

Macro Research & Strategy

Countercyclical Indexing

"Balanced" index funds have a simple problem—they aren't very balanced primarily because they are overweight equities which contribute 85%+ of the risk to this portfolio. This is exacerbated by the procyclical nature of the equity market and the way the market capitalization growth exaggerates this risk at the worst possible times in the business cycle. A true balanced index requires a more countercyclical methodology that reduces the procyclicality of the equity slice in the portfolio.

What is Countercyclical Indexing?

The financial markets are comprised of asset classes that are inherently dynamic. This means that the relative risks of asset classes are changing over the course of the business cycle's booms and busts as their underlying market capitalizations ebb and flow. This can result in a misalignment between our asset holdings and the risks they contribute to our portfolios as risks in certain asset classes become exaggerated at the worst times.

Traditional portfolio theory says that we should rebalance a portfolio back to its "efficient" weighting over the course of the business cycle. For instance, a standard meanvariance optimization approach might find that a 60/40 stock/bond portfolio is an "efficient" way to diversify a portfolio because its return per unit of risk is optimized. You would then adjust this allocation at times to rebalance back to a 60/40 weighting as stocks tend to become overweighted relative to bonds due to outperformance. What this approach ignores is that a fixed portfolio allocation will expose investors to higher levels of risk at the riskiest points in the business cycle because a 60/40 stock/bond portfolio derives most of its risk from the 60% slice. Cullen O. Roche Founder Discipline Funds cullenroche@disciplinefunds.com

"The Investor's Chief Problem, and even his own worst enemy, is likely to be himself."

-Ben Graham

If we assume markets are efficient then the one true "passive" portfolio is the current outstanding market cap of stocks and bonds. The relative market caps of stocks and bonds

changes quite dynamically over time as the stock market booms and busts over the market cycle (see figure at right). The main risk in this portfolio is that the equity slice contributes 85% or more of the volatility to the portfolio thereby exposing the investor to very high levels of risk when the equity markets are riskiest (when equity market caps boom). Likewise, the investor who tracks this portfolio is under-



weight equities when they become less risky (when they bust).

Tracking this benchmark "efficient" market capitalization portfolio isn't just intuitively wrong. It's factually wrong. The investor who tracked this allocation underperformed the investor who did the *exact* inverse. The investor who followed the actual market cap weighting generated an average annual return of 6.71% with a standard deviation of 8.5 since 1990. If, on the other hand, you had weighted bonds and stocks at their *inverse* weightings you would have generated an average annual returns of 8.1% with a standard deviation of 10.33. Your risk adjusted returns *and* nominal returns were better in the inverse portfolio.

The Unbalanced Risks of a "Balanced" Index

A common deviation from this market cap weighted problem is to rebalance a portfolio in an equal weight manner resulting in a countercyclical rebalancing such as 60/40 stocks/ bonds. A 60/40 portfolio is *relatively* countercyclical in that it rebalances *away* from stocks when they boom and rebalances *more* into stocks when they bust. This approach has many good characteristics, but it's important to note that the risks in this portfolio are not "balanced" in large part because they are not countercyclical *enough*. They are skewed dramatically by the procyclical equity slice because the benchmark is fixed at a large starting equity weight.



The risk in this portfolio is due to the fact that ~85% of the volatility in a 60/40 index comes from the stocks alone. This becomes behaviorally skewed at times when stocks boom and expose investors to more risk than they do on average. This is because the balanced index is always rebalancing back to 60% stocks even though that 60% stock allocation becomes much riskier at certain times in a market cycle. In short, a 60/40 portfolio isn't countercyclical enough during stock market booms because its fixed benchmark is overweight the riskier asset in the portfolio thereby leaving it with too much procyclical equity exposure.

Our research shows that a more "balanced" approach to indexing would involve a more dynamic countercyclical rebalancing methodology that reduces the variance in the 60% weighting when the equity market cap booms. The chart at right shows that a more balanced countercyclical rebalancing methodology would have reduced the stand-



ard deviation in returns by 35%. This reduces drawdowns, especially when we're most behaviorally biased during large bear markets and produces a more stable return thereby helping the investor stay the course and remain fully invested by exposing them to less behavioral risk over the course of the market cycle.

In short, the core problem with a balanced index fund like a 60/40 is that it is inherently more procyclical than it should be to achieve real balance. Instead, to establish better balance an asset allocator would need to start with a less procyclical balance (such as 50/50 stocks/bonds) and then countercyclically control the riskiness of the 50% equity component because it will expose the investor to more risk at certain times in the market cycle when its underlying market cap booms.



Countercyclical Indexing-A Strategy Built on a Solid Foundation

Passive Based: We know that the average less active investor should outperform the more active investor after taxes and fees. A Countercyclical Indexing strategy can be extremely "passive". In fact, we would argue that a dynamic countercyclical strategy will tend to be even *more* passive than something like a 60/40 index because it maintains average allocations that will be closer to global market cap weightings, the one true "passive" portfolio.

Behaviorally Robust: Most importantly, we would argue that a balanced countercyclical strategy will better help an investor improve behavioral alpha across time because the strategy will better dampen the equity market risk. This results in a more "balanced" return over time and helps the investor remain more disciplined because their portfolio returns are not being dominated by the equity slice.

Risk Parity and The Rebalancing Bonus: This approach is grounded in global macro understandings, but is also derived from two time tested approaches – Ray Dalio's Risk Parity approach and William Bernstein's Rebalancing Bonus. Risk parity seeks to create parity between the risks of various asset classes over the course of the portfolio's lifetime while Bernstein's Rebalancing Bonus explains the way that rebalancing contributes to better risk adjusted returns.

A balanced Countercyclical Indexing approach should start with a more balanced benchmark and rebalance that portfolio to mitigate the procyclical risk in the equity market. We argue that this not only makes more intuitive sense than a multi-asset allocation that is fixed and more procyclical, but it is also more consistent with behavioral finance literature and the ability to reduce behavioral biases across time.

Although the investor's risk profile is generally static over the course of the business cycle, the investor's portfolio will actually change over the course of the business cycle and expose them to varying degrees of risk. A balanced Countercyclical Indexing approach establishes a portfolio management approach that is more consistent with the way investors actually perceive risk over the course of the business cycle and increases the probability of improving risk adjusted returns as well as helping to meet the investor's financial goals.

Summary Conclusion

When we founded the Countercyclical Indexing approach we asked ourselves three simple questions:

- 1. Is a "balanced" 60/40 index actually balanced?
- 2. Since we know "passive" market caps are dynamic, does it make sense to rebalance back to a fixed index weight?
- 3. Can we implement a similarly passive and tax/fee efficient indexing strategy that better aligns an investor's risk profile with the underlying market cap dynamics?

Countercyclical Indexing solves these problems. It helps create better balance in an indexing strategy. It establishes a dynamic index that is more consistent with the actual changes in the underlying market cap weightings. And it better aligns an investor's risk profile with the actual market cap changes across market cycles without requiring high taxes and fees.

In summary, the financial industry and Modern Portfolio Theory tend to recommend rebalancing back to a fixed weighting in most indexing strategies. This is a fine strategy and has many good characteristics, however, while this strategy appears "passive" and "balanced" it is a relatively active and unbalanced strategy when compared to the actual underlying market cap weights. The result is greater imbalance between the risks of stocks and bonds and a resulting higher probability of behavioral biases. We believe that a simple, low cost, tax efficient Countercyclical Indexing strategy resolves many of these problems and establishes a more behaviorally robust asset allocation strategy.



Arnott, Robert and Robert M. Lovell, Jr. "*Monitoring and Rebalancing the Portfolio*," in Maggin, J.D. and Donald L. Tuttle, 1990, Managing Investment Portfolios, a Dynamic Process, Second Edition, The Association for Investment Management and Research, Charlottesville, Va.

Black, Fischer and Robert Litterman, 1991, "*Asset Allocation: Combining Investors Views with Market Equilibrium,*" Journal of Fixed Income, Vol. 1, No. 2: 7-18.

Dalio, Raymond, 2010, "Engineering Target Returns & Risks", Bridgewater Associates

Sharpe, William F. 2007 "*Expected Utility Asset Allocation*," Financial Analysts Journal, Vol. 63, Number 5. September-October, pp. 18-30.

Bernstein, William 1996 "The Rebalancing Bonus," Efficient Frontier.

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