annual dividend increases. While there have been increases annually in dividend growth, Eli Lilly's dividend growth rate remains flat. Although the company's growth during this time does not reflect an increase, Eli Lilly has committed to increasing its dividends annually.

Charles Schwab continues to accelerate revenue growth due to its most recent acquisition of TD Ameritrade, effective October 6, 2020. In addition, the company focuses on a customer-centric structure which includes investing in its current clients to yield a higher return in the future. A slight increase in Charles Schwab's dividend growth rate reflects a 4.76% increase due to the company's consistent earnings and cash flow (Dividend.com). When considering and evaluating the Require Rate of Return (RRR) for both stocks, Charles Schwab's RRR out trends Eli Lilly by 3.86 percent. While the RRR of return is higher, the RRR should not be the only indicator when determining if the investor should consider the stock.

Using the assumptions previously discussed, the Gordon Growth model indicates Charles Schwab (SCHW) shares are undervalued and qualify for a buy. Conversely, the model suggests Eli Lilly is overvalued and should not qualify for a purchase. While this model provides a straightforward metric for evaluating a company's stock based on growth in dividends, fair value, and required rate of return, investors should be mindful that this model reflects a constant growth rate in stocks. While using this model to determine if Eli Lilly is over or undervalued for buy, the 2022 to 2023 period does not reflect dividend growth (Dividend.com). The current growth rate of Eli Lilly is irrespective of the consistent growth the stock experienced outside of the 2022 to 2023 period. Valuation metrics should consistently consider current economic conditions and market volatility.

Bond Valuation

A review of the company’s bond valuation was completed to determine the fair value of the bonds issued. As a result, the valuation would further determine if the bond recommendation would be a buy, hold, or sell for investors.

The bonds evaluated for Charles Schwab are more reflective of a sale, given that most of the bonds are overpriced. Charles Schwab has a low coupon rate, primarily below 4%, which primarily attributes to a greater recommendation to sell the bonds. Of note, Charles Schwab does offer bonds with higher coupon rates. The bonds identified with higher rates are perpetual bonds. Perpetual bonds are essentially a good investment for an investor, given the higher rate of return, but can potentially impact cash flow payouts based on the company’s financial condition. In the case of Charles Schwab, these bonds are safe, given the strength of the company’s financial condition and continuous growth.

By comparison, Eli Lilly has more bonds that are recommended to buy. The purchase is primarily attributed to the higher coupon rates offered. The bonds with a recommended buy have a coupon rate ranging from 4.7% to 7.1% (FINRA). These higher bond rates are attractive to investors. Given the environment of Eli Lilly, one of the company’s primary purposes is to raise funds to develop healthcare products. The company provides a higher rate of return given their return on their products and services.

As just mentioned, a higher proportion of Charles Schwab’s bonds, which we have all the information for, are recommended to be sold in comparison to Eli Lilly. Only 3 of 16 bonds are recommended to be sold in the case of Eli Lilly, as opposed to 17 of 27 in the case of Charles Schwab. However, Charles Schwab does have potentially the most profitable bond on the market of the two firms, a callable perpetuity with a present value of $939.74, which although below that $1,000 face value, is far above its market value of $791.87. In comparison, Eli Lilly’s most profitable bond from a market value-present value standpoint is a callable bond with a market value of $841.39, and a present value calculated to be $847.06. The rest of the bonds for Eli Lilly, even those recommended buy, are selling for around what they are valued at, with some having a market value-present value difference of less than $1. This is a similar case for Charles Schwab, which although it has another bond with a difference of over $10, most have differences of under $5. Charles Schwab also has the only bond in our analysis to be selling at par. Eli Lilly’s bonds do seem to be seen as a safer investment in comparison to Charles Schwab’s.

Conclusion

These two firms, Eli Lilly and Charles Schwab, are, as we have evaluated them, better as a whole. From our risk and return analyses, and affirmed by our bond and stock valuations, our portfolio offers a great potential return on investment. The risk and return analysis, does demonstrate that at least historically, Eli Lilly has a higher average return, and lower risk than Charles Schwab, but their slight negative relationship with each other does give some diversification benefits when included in a portfolio, reducing the portfolio’s risk to be under that of either Charles Schwab or Eli Lilly individually. Together with a beta near zero, the portfolio is a safe investment, with a risk versus return comparable to the market.

Even though on initial inspection, the inclusion of Charles Schwab in our portfolio seems to be subpar from a growth standpoint with a required rate of return greater than its expected rate of return and lowering our portfolio’s return significantly. As is demonstrated in our stock valuation, Charles Schwab is undervalued, and has great potential growth with a solid dividend yield buoyed by promised dividend growth, leading to an expected rate of return higher than required from that standpoint. With a relatively underwhelming bond valuation, Charles Schwab does have great potential for growth in its stock. Eli Lilly, on the other hand, seems to be a far safer investment, with a stock valuation near fair value and with most bonds selling near what they are valued at, and a solid proportion presently valued over their face value. Nearly all analyses done on these two stocks point to Eli Lilly being a safe investment, and Charles Schwab being a relatively riskier investment with high growth potential, making a portfolio of the two a great investment opportunity, with Charles Schwab’s risk negated somewhat by Eli Lilly’s lower risk and inverse relationship. This constructed portfolio, according to our valuation and analyses, is one that should be bought and held for an extended period.

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