

The Black-Litterman Model

Misuses and Abuses

“Portfolio Management is very easy ... if you don’t know what you are doing.”

Lumen Advisors, CFA Presentation, circa 2010

The Black-Litterman (B&L) model is possibly the most advanced and conceptually attractive portfolio construction and asset allocation model out there. Yet, it is also the most misused and abused. In particular, the new breed of digital portfolio construction platforms (or Robo Advisors) has been keen to claim the academic rigor and sophistication of this Nobel Prize studded construct, while in truth knowingly providing investment solutions that can easily be replicated with ... *a common Excel spreadsheet*. These unscrupulous marketing gimmicks are made possible by operational loopholes of the B&L that, under specific assumptions, reduces the precept of the model to basic passive (index) investment management or, worse yet, generates bogus results.

Despite being a crucial investment decision, asset allocation, a.k.a. portfolio construction has always played second fiddle to the more glamorous security selection task, a.k.a. stock picking. Harry Markowitz, with his innovative Modern Portfolio Theory (MPT) brought more attention and academic rigor to this crucial task by emphasizing the power of diversification - and winning the Nobel Prize in Economics for this! The trouble is that MPT is primarily centered on risk proxied by volatility, thus minimizing the intrinsic value element of investment ... i.e., *some of us rather diversify by value instead of standard deviation*. In addition, the math behind MPT, while rigorous, is overly sensitive to minimal variations in the input, and paradoxically often results in “corner” solutions, i.e., concentrated allocations to one or two positions, exactly the opposite outcome of the diversification precept. The typical solution has been to “sanitize” the output by imposing min/max limits for each position/asset, thus forcing diversification but introducing a totally arbitrary element in the process. The arbitrary exercise can go as far as what described by a friend prominent in the business “... *if I like a stock, I put 2%, if I love it, I put 3%, if I hate it, I put 1% ... and occasionally I put more, but never above 5%*”! No wonder no one thought much operationally of MPT and portfolio construction ... until B&L came along.

The genius of the B&L is that instead of arbitrarily constraining the output, the authors focused on enhancing the input by introducing to the process the manager’s subjective expectations (views) of future returns, thus “bringing back” and emphasizing good old fashion investment and value analysis. Using a well-known statistical theory on the calculation of probabilities (or what investment is all about!) B&L defined expected returns on each asset as a combination of subjective views averaged (i.e., anchored, conditioned, restrained) by the market implied expected returns ... a quantum leap relative to the typical practice of using historical averages (the rearview mirror!). The obvious outcome is that the resulting portfolios are much more intuitive in the allocation of assets (i.e., reflecting the views of the investor), they are forward looking and ultimately have far superior risk/return attributes.

But here comes the loophole: B&L then go on and specify that, in case the manager has no subjective views, then the “optimal” portfolio is the market, i.e., the investor should simply buy the market in its current composition, i.e., passive investment. And here comes the marketing gimmick and the misuses: while essentially suggesting the simplest form of investment, one (Robo Advisors) can legitimately claim to be applying the B&L model... in the absence of subjective views! Clever, right?!

Irrespective of this “clever” gimmick and despite the brilliant construct, the B&L model gets complicated and questionable operationally. In fact, and to determine the market implied expected returns, B&L assumed that at any point in time all investors (across the entire globe and in every village!) hold exactly the desired portfolio (and asset allocation); thus, B&L assumed that the optimal portfolio is the “global portfolio”. B&L then argued that, given that the weights of the global portfolio are known (i.e., the market cap), one can apply a reverse engineer technique to extract the market implied expected returns. In addition, and adding to the operational blunder, the reverse engineering exercise relies on historical averages – rearview mirror – AND an arbitrary “global Equity Risk Premium” to determine a crucial variable (i.e., the risk aversion coefficient, or λ) to determine the market implied returns for each asset class.

Accordingly, the trouble is that, and as possibly admitted by the authors themselves, the “Global Portfolio” (and the derived market implied returns!) is purely theoretical as it is impossible to tally, i.e., in additions to stocks and bonds, one would have to account for real estate, cash under the mattress, jewelries, arts, wine, etc. or the entire gamut of what is considered an asset. [And here come the abuses: the practice out there is to ignore this crucial requirement and apply the B&L construct to “customized” investment sub-universes as proxy for the “Global Portfolio”, thus totally trashing out the conceptual foundation of the B&L and generating bogus result, while still claiming its academic rigor as a marketing gimmick and a cover to sell proprietary products \(ETFs\) or services \(Robo Advisors\).](#)

To be sure, the B&L model remains a brilliant construct and is still the state-of-the-art technique for asset allocation and portfolio construction. It is however a blueprint and, in order to be operational, it must be tweaked and modified to properly determine the market implied expected return, i.e., the crucial “anchor” of the model. Now, there are plenty of models and fabrications that claim to deliver unbiased implied market returns. While possibly useful in their own context, very few appear to be a good candidate for the B&L. Indeed, and to be effective in an asset allocation exercise, the metric measuring implied returns must be:

1. [universal](#), i.e., the same metric measuring value across any asset classes ... e.g., far removed from the practice of using the reciprocal of the P/E multiples as earnings yield and compare it with the yield of a bond ... a typical apples-to-oranges comparison!
2. It must be [unbiased](#), i.e., not subject to subjective views, projections, forecast, history, etc. It would otherwise totally distort the ranking of the assets considered and trash out the entire exercise.
3. And ultimately it must be [forward-looking](#), no rearview mirror biases!

These fundamental criteria for the market implied returns (value) metric should be met in any asset allocation and ranking exercise based on market implied expected returns, not just the B&L. More specifically for the B&L, checking for these crucial criteria can be a determinant test in judging the various proprietary applications claiming to use the B&L model out there. Ultimately, checking on these simple yet fundamental requirements can be a quick yet powerful test to flush out unscrupulous marketing gimmicks or misuses and abuses of an otherwise brilliant and effective asset allocation and portfolio construction blueprint.

Lumen Global Investments

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