Summary of Key Points

Investing a large amount of cash at any one time may cause investors to feel regret, especially if they invest just before a large decline in the market. One potential way to limit this regret is to dollar cost average. Dollar cost averaging entails investing a large deposit over time in multiple installments. This strategy may limit the risk of regret but comes with costs of its own. Historically, not being fully invested would have reduced investors' returns. Those investors who want to limit the potential for regret by following a dollar cost averaging strategy need to balance the benefit of avoiding regret with the cost of earning lower returns.

We conducted a study designed to compare the returns of investors who invested the same amount of dollars at once in a lump sum with those of investors who dollar cost averaged over different time periods. In summary, we found:

• Lump sum investing has generally resulted in higher returns than dollar cost averaging over time.

• Dollar cost averaging periods of 3-6 months with an average underperformance to lump sum investing of just 0.7% and 2.1%, respectively, and probabilities of out-performance in the 36-40% range may offer the best balance.

Starting Points Matter

The growth of an investment portfolio may be modeled after an investor who consistently saves a given amount each month and watches those deposits grow over time to represent his asset base when he enters retirement. An investor like this should be less concerned about starting points – each individual deposit is but a small fraction of what will ultimately be invested in the portfolio. Some investors are faced with a much bigger risk with respect to their starting point – those who are faced with investing a large lump sum at a single point in time. Putting a large deposit to work immediately can become an emotional decision, causing an investor to regret having made the investment if they do so just before a large decline in the market, or to regret not making the investment if they chose to wait and missed out on a large market rally. Are there ways to limit the timing risk associated with lump sum investing?

Defining Dollar Cost Averaging

One way that lump sum investors may seek to manage the regret of investing at an inopportune time is to copy the behavior of regular savers. They may decide that the regret and emotionality associated with investing all their savings at one time can be tempered by investing in installments over a period of time. That way, for example, an investment of $1,000,000 can be split into five timed investments of $200,000 done over a period of five months. This is an investment strategy known as dollar cost averaging (DCA).

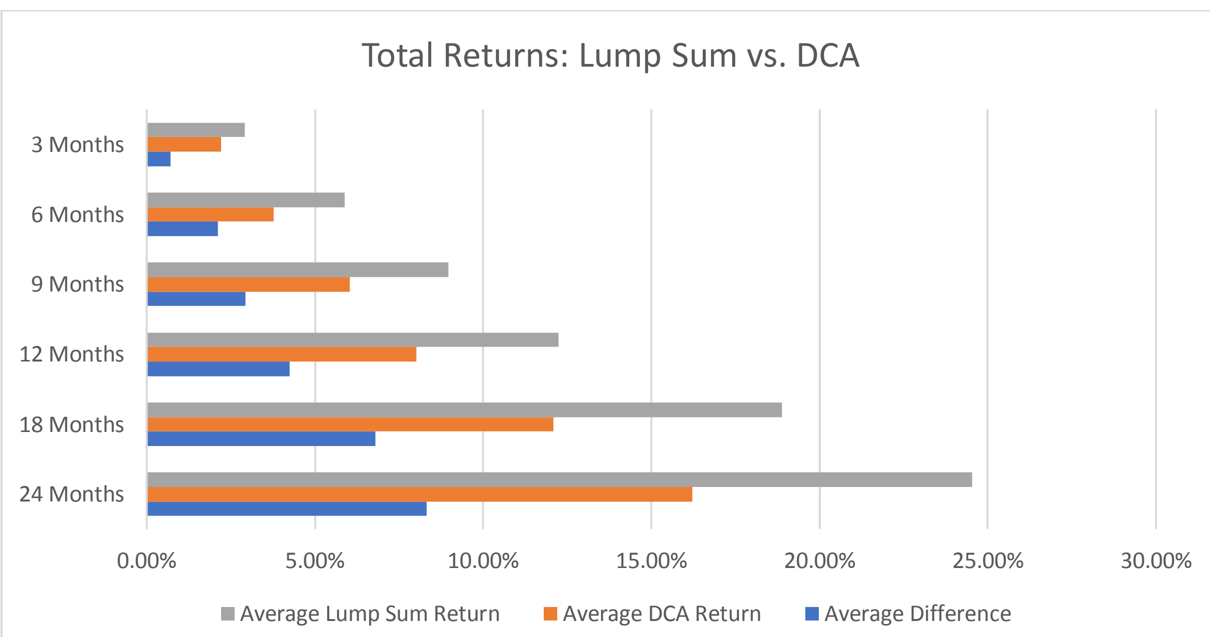
Tempering Regret: Reducing Risk vs. Reducing Returns

Dollar cost averaging a lump sum deposit is primarily a tactic to limit investors' potential regret over investing just prior to a large market decline. So, the biggest benefit to this strategy is that it may reduce the timing risk and make regret less likely. This is a very important point, and one that should lead investors to ask, "What would I regret more? Investing a lump sum today and seeing a large decline in my portfolio, or investing in increments over the next several months and not participating fully in a significant market rally?" Both are potential outcomes, and both could cause regret for an investor. It is important for investors to consider which outcome would cause the most disappointment.

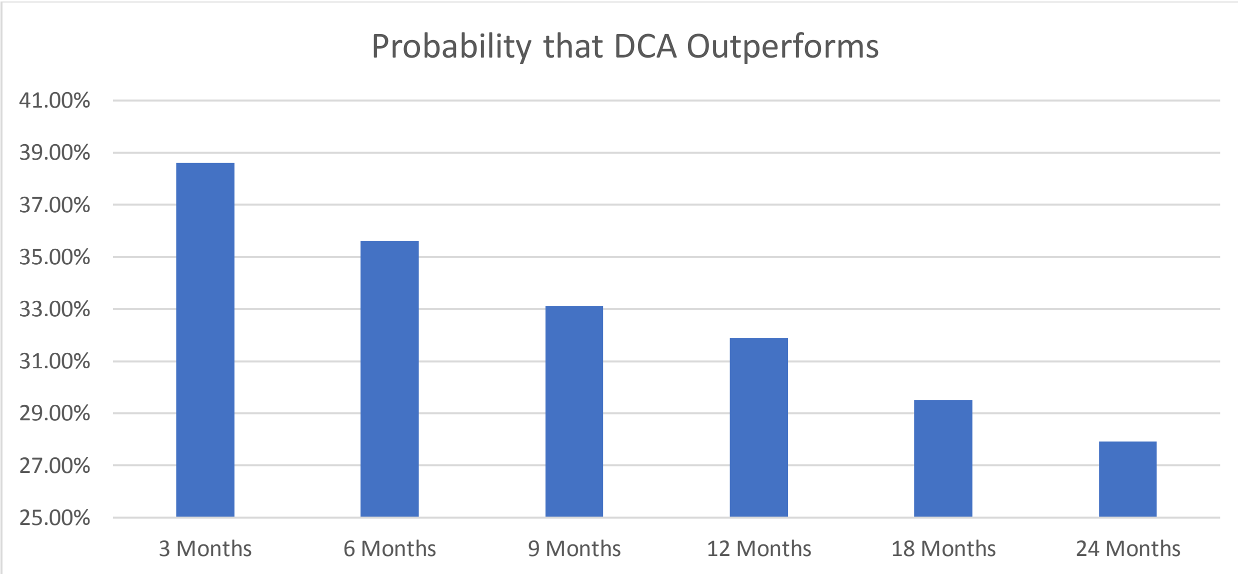
The biggest argument against investing incrementally looks at the other side of the same regret coin – what happens when a portfolio is invested in increments and does not grow as much as the broad market? Would investors regret this outcome? How would earning a lower return affect their retirement spending? It is important to note also that markets provide positive returns on average – that's why we invest (The S&P 500 has returned 10% per year annualized since 1926 through June 2020. Source: Morningstar)! Investors who leave meaningful amounts of their portfolios un-invested should expect lower returns on average, and not just to miss out on potential large gains.

Principles of the Analysis

So, what should investors do when faced with these choices? We put together an analysis of market and cash returns to help make a more educated decision. We took data from 1926 through to the end of June 2020 and studied returns for the S&P 500 Index, representing a diversified investment in stocks, and 30 Day Treasury Bills, representing interest earned on uninvested cash. In any given month, the S&P 500 return included the reinvestment of any dividends paid that month. We examined the returns of portfolios that invested their entire value immediately in a lump sum and compared them to portfolios that invested incrementally over different periods. For example, for a 6 Month DCA, we tested the total return of the S&P 500 for all six month rolling periods from 1926 through June 2020 and compared it to investing incrementally into the S&P 500 from cash in six equal increments over those same periods. That would mean that in the first month, 1/6th of the portfolio was invested in the S&P 500 and 5/6ths were invested in cash. We also tested how often dollar cost averaging resulted in better returns than lump sum investing. The charts below summarize our results.



Source: RegentAtlantic and Morningstar



Source: RegentAtlantic and Morningstar

Thoughts on Duration

Markets tend to rise on average, so it is not a surprise that that dollar cost averaging typically results in a lower return over time than lump sum investing. The longer the dollar cost averaging strategy lasts, the larger the cost on average returns for using this strategy. For example, we found that a DCA investor who followed a six-month strategy underperformed lump sum investors by about 2 % on average if the strategy lasted six months. For longer periods, such as 24 months, that difference grew to an average underperformance of over 9%. To reframe those figures in dollar values, consider a portfolio of $1,000,000 currently all in cash. The DCA investor who followed a six-month strategy would have earned, on average, about $21,200 less than the lump sum investor. The investor who followed the longer 24-month strategy earned over $90,000 less than the lump sum investor.

Also, the longer the strategy lasted, the less likely it was to result in better returns for the investor. Dollar cost averaging tempered losses in falling markets and benefited investors about 36-40% of the time for shorter DCA periods such as three to six months. The longer the investor drew out his incremental investment plan, the more likely he was to regret missing out on gains. For an investor following the DCA strategy over 24 months, the probability of outperforming a lump sum investor fell to about 29%.

Understanding that the longer they leave their assets invested in cash, the lower their portfolio returns are likely to be, investors should look to balance the regret risk of investing ahead of a potential market decline with the returns that they are likely to forfeit on average. To that end, an investor should consider a dollar cost averaging time period that keeps their likely underperformance to lump sum investing at a minimum, with the highest chances of outperforming the lump sum investor. Our analysis indicates that dollar cost averaging periods of 3 and 6 months, with an average underperformance of just 0.7% and 2.1%, respectively, and probabilities of outperformance in the 36-40% range fit the bill the best.

Other Factors to Consider

Our study found that investing incrementally over any period has cost investors return on average and has underperformed lump sum investing over the time periods tested. The decision to invest incrementally will always be a decision driven by the competing regrets of missing out on potential market losses versus being underinvested in a potential bull market. In determining what investors would regret more, they should consider:

• Their risk tolerance – Investors who are more risk averse may find more comfort in a dollar cost averaging strategy

• Their existing investment portfolio – are they investing their entire nest egg today, or adding a large deposit to an existing portfolio?

• Current market conditions – A more volatile environment may trigger more regret for investors, so dollar cost averaging may be helpful in managing potential investor regret risk in volatile markets.

Conclusion

Investing a large amount of cash at any point in time may be a risky proposition. Investors are faced with dual fears of missing out on potentially high returns on the one hand, balanced against the risk of a market decline on the other. The fear of regret in the latter situation can be tempered by following a dollar cost averaging strategy. Although this incremental investment strategy is not free – it has cost investors return historically – it may balance the risk of regret against the need to get a portfolio invested. Investors should carefully weigh the costs and benefits of such a strategy and consult with their Wealth Manager to determine the best way forward for their individual situation.