INVESTOR NEWSLETTER Armbruster Capital Management, Inc. 4TH QUARTER 2022

The ACM Journal

How to Waste Money

I've been making cider most years since we moved to our rural town. I started out with an old-time farm family that had a cider press, apple grinder, as well as all the other required equipment and know-how. We would pick our own apples, maybe buy a few in a slow year, and all get together on pressing day to share the work.

My farmer friends are getting older now, and don't have much interest in doing labor-intensive activities like making cider in the old style anymore. I haven't yet reached that stage and still get quite a lot of enjoyment out of agricultural activities, even if my kids are quickly outgrowing the age where they think it is fun.

So, it didn't take much to encourage me when my colleagues Chris and Craig wanted to get in on the cider fun. I had an old press in my barn that I had never used, but we lacked an apple grinder and some other essentials. The enthusiasm was high among our crew, so we set to work shopping for what we needed. In the end, the economics didn't make much sense.

I bought an apple grinder to go with my press. It is powerful, easy to use, and just plain awesome. It wasn't cheap though. I justify it by thinking that I'll use it for many years to come.

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Portfolio Review

Stock and bond markets enjoyed some relief to close out 2022 after dismal returns for most of the year. The S&P 500 gained 7.6% for the fourth quarter while the Bloomberg U.S. Aggregate Bond Index rose 1.9%. Despite the rebound, 2022 was one of the worst years for both bonds and the traditional 60% stock/40% bond portfolio in recent history.

Changing Leadership

The past decade was similar to the Tech Boom of the 1990s in that technology, communications, and consumer discretionary stocks performed exceptionally well. However, stock market leadership changed in 2022 and these sectors were among the worst performers this past year. Given their high valuations coming into the year, it's hardly a surprise they underperformed relative to other portions of the market during a general stock market selloff. Conversely, stocks in the consumer staples, utilities, and energy sectors held up much better this year after performing relatively poorly in the prior decade. Energy was without question the best performer this year as the S&P 500 Energy Select Sector Index returned almost 65%.

2022 also marked a significant change in the performance of value vs growth stocks. While growth had been dominant in the prior decade, value stocks outperformed growth stocks by 26% in 2022, as represented by the S&P 500 Pure Value and Pure Growth indices. This is the best relative performance for value since the Dot-Com Bubble burst in the early 2000s. Despite recent strong returns, value remains far more attractively priced than growth stocks, and we would not be surprised to see value stocks outperform for several more years. Looking at other factors, low volatility and small-cap stocks both outperformed the S&P 500, while momentum and quality showed little difference from the index. Domestically, all five factors outperformed in the fourth quarter to end the year.

Developed international stocks bested US stocks for the fourth quarter and full year 2022, returning 17.3% for the quarter. International stocks have lagged their US brethren for many years, but the tide may be turning. A weakening US Dollar and far more attractive valuations overseas could lead to stronger performance in international stock markets, particularly the emerging markets which trade at very low levels relative to their historical valuations.

Beyond Stocks

Bonds suffered their worst performance in at least the past hundred years. The Bloomberg Aggregate Bond Index fell 13% last year because of the rapid rise in interest rates. Shorter duration bonds were more defensive and reduced much of the overall bond market's loss. While there may

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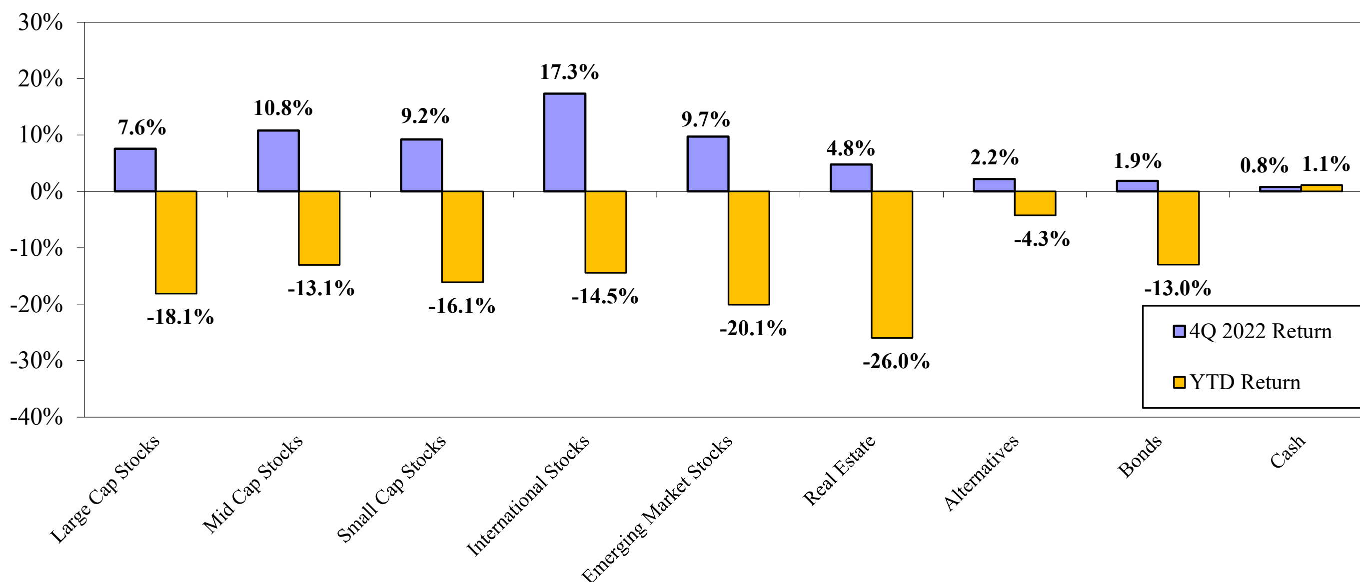


Large cap, mid cap, and small cap stocks are represented by the S&P 500, 400, and 600 indices. International and emerging market stocks are represented by MSCI indices. Real estate is the Dow Jones US Select Real Estate Index. Bonds are the Bloomberg U.S. Aggregate Bond Index. Alternatives are represented by the HFRI Fund Weighted Composite Index. Cash is the yield on the 3-month T-Bill.

Portfolio Review *continued from page 1*

be additional downside because of the continued uncertainty in interest rates, the Fed, and inflation, the return potential on bonds given today's yield is much greater than one year ago.

Alternative investments were the big winners in 2022. All the strategies we employ outperformed the broad stock and bond markets, while managed futures and style premia each returned over 30%. These strategies have very different return characteristics than traditional stocks and bonds, which offers a high degree of diversification. That can be a liability when stocks are rising rapidly, but it was a huge benefit when both stocks and bonds fell.

Economic Landscape

The economic forecast is mixed going into 2023. Year over year inflation, while still much higher than the Fed's target of 2.0%, has been trending downward recently. Despite recent layoffs made by some larger companies (Amazon, Goldman Sachs, Meta, just to name a few), the unemployment rate has decreased from 3.9% a year ago to 3.5% today. Factoring in these data points, the Fed will presumably be less aggressive in its interest rate hikes in 2023. Fed watchers and economists are concerned an aggressive Fed will push the economy into a recession. However, continued strength in employment would make for a much softer landing than many anticipate.

That said, other indicators signal a recession may be imminent. The US Leading Economic Index is flashing a recession signal. A recent Bloomberg survey had the probability of a near term recession in the US rising to 65%, with the UK and EU at higher odds. The inversion on the yield curve between 10-year and 2-year Treasury bond yields, which has been a reliable recession indicator in the past, has continued to widen. In fact, yields on 1-month Treasuries are currently higher than 30-year Treasuries.

Based on these conflicting signals, it is difficult to determine if the economy will hold up and markets will continue to rally or if tougher times are ahead in 2023. Uncertainty and risk are unfortunately part of the investment experience, and there is no known way to avoid them. Despite losses, our portfolios held up quite well relative to the overall stock and bond markets in 2022, and we believe we are well positioned for the future. We expect broad diversification will be the key to solid returns in the future.

Low Investment Returns Could Persist

The S&P 500 had its worst year since 2008 and bonds just wrapped up their worst year ever. However, inflation seems to have rolled over and employment remains robust. Has the market bottomed? Is the Fed going to pivot shortly? Are better days ahead for investors? Perhaps. But for truly long-term investors, it probably doesn't matter.

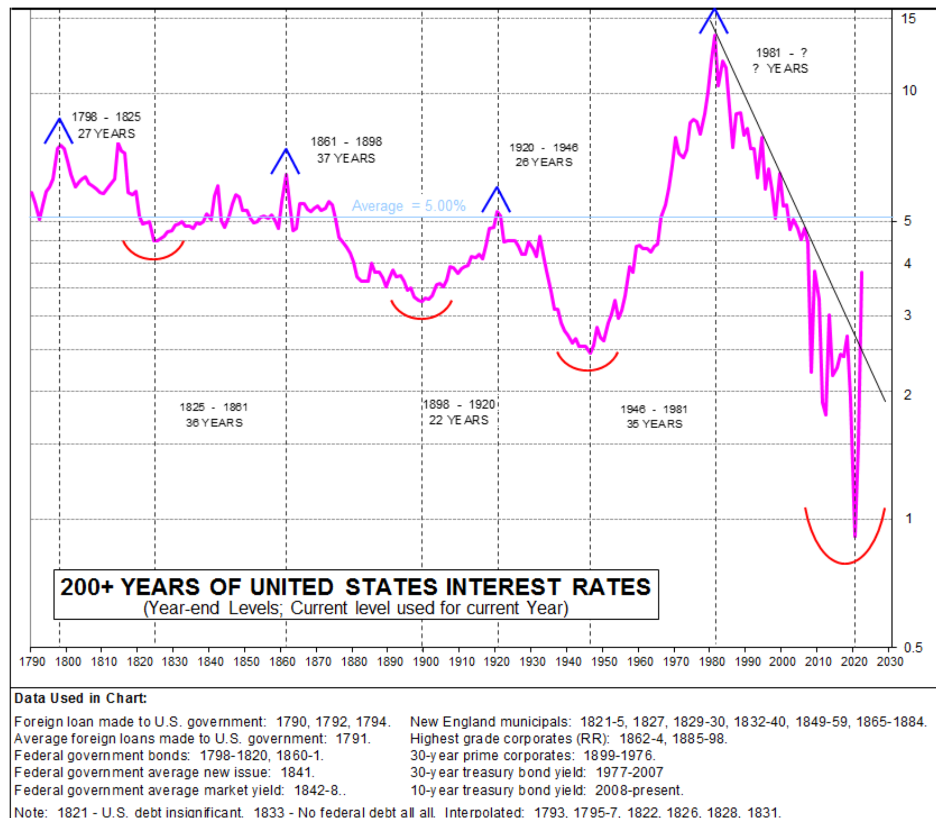
There are still head winds (deglobalization, demographics, a staggering level of sovereign debt, a likely secular rise in interest rates, the potential for a second spike in inflation, and even war) for both stock and bond market performance as we look further out toward the horizon, and these are not issues that will be resolved quickly. The end result is that investment returns will likely continue to be quite a bit lower than what we have come to enjoy historically. How low? A lost decade for the 60% stock/40% bond portfolio cannot be ruled out.

There are many factors that impact stock and bond market returns, but perhaps the two most important are corporate earnings and interest rates. Unfortunately, both point to a challenging future.

Interest Rates

Interest rates have likely entered a new long-term cycle. The graph below is from veteran technical analyst Louise Yamada. Interest rates have historically trended in 25 to 40-year cycles, and the spike down during the COVID shutdown was probably the endpoint of the last 40-year cycle. Rising rates, even if that rise is not linear, will impact both stock and bond returns perhaps for the next several decades.

Rising interest rates, by definition, mean declining bond prices. However, rising rates also impact stock valuations. At the core, it becomes more expensive for businesses to borrow money to fund operations and growth. That means fewer initiatives will be undertaken and growth will slow. But rising rates also impact what investors will pay for stocks even if growth is constant. Risky investments, such as stocks, are less attractive if satisfactory returns can be earned from higher yields on safer assets.



Source: Louise Yamada Technical Research

Corporate Earnings

The other major headwind comes from corporate earnings growth that likely won't be as robust as in the past. Everyone is aware that technology stock growth is slowing down, and that sector has been a big driver of shorter-term earnings, but that is not the real problem. In fact, sector exposure may not matter over the long term. That is the finding of a study called *The Level and Persistence of Growth Rates* from 2001. The authors found that from 1951 to 1997 the median earnings growth rate was very close to GDP growth irrespective of industry exposure. Verdad Research recently extended the study to 2021 using the same methodology and found similar results.

If GDP is the primary driver of corporate earnings, the future may not be so bright. Economists Carmen Reinhart and Kenneth Rogoff found that when the national debt to GDP ratio for a country rises above 90%, economic growth slows. Data from World Economics shows debt to GDP of 119% in the U.S. and 240% in Japan. Many developed economies around the world are near or above the 90% threshold. Fiscal policy in a lot of the developed world is still very

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Low Investment Returns Could Persist *continued from page 3*

expansionary, meaning that debt levels will likely rise even further.

Common sense dictates that there are consequences to too much debt. An individual can only consume so much on credit before that consumption must slow down and the debt must be repaid. Ray Dalio, the founder of Bridgewater Associates, points out a similar dynamic at the macroeconomic level in his books, emails, and videos. He notes that deleveraging periods historically have been painful, such as in the U.S. during the Great Depression; England in the 1950s; Japan in the 1990s; and Spain, Italy, and Greece in the 2010s. All were periods when economic growth declined substantially. Periods of deleveraging almost by definition result in cost cuts, austerity, and slowed growth, weighing on the ability of corporate profits to expand.

Stock Market Valuation

To make matters worse, stock market valuations are still at fairly lofty levels when viewed historically, despite last year's market drop. That means further losses cannot be ruled out.

There isn't much that we as investors can do to change these dynamics. You can't change the cards you're dealt, but you can change how you play the game.

While no strategy works in every market environment, and we had our challenges during the latter phase of the most recent bull market, we believe our portfolios are well equipped to weather what could be another bout of market turmoil.

Factor Investing

A study by Dutch asset manager Robeco found that factor exposures tend to outperform the overall stock market during periods when the market is weak (see table below). The table below, based on Robeco's study, shows that a diversified factor portfolio performed particularly well during the 1970s and 2000s when overall stock market returns were anemic. Our factor-based investments have held up quite well over the past year, and history suggests they could outperform the stock market in the years to come.

Alternative Assets

Diversification is the other approach that we expect to help if stocks and bonds continue to disappoint. Certainly, we want to be diversified within our stock and bond portfolios, but we also want to diversify beyond stocks and bonds. Investing in "alternative investments" can be tricky since costs can be high, tax impact is often ignored, and lack of liquidity can be an issue. Nevertheless, there have been some very solid funds in the alternative space with repeatable methodologies that performed admirably last year. Funds using investments such as managed futures, private lending, private real estate, catastrophe bonds, and others have been quite defensive as stocks and bonds faltered.

Unfortunately, bear markets are a part of the investment experience. There is no way to avoid them and trying to sidestep them by timing the market has repeatedly been shown not to work. It is also expensive to sell out and pay capital gains taxes on many years of built-up growth. The better approach is to build a portfolio that can weather downturns but still provide solid long-term returns. Using a mix of globally diversified, factor-based stock funds; low risk bonds; and truly diversified alternative investments, we expect that returns will be acceptable in the future, if not as strong as we've experienced since the last bear market.

Long-Term Factor Returns

Date	Market - RF	Size	Value	Profitability	Investment	All
1963-1969	3.9%	9.3%	2.2%	1.1%	-0.8%	3.0%
1970-1979	-0.3%	4.2%	7.7%	-0.7%	6.2%	4.3%
1980-1989	7.3%	-0.7%	5.6%	4.8%	5.7%	3.9%
1990-1999	12.5%	-2.6%	-0.4%	2.4%	-0.3%	-0.2%
2000-2009	-3.1%	6.5%	7.2%	7.9%	6.6%	7.0%
2010-2019	13.0%	-0.7%	-2.6%	1.2%	0.1%	-0.5%

Source: Robeco

Firm News

Last year may not have been so great for the stock market, but it was a solid year for our firm. We were gratified to see our performance remain fairly strong, at least relative to the overall stock and bond markets. This was thanks largely to our data-driven approach that led us to value stocks, conservative bonds, and alternative investments, all of which performed admirably.

As most of you know, we tend toward the technical side of the investment business and aren't so great at prospecting for new clients and selling. That results in slower growth and likely reduced revenue for our firm, but we're quite happy focusing more on delivering a solid service than being an advisor to the masses. Even with moderate growth last year, we still finished up with around $700 million in client assets entrusted to us. We started

out fourteen years ago as a very small firm and are now solidly mid-sized. I doubt we'll ever be a behemoth, even in our local market, but we expect to continue to grow in measured fashion over the years.

The more notable successes at our firm last year involve our team. First, we promoted our two "young guys". Luca Zambito and Adam Edelstein have each been with us for close to two years and are now full-fledged analysts and portfolio managers, shedding "junior" from their titles. They have also both made significant progress on earning their CFA charters. Both have taken level 2 exams recently and are awaiting results (we're betting they both passed). After that, there's just one more level to go. If you Google the CFA program, you'll get an appreciation of how difficult it is to pass. The success rate on passing all three levels is less than 25%.

Many of you have likely now met our receptionist, Morgan. She joined us fairly early last year and has now had a chance to fully integrate. She's been great for us and has really taken a lot of the load off of Tarryn, who's eagerness to pitch in we have grossly taken advantage of over the years. In fact, it turned out that Tarryn needed the help this past year more than ever, as we were graced with a surprise SEC audit. Many advisors live in fear of SEC audits, but with Tarryn steering our compliance program, I have slept well at night. In the end, we got a few compulsory notes about how to clean up our documentation, but the audit went very smoothly thanks to Tarryn's diligence.

A final, but important change in 2022 was that Chris Cebula was promoted to President of the firm. In reality, Chris has been running day-to-day operations for some time. Our whole staff knows that Chris is the guy to go to with questions, perhaps because of his knowledge of the intricacies of our operations or perhaps because he's just more patient than me. In any event, he has been our de facto leader for some time, and now it is official.

That doesn't mean that I am going away or scaling back. I'm still the "spiritual leader" of the firm and spend my time on investment research, client service, growth, and thinking about the long-term strategic direction of the firm. Much of that doesn't require me to be overseeing our team, and it turns out they prefer it that way.

Chris's Corner: SECURE Act 2.0

Nancy Pelosi famously said we needed to pass Obamacare legislation so we could find out what is in the bill. Well, the SECURE Act 2.0 has now been passed, but there are still a lot of details that need to be fleshed out, likely by the Treasury Department in the coming years. Here's what we know so far:

The SECURE Act 2.0 was approved by Congress and signed by President Biden in late December 2022 and is now officially law as of January 1, 2023. It is an extension of the SECURE Act of 2019 which was intended to help strengthen the retirement system and ensure participants' financial readiness for retirement.

Mandatory Automatic Enrollment and Escalation

Starting January 1, 2025, all new 401(k) and 403(b) plans will be required to automatically enroll any new employees into the plan with a minimum salary deferral rate of 3%, but no more than 10%. Employers will also be required, through auto escalation, to increase the contribution rate for employees 1% annually until it reaches 10% of the employee's salary.

This will not be a requirement for businesses with 10 or fewer employees and/or companies that have been in operation for less than three years. Employees can of course opt out of automatic enrollment at any time. The new law also permits plan sponsors automatic portability services to easily transfer participants' low balance retirement accounts to their new plans when they change jobs.

Higher catch-up contributions

Starting January 1, 2025, individuals aged 60 through 63 will be able to make catch-up contributions up to $10,000 annually. This amount will be indexed to inflation. Those 50 or older can still make catch-up contributions of $7,500 annually.

Starting in 2025, any catch up contribution made by a participant who is 50 or over, if they earned $145,000 or more in the previous year, will be required to be made to a Roth designated account in after-tax dollars.

Required Minimum Distribution (RMD) Changes

Starting January 1, 2023, the RMD age increases to 73. Currently, individuals who are 72 and older must take an RMD from their qualified accounts. If a participant has already started taking RMDs, they will continue to do so.

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How to Waste Money *continued from page 1*

I have some apple trees, but the harvest this year wasn't going to be enough to supply three families. Chris became responsible for sourcing our feedstock. He located an apple farmer about 90 minutes away who had organic apples he was willing to sell retail.

Chris and I drove out to the farm one Saturday morning and were surprised how easy it all was. They were expecting us, loaded up our apples with their forklift, and sent us on our way. We bought 800 pounds of apples, so it was quite a load for my truck. I also have a cap on the back of my truck, so the forklift was essential for loading. We weren't sure how we would unload when we got home.

There was some drama before that, however. We stopped at a diner on the way back and noticed that the apples shifted when I took a turn, and the crate broke my back window.

Undeterred, we enjoyed breakfast and drove the rest of the way home. Unloading 800 pounds of apples was a bit of an ordeal but with my tractor, some chain, and an improvised ramp system, we did ultimately get them into the garage to age for a week before pressing.

The next weekend we all agreed to meet at my house at 7:00 am. Chris and Craig arrived on time, but their spouses and kids would be joining at a more genteel hour and after the temperature warmed up a little. The three of us set to work, and when it came time for bottling, Craig surprised us with new cider jugs with custom labels he had made up for the occasion.

We were having so much fun figuring out the optimal way to press our apples, that we practically finished by the time everyone else showed up. We did save some work though, and Chris's son CJ showed real talent in the cider arts. He was right there for every step of the process.

We ended up with somewhere around 60 gallons. We all took a bunch home to drink and freeze, and also set aside roughly ten gallons to make hard cider. The hard cider came out pretty well, but our attempt to carbonate it seems to have been a bust.

In the end, we had a lot of fun and got a lot of cider to enjoy through the winter. The downside is that this very likely is the most expensive cider ever produced. If you factor in a new grinder, 800 pounds of organic apples, a new truck window, gas money, custom jugs, and the requisite box of donuts for the kids, our cider cost somewhere around $40 per gallon.

We can't wait to do it again next year.

Chris's Corner: SECURE Act 2.0

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Starting January 1, 2033, the RMD age will increase further to 75, if the law doesn't change again.

Starting January 1, 2023, the penalty for failing to take an RMD will decrease from 50% to 25%.

Starting January 1, 2024, Roth accounts in employer sponsored retirement plans will be exempt from the RMD requirements.

Student Loan Payments

Starting January 1, 2024, individuals who are unable to save in their company-sponsored retirement accounts because they are paying student loans will be able to receive matching contributions from their employer. This will only apply to companies that offer matching contributions.

Emergency Savings

Starting January 1, 2024, participants in defined contribution retirement plans will be able to add an emergency savings account that is a designated Roth account and is eligible to accept participant contributions for non-highly compensated employees. Contributions would be limited to $2,500 annually and the first 4 withdrawals in a year would be tax and penalty free.

The new provisions that apply to individuals seem pretty clear, but there is still a lot of uncertainty around how the student loan and emergency savings provisions will be implemented. If you have questions, give us a call and we'll try to add clarity where we can.

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