Cypress Financial Planning, LLC

SECOND QUARTER 2018

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Q1 Market Update

(values as of 3/31/2018)

U.S. Stock Indices

S&P 500	2,641 (-1.22%)
Dow Jones	24,103 (-2.49%)
Nasdaq	7,063 (+2.32%)
Russell 2000	1,529 (-0.40%)

Global Stock Indices

FTSE (London)	7,057 (-8.21%)
DAX (Germany)	12,097 (-6.35%)
CAC (France)	5,167 (-2.73%)
Nikkei (Japan)	21,454 (-5.76%)
Emerging Mkts	1,170.87 (+1.07%)

Bond Indices (Bloomberg)

U.S. Gov't.	2,172.93 (-1.18%)
U.S. Corporate	2,834.54 (-2.32%)
U.S. Hi-Yield	1,933.24 (-0.86%)
Eurozone	256.47 (+1.43%)
Emerging Mkts	1,079.89 (-1.48%)

Commodities

Gold (per oz)	1,325 (+1.70%)
Silver (per oz)	16.33 (-3.47%)
Oil (WTI, barrel)	64.87 (+7.29%)

Fixed Income Yields

U.S. 2-Year Treasury	2.27%
U.S. 10-Year Treasury	2.74%
U.S. 30-Year Treasury	2.97%
U.S. High-Yield Index	6.30%

Currency Exchange Rates

Euro/Dollar	1.23
Pound/Dollar	1.40
Dollar/Yen	106.28

Should I pay down my mortgage?

As both short-term interest rates and 30-year mortgage rates continue to edge higher, homeowners are beginning to question anew the relative benefits of paying down mortgage debt versus setting aside their excess cash for other purposes. Determining "the right amount" of mortgage debt to hold is a complicated decision, and the answer is not usually static—it can change as circumstances change, either in the broader economy or in the narrower scope of a family's evolving financial picture.

Trying to navigate that intersection of personal circumstances and current economic opportunities is what we do best at Cypress, so we'll try to lay out some of the considerations at play in making (or reconsidering) such a decision.

The (investment) opportunity cost

Any decision about paying down debt begins with a consideration of the opportunity cost for that cash—in other words, if you *didn't* choose to pay down debt, what would you be doing with that money instead, and how much would that alternative option be worth to you? More often than not, this decision requires nothing more than a simple comparison of the existing mortgage rate versus the expected return on other investments—if your mortgage is at 3.5%, but you think you can reliably earn 6% annually in an investment account, then paying down debt doesn't seem worth it, since you could earn more in investment returns than you'd be saving in interest by paying down the mortgage.

But if your expectations for investment returns are lower (or your mortgage rate is higher), then the decision could shift. In that sense, then, the decision can (and should) be different for different people, if only based on an individual's investment risk tolerance. Higher returns almost always correlate with higher risk-taking, so an investor with a low risk tolerance is less likely to clear the mortgage rate "hurdle" than another individual with a more aggressive approach.

The calculations can also change over time, as investment opportunities evolve. When shorter-term interest rates were at or near zero for several years, there was almost no chance of beating out the return on a mortgage repayment without accepting a relatively large amount of risk (and remember, the "return" on interest savings from paying down debt is always fixed and knowable, and thus "guaranteed"), so retiring debt seemed attractive in relative terms. But now that those rates are starting to tick higher, that math is changing, and less risk is required in order to beat the mortgage hurdle. Arguably, now is the least beneficial time to pay down mortgage debt in at least 10 years, at least for lower-risk investors who aren't keen on adding additional stock market risk to their portfolios.

Of course, taxes can also come into play in this decision, as with most financial planning decisions. One of the major benefits of mortgage debt is that interest on a primary mortgage is typically tax-deductible, at least up to a certain threshold (now $750,000 of mortgage debt under the new tax reform law, down from $1,000,000 previously). That tends to drive the "effective rate" of mortgage debt below its stated rate, due to the tax deduction. Paying down a mortgage, then, doesn't necessarily generate a "return" of the full mortgage rate; the net benefit can be offset by increased taxes. In that regard, the benefit of retiring mortgage debt is theoretically less valuable the higher your income. Note, though, that the tax benefit only exists for individuals who itemize deductions, which may be many fewer now that tax reform has greatly increased the standard deduction.

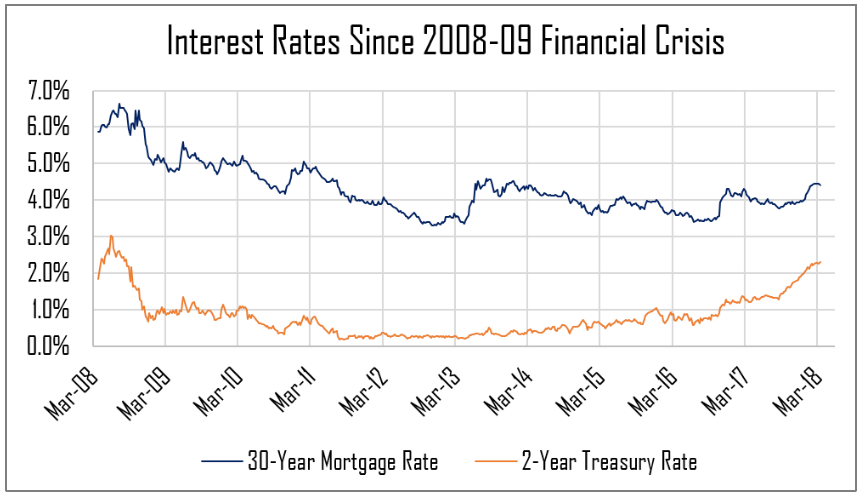
But the alternatives may come with tax consequences as well, especially if investing in a taxable account (as opposed to a tax-advantaged retirement account). Taxable accounts, 401(k) accounts, Roth IRAs, 529s, and other vehicles all come with different sets of tax assumptions, and the comparison of rates can be more complicated than a first-blush analysis might suggest. A taxable account investor who takes the standard deduction on his tax return will, all else equal, see more of a relative benefit from retiring mortgage debt than, for example, a Roth IRA investor who itemizes.

The interplay between these variables—risk tolerance, tax status, and more—means that personal circumstances are often at least as important as broader economic factors.

The (non-investment) opportunity cost

The previous analysis, though, assumes that the only two options available to an individual are to pay down a mortgage or to contribute to an investment portfolio. In reality, the options are rarely so limited. For one, mortgage debt isn't always the only type of debt on a household's balance sheet: student loan debt, auto loan debt, credit card debt, and even 401(k) plan loans all have different interest rates, and also different tax implications (student loan debt, for example, enjoys a tax deduction for up to $2,500 of interest, but that deduction is subject to an income limit); mortgage debt may not be the highest priority.

In addition, the availability of an employer matching contribution in a 401(k) plan might impact the best use of any excess cash. In general, as financial planners, we tend not to recommend aggressive debt retirement unless and until two conditions are met: 1) sufficient liquid cash exists in an "emergency fund", and 2) any employer match in a workplace retirement plan has been maximized. Once cash has been used to



retire debt, it isn't always easy (or even possible) to get that cash back if it's needed for other purposes. That's especially the case with mortgage debt, where freeing up cash will require either a refinancing of the mortgage or a separate home equity loan (which, again, due to tax reform, no longer enjoys the same tax benefits as initial-purchase mortgage debt).

Other considerations

From a budgetary standpoint, it's important to remember that as a general rule, overpayments to a mortgage will not impact the monthly payment, but will instead simply decrease the remaining loan term. If an annual household budget is tight—or is likely to become tight due to an expected career change or increased expenses—then it's important to choose the proper size mortgage *before* the loan is taken out. To change the monthly payment after the initial loan underwriting could be costly, and fluctuations in interest rates might make refinancing uneconomical. One industry rule of thumb is never to exceed 200% of annual income in mortgage debt, but that's at best a blunt tool. At Cypress, we're always happy to help our clients consider the relative costs and benefits of different debt management strategies, both for existing mortgages and for new loans. Debt can be a very useful tool, but knowing how and when to use it well is an important skill in meeting long-term goals.

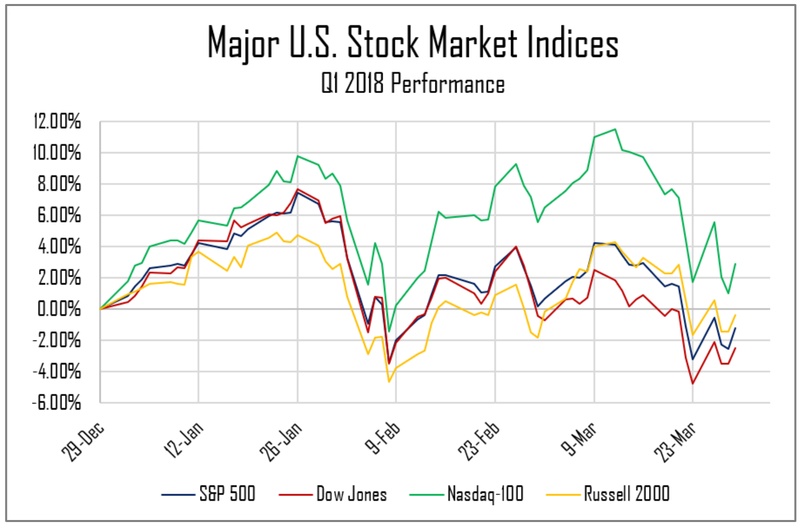
AFTER A METEORIC RISE IN 2017, BITCOIN LOST MORE THAN HALF ITS VALUE IN Q1 2018

Equity Overview – Domestic Equity Markets

It's hard to remember a first quarter—or any quarter—with such a dramatic and sudden shift in market mood and sentiment. In our Q1 newsletter, we highlighted the market's "perfect game" from 2017, in which the S&P 500 went an entire calendar year without a single month of negative total returns, the first such stretch in the history of the index. That relentless rally was marked by what we described as an "almost eerie calm", as measures of market volatility continued to mark record lows.

But after a strong continuation of that rally in January (markets gained nearly 6% for the month), volatility returned with a vengeance in February, as concerns about inflation and a rising interest-rate environment seemingly took hold overnight. The S&P 500 fell by more than 6% in just two trading days between February 2nd and 5th, giving back all the year's gains and then some. And while the market swoon would quickly find at least a short-term bottom, choppiness and volatility had returned in a big way, as fast rallies and even faster declines defined the balance of the quarter's trading.

In 2017, stocks saw only six days with market moves of greater than 1% in either direction, with none greater than 2%. Q1 alone brought 21 such days, with five clearing the 2% threshold. With a new Federal Reserve chair (Jerome Powell) now in place, the market seems uncertain how far the Fed will go to stem future market losses. That, combined with a dramatic increase in tough trade-related rhetoric from President Trump, seems to have the market on edge as we head into the warmer months.



Cryptocurrencies Hit The Skids – Alternative Investments

Last fall, the talk of the investment world—even among casual investors or young college students with no investment accounts at all—surrounded the sudden and steep rise in the values of cryptocurrencies, most notably Bitcoin. Even though relatively few people seemed to understand the actual specifics of these new alternative assets (or the blockchain technology that underlies them), the mania was nonetheless full blown. After beginning the year with a value of less than $1,000, Bitcoin rose to $5,000 by mid-October, and all the way to $20,000 by mid-December, just in time to become the talk of the table at holiday dinners around the country.

Not surprisingly, just about everyone wanted a piece of the action, including some opportunistic entrepreneurs. In one particularly farcical example, struggling beverage company Long Island Iced Tea Corp. saw its stock increase by more than 230% in barely a day of trading in December (from $2.08 per share to $6.91 per share) after the company announced that it would be changing its name to "Long Blockchain Corp." and investing in to-be-determined cryptocurrency-related projects.

But as stocks lost their footing in the first quarter, so too did cryptocurrencies. Having already slipped from its lofty $20,000 mark to a still-hefty $14,000 price tag to end 2017, Bitcoin lost more than half its value in Q1, closing March below $7,000. Even then, though, the cryptocurrency has returned to levels last seen in just October of last year, before the parabolic price increase into the end of the year. The cryptocurrency story may still be in its early chapters, but at this stage of the game, early adopters have at least been given a healthy reminder that few assets ever rise in a straight line forever. Volatility is to be expected in any investment, and rapid gains can easily give way to even swifter declines. Oh, and Long Blockchain Corp? It's back to just $2 per share.

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HIGHLY LEVERAGED SHORT-VOLATILITY PRODUCTS SELF-DESTRUCTED IN Q1

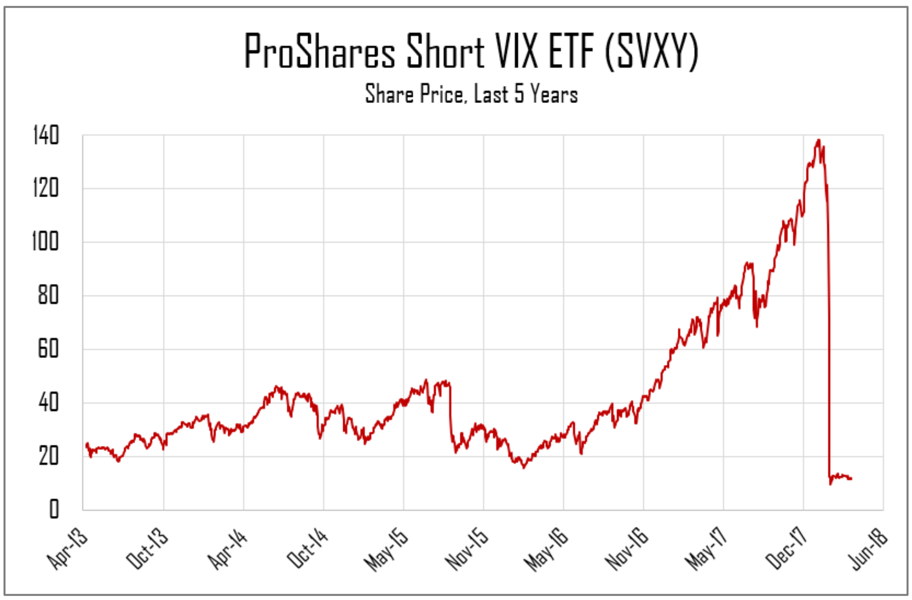
VIXsplosion? Volatility-Related Investments Implode – Structured Products

In our Q4 2017 newsletter, we noted that the market had entered into an almost unprecedented period of market calm, at least as measured by one major measure of market volatility. We wrote then: "the CBOE S&P 500 Volatility Index (VIX), often simplistically referred to as the market's 'fear gauge', closed below 10.00 for 10 consecutive trading days in July, marking the longest such streak in the history of the index. In fact, since the index was first calculated in 1990, there had been only 9 combined days in 27 years on which the index closed in single digits—just since May, there have now been 29 such days in 2017 alone, making it clear that we are now in uncharted territory from a volatility standpoint."

Indeed, there were a total of 52 sub-10 VIX readings in 2017 (and 7 more in January), making such days seem more like the norm than an exception. Not surprisingly, some profit-seeking investors (and fund managers) began to capitalize on the market's newfound low-volatility state, structuring bets that would pay off when the VIX was low and/or continued to decline. These "short-volatility" products were, in fact, among the strongest performing investments in 2017—the ProShares Short VIX Short-Term Futures ETF (SVXY) gained more than 180% over the course of the year, as market volatility remained conspicuously absent. But when the market swiftly corrected, the VIX followed suit; in less than a week, the index spiked from a low of 12.50 to a high above 50, nearly quadrupling in just a few days' time.

Naturally, the products that were designed to bet against exactly this kind of event suffered greatly. The aforementioned ProShares product (SVXY) lost more than 80% of its value in just one day (and more than 90% in a week), and it remained at those depressed levels throughout the remainder of the quarter. A similar product, Credit Suisse's VelocityShares Daily Inverse VIX Short Term ETN, terminated trading entirely after becoming effectively insolvent. Notably for the investors in those products, the fund managers' own rebalancing trades helped accelerate the increase in the underlying VIX index, essentially causing the products to self-destruct. In real time, even the most sophisticated and experienced volatility traders had trouble deciphering exactly what was happening, due in large part to the relatively complex structuring of the newly-minted short-volatility products.

While the damage from the implosion of these products seems to have been limited to a relatively small number of market participants, the incident nevertheless provides an important reminder to investors everywhere, in all sorts of different funds and products. Before selecting any instrument—an individual stock, a mutual fund, an ETF, or a fixed income product—it's important to do the proper due diligence to understand what the investment is, how it plans to operate, and what it might do in the case of unexpected market movements. Some investments with very similar names can in fact be very different in their construction, investment strategy, fee structure, or even the types of leverage used. If you have questions about the products you own, please don't ever hesitate to contact us to ask.



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