Low Volatility Investing in BIST: Lower Risk without Lower Return

One of the tenets of equilibrium asset pricing models is that expected return of an asset is positively related to its risk (price variability of the asset). In other words, it is expected that assets with higher expected returns are also the ones with higher risk, or assets with lower risk are the ones with lower expected returns. The logic behind this idea is actually simple and intuitive: if there are assets with lower risk without lower expected return, actors in financial markets will immediately invest in those assets, increase its price and so lower its expected return. Hence, such kind of profitable opportunities are expected to disappear in equilibrium in a short time.

Contrary to the theory, observations and numerous empirical studies show that in most of the equity markets, assets with lower risk, or lower price volatility, outperform the market average or average of riskier assets. This is so-called “low risk anomaly” or “low volatility anomaly”. It is one of the long standing and the most challenging anomalies observed in financial markets, and it provides a simple investment opportunity, if it persists also in future.

There are several ways to construct low volatility portfolios, a simple one is as follows: (1) Measure risk (variability of asset price) of the assets in an equity market using historical data. One can use standard deviation of the asset price or Beta of the asset (volatility of the asset compared to the market) as the measure of risk of an asset. (2) Rank securities based on their calculated risk. (3) Categorize securities into quantiles based on their risk measure. (4) Construct a portfolio with the least volatile securities or with the ones that have the highest risk-reward ratios.

Existing evidence indicates that such a simple investment strategy based on low volatility anomaly outperforms the market or the portfolio of risky assets. For example, Baker, Bradley and Wurgler (2011) show that for the period 1968 and 2008, the least volatile portfolios provided higher returns compared to riskier portfolios. Similarly, Blitz and Viliet (2007) find for the global universe that low risky securities exhibit higher risk adjusted returns compared to the market average. In an ongoing research, I and Yetkin Ozden examine the low volatility in Borsa Istanbul for the period between 2002 and 2015. We construct 10 different portfolios from the stocks in BIST 100 by measuring risk (Beta) of each security. Then, we
compare return and risk-adjusted return of portfolios. Our results indicate that low volatility anomaly exists in BIST: portfolios that include less risky securities outperform riskier portfolios. For example, Figure 1 presents historical return of each portfolio for the period 2010 – 2013. The bottom line portfolio, the least volatile portfolio, has higher return than all of other riskier portfolios.

Figure 1

Similarly, Figure 2 shows twelve years average returns for the period 2002-2013.
Again, the bottom-line portfolio, the least risky portfolio, has higher return than all of other portfolios, except the riskiest one. Moreover, if we compare risk-adjusted returns, the least risky portfolio outperforms all of other portfolios, including the riskiest portfolio. For instance, Treynor ratio of the least risky portfolio is approximately two times higher than that of the riskiest portfolio.

These findings indicate a simple investment opportunity in Borsa Istanbul: if the low volatility anomaly persists in future, one can outperform the market in long run by simply investing in low risky securities in BIST.

References
