

## A Bird's Eye View Sparrows Newsletter

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### Is Diversification a Free Lunch?



When you cook, it's good to blend multiple ingredients. The same rule applies to investing!

Most investors know that their portfolio should be diversified, but don't understand what that really means, or why. Investors often misunderstand—and therefore misapply—the concept. That can leave them with more risk than necessary, or with insufficient risk to effectively maximize their investment returns.

Good nutrition stems from a diet that includes a balance of lean protein, complex carbs, and just a bit of healthy fat. You need to make sure you get a high amount of fruits, veggies, whole grains, and low fat dairy, a medium amount of lean protein (meat, eggs, nuts), and a small amount of fat, sodium, and sugar. The great news is that this sounds tasty! The bad news is that even if you're getting the right amounts of healthy foods, you may still be missing out.

For instance, even if you're selecting whole wheat pasta or whole grain bread, you're still only eating from one grain family: wheat. When nutritionists recommend you to eat a variety of foods, it means you need to make sure to diversify your nutrient intake by incorporating different food families. To take another example, you are eating kale to increase your level of Vitamin C, but by doing so lacking protein intake, which you could add by serving salmon with it. Or chicken...Or you could even choose to cook oranges with chicken, which should also provide you with the right combination of Vitamin C and protein.

Diversification in investments works in the same way.

Take equities and compare it to our wheat example. Investors who simply own a large number of well-known stocks may think they have a well-diversified portfolio. But holding investments in both BMW and Toyota, for instance, is not actually a very diversified strategy. You're still only holding one family of securities: developed large-cap stocks. Diversification is not just a matter of holding numerous investments but an adequate number of investments that move independently or opposite from one another.

In the same way you should be trying to diversify and combine your nutrient intake and its sources, as per our example of mixing Vitamin C and protein, investors should also seek to diversify and combine the different sources of expected returns, and the way to harvest it.

Assets can be driven by various underlying factors, for example one may be more heavily tied to economic growth (stocks) than others (bonds), or to other factors such as interest rates, inflation, liquidity etc... As well as diversifying and spreading their money across different investments in a portfolio, investors should therefore also allocate across a broad range of risk factors (the nutrients). You need a reasonable number of investments which don't move in the same direction all the time, but do go up on average. And you also need different sources of return to harvest, because risk factors will perform differently in different periods and provide you with a diversified range of nutrients.

Generally, diversification can apply to many investments, including equities, bonds, property such as real estate, commodities, art, or even private equity. Major risk factors which act across all these asset classes include economic growth, inflation, interest rates, size, value, momentum, volatility or carry.

After understanding the building blocks that can be used to truly diversify a portfolio, investors need to find the most efficient way to assemble the blocks in the appropriate quantity. How you invest your portfolio across all types of asset classes and risk factors is the key element of diversification.

Diversification reduces volatility by diversifying away the exposure to the specific risk of any one holding on the performance of your portfolio. Investors' focus should therefore be on spreading risk within and across markets to improve the expected risk / reward performance (Sharpe Ratio). These benefits are available at no extra cost, which is why Markowitz famously described diversification as "the only free lunch".

Adding assets that are strongly correlated with existing holdings won't effectively diversify your portfolio. Conversely, investing in one new asset with a very low correlation to your existing portfolio can be very valuable. Bonds are traditionally negatively correlated to equities, and less risky. Combining bonds and equities in a portfolio is therefore a good starting point. However, when it comes to pure diversification benefit, a diversifying investment with more volatility could actually be better. An investment with low correlation and low volatility cannot entirely offset a high-volatility asset. If we have a volatile asset, then we want another volatile — but lowly correlated — asset to counter it. For example, emerging markets bonds are better for diversifying an equity portfolio than treasury bonds.

Positive exposure to rewarded risk factors (factor investing) is a strong and useful contributor to expected returns. However, portfolios that aim to capture explicit risk factors often neglect adequate diversification. This is a missed opportunity, because diversification allows a portfolio to incorporate a given risk premium for the lowest achievable level of risk. Targeting factor exposures exposes investors to additional types of risk; such portfolio tilts do not constitute a “free lunch” but instead provide compensation for intentional exposure to systematic risks. A portfolio with a concentrated allocation to a risk factor may also unintentionally take on other, non-rewarded, risks such as idiosyncratic or firm-level risk, or sector concentration. Financial theory does not provide any reasonable explanation as to why such risks should be rewarded. Therefore, a sensible approach to portfolio construction should look not only to express selected factor exposures, but also to achieve adequate diversification within and across factors.

Until recently most portfolios would allocate to assets in proportion to their market capitalisation weights. This “cap weighting” approach provides a good representation of the overall investable market. The approach is also associated with low levels of turnover and thus low transaction costs. However, there are issues with these types of allocation. When an investor's objective is to invest in value stocks for example, an allocation of value stock based on cap-weights may at first seem to be simple compare to equal-weighted portfolios. But cap-weighting has one major drawback which is to lead to very high concentration in the largest stocks. A highly-concentrated value portfolio is inconsistent with financial theory, and simple cap-weighted value-tilted portfolios have not historically yielded attractive performance.

Overall, it appears that the approach that proposes to construct concentrated asset and factor portfolios is supported neither by the academic literature, nor, for that matter, by common sense. Risk diversification needs to be central to portfolio construction.

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