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FOURTH QUARTER MARKET OVERVIEW

Stocks in the U.S. and abroad enjoyed substantial gains in all but a few sectors in Fourth Quarter 2021, capping off another strong year for the equity markets.

While small stocks, especially small value stocks, led the market for most of 2021, large stocks returned to the top of the heap in the fourth quarter. The S&P 500 index of large U.S. stocks gained 11.03% for the period, finishing the year up 28.71%. Small stocks experienced more volatility during the fourth quarter than large stocks but still managed to finish in the black, with the Russell 2000 small cap index gaining 2.14% to finish the year up 14.82%.

International stocks also enjoyed gains during the fourth quarter. The MSCI EAFE index of large stocks in Europe, Australasia, and the Far East gained 2.69% in the quarter and 11.26% for the year.

Alternative asset classes saw a huge spread in performance during the fourth quarter. The Dow Jones U.S. REIT (real estate stock) index gained 17.22% to finish the year up a whopping 45.91%. Emerging markets stocks, however, did not fare as well. The MSCI Emerging Markets index declined 1.31% for the quarter and finished 2021 down 2.54%.

Bonds have also struggled recently due to concerns about rising interest rates and inflation. The Bloomberg U.S. Aggregate bond index gained 0.01% in the fourth quarter and finished 2021 down 1.54%.

2021 reminded investors that stocks are a good hedge against rising inflation.

Evidence-Based Investing in Brief:

How do you invest your money over the long term? If you've read much of our work, you've probably noticed we embrace evidence-based investing. But what does that mean?

What Is Evidence-Based Investing?

Evidence-based investors build and manage their portfolios based on what is expected to enhance future returns and dampen related risk exposures, according to the most robust evidence available. This also means sticking with your evidence-based strategy once it's in place for the long term, regardless of market uncertainties and self-doubts you'll experience along the way.

EVIDENCE-BASED INVESTING, APPLIED

Do you (1) hope investors can come out ahead by finding mispriced stocks, bonds, and other trading opportunities; and by dodging in and out of rising and falling markets?

Or do you (2) accept all investors' investment insights create relatively efficient market pricing that is too random to predict consistently?

SELECTED 2021 EQUITY INDICES

	Dec. '21	4th Qtr.	YTD
S&P 500 Total Return (Large-Cap Stocks)	4.48%	11.03%	28.71%
Russell 2000 Total Return (Small-Cap Stocks)	2.23%	2.14%	14.82%
MSCI EAFE (Developed International Stocks)	5.12%	2.69%	11.26%
MSCI Emerging Markets (International Emerging Stocks)	1.88%	-1.31%	-2.54%

SELECTED 2021 FIXED INCOME INDICES

	Dec. '21	4th Qtr.	YTD
Barclays U.S. Aggregate (Broad Domestic Bonds)	-0.26%	0.01%	-1.54%
Barclays 1-5 Yr. Credit (Short-Term Domestic Bonds)	0.02%	-0.68%	-0.55%
Barclays 5-10 Yr. Credit (Intermediate-Term Domestic Bonds)	0.21%	-0.38%	-1.57%
Barclays U.S. TIPS (Treasury Inflation Protected Securities)	0.32%	2.36%	5.96%
FTSE World Gov't 1-5 Yr. Hedg'd (Short-Term Global Bonds)	-0.27%	-0.52%	-0.80%

An overwhelming body of evidence suggests investors should skip the first approach and adopt the second assumption. This has been the case since at least 1952 when Harry Markowitz published Portfolio Selection in *The Journal of Finance*. In their book, "In Pursuit of the Perfect Portfolio," Professors Andrew Lo and Stephen Foerster describe:

> "While it's commonplace now to think of creating a diversified portfolio rather than investing in a collection of securities that each on their own look promising, that wasn't always the case. It was Harry Markowitz who provided a theory and a process to the notion of diversification. He helped to create the industry of portfolio management."

Markowitz's work became known as **Modern Portfolio Theory (MPT)**, academics and practitioners have been building on it ever since. His initial work and others' subsequent findings strongly support ignoring all the near-term noise and taking a long-view approach. This involves creating a unified investment portfolio and focusing on more manageable details, such as:

- Tilting toward or away from entire asset classes to tailor your risks and expected returns
- Minimizing avoidable risks by diversifying globally
- Reducing unnecessary costs
- Controlling your own damaging behavioral biases

How Do You Decide Which Evidence To Heed?

At first blush, nearly *every* investment recommendation may seem "evidence-based." After all, few forecasters peer into actual crystal balls to make their predictions. And no market guru would admit their stock-picking track record has been no better than a dart-throwing monkey's (even though that's usually the case).

Instead, stock-picking and market-timing enthusiasts tend to argue their cases by turning to articulate analyses, clever charts, and convincing investment briefs. They use these props to explain the late-breaking news and recommend what you should supposedly be doing about it.

There's nothing wrong with facts and figures. The critical difference is how we ***apply*** them as evidence-based investors. As financial author Larry Swedroe describes it:

> "In investing, there is a major difference between information and knowledge. Information is a fact, data, or an opinion held by someone. Knowledge, on the other hand, is information that is of value."
> — Larry Swedroe, ETF.com

No matter how compelling a call to action may be, we discourage frequent reactions to the never-ending onslaught of information. Before acting, we must ask ourselves:

> Which current information might add substantive value to our decisions by refuting or adding to the existing evidence? Or is this "new" information just more of the same old noise, already factored into our evidence-based investment strategy?

THE EVIDENCE-BASED SILVER BULLET: ACADEMIC RIGOR

Because there is much more noise than valuable knowledge available to investors, the basic recipe for evidence-based investing begins with ***academic rigor***. It should always be a key ingredient in separating likely fact from probable fiction:

- It requires robust data sets that are large enough, representative enough, and free from other typical data analysis flaws.
- Authors should be impartial, lacking incentives to "torture" the data to make a point.
- Other studies should be able to reproduce the same findings under different scenarios, suggesting the results are more likely to persist upon discovery.
- The data, method, and results should be published in reputable, peer-reviewed forums where informed colleagues can comment on the findings.
- Enough time must pass to make all the above possible.

After that, we also must be able to apply the results in the real world. In other words, even if a theoretical strategy is expected to enhance your returns, it must do so ***after*** considering all practical costs and portfolio-wide tradeoffs involved. For example, sometimes, one source of expected returns may offset another, even more significant, source. Occasionally, we can combine them for even stronger results; other times, it's best to favor one over the other.

EVIDENCE-BASED INVESTMENT FACTORS

So, which factors appear to explain different outcomes among different portfolios best? What combinations of these factors are expected to create the strongest, risk-adjusted portfolios? What explains each factor's return-generating powers, and can we expect those powers to persist?

Academic research has found several factors that point to differences in expected returns. Analytical scholars have thoroughly documented the differences in expected returns generated by the various factors in markets around the world and across different time periods.

Based on the academic answers to the practical questions posed above, we typically mix and match the following factors in our evidence-based portfolios, varying specific exposures based on each investor's personal goals and risk tolerances:

- **The Market:** Stocks (equities) vs. bonds (fixed income)
- **Company Size:** Small vs. large company stocks
- **Relative Price:** Value vs. growth company stocks
- **Profitability:** High-profit vs. low-profit company stocks
- **Term:** Long-term vs. short-term bonds (based on maturity date)
- **Credit:** "Safer" vs. "riskier" bonds (based on credit quality)

1. Relative price as measured by the price-to-book ratio; value stocks are those with lower price-to-book ratios.
2. Profitability is a measure of current profitability, based on information from individual companies' income statements.

WHAT'S IN AN EVIDENCE-BASED NAME?

Finally, it's worth mentioning that others may refer to the same or similar approaches by various names, such as *factor-based, asset-based,* or *science-based* investing. These terms are relatively interchangeable, but there's a reason we've chosen *evidence-based* as our preferred expression. Heeding sound reason and rational evidence is at the heart of what we do. Thus, we believe that it should be reflected in what we call it.

How would your best evidence-based investment portfolio look? It depends on your personal financial goals and your willingness, ability, and need to take on investment risks in pursuit of those goals. That's where we come in to structure the right mix for you and help you navigate through the ever-distracting informational overload. To learn more, let's talk!