**Thompson Asset Management**

By: Jacob Baron, Ben Hoffman, Lucas Lantis, and Reid Zuerlein

The Capital-Asset Pricing Model and the Efficient Market Hypothesis, widely popular throughout corporate finance and financial academia, continue to point towards index strategies as the best way of matching market performance while diversifying away sector risk. The ProIndex fund is an investment vehicle bridging together Thompson Asset Management’s proven technical stock picking with the benefits of indexing. While still maintaining approximate market weights by sector, TAM can diversify away a substantial amount of risk while still outperforming the S&P500 by using our demonstrated investing experience to choose winners that fit within our index parameters.

We believe that our ProIndex fund achieves this. Since its inception in 2009, we boast a cumulative return of 303.06% and an annualized return of 27.92%, which is 200% and 13% above our benchmark’s respective cumulative and annual returns. While our annualized standard deviation is 10% higher than our benchmark at 30.32%, we still hold a market correlation of .97 and a beta of 1.0132. We believe this represents an impressive and sustainable alpha above the market’s regular movement. However, we do recommend that investors come prepared with patience when it comes to returns. While we have over-performed the market every year since inception, our methods do have high variance on a day-to-day and annual levels. This is seen by our Sharpe ratio of .85 and Treynor ratio of .26, which are theoretical indicators measuring the perceived return for each unit of risk. We believe that our alpha, which is measured at .13, demonstrates our consistent and reliable outperformance above regular market movement. Our tracking errors, calculated both daily and annually, suggest that our fund will return plus or minus 23.01% annually. Perhaps our most impressive metric is the information ratio, which is a risk-adjusted return for our portfolio. We measured an information ratio of .5895, which suggests that our annual returns compared to the risk accepted with it is quite high.

At the start of 2013, we launched the ProValue fund. This fund invests in actual corporations based on value strategies and has done exceptionally well since its creation, growing to over $7.8 million in value in one year from the base investment of $2 million. This was achieved through adding more value-based stocks to the fund and through quantitative analysis to choose firms with the highest returns. The holding period return was over 291% and the annualized return (with the addition of new funds) was over 136%. The ProValue fund boasts a correlation of .95 to the index and a beta of 1.01. Although a beta above one makes this fund slightly risky, it has the potential for tremendous returns. Our annualized tracking error for this fund suggests that it will return plus or minus 7% year over year. Furthermore, the ProValue Fund has an excellent Sharpe ratio of 8.66.

After performing some optimization, we determined the optimal portfolio weights for the ProValue fund giving us a maximum Sharpe Ratio of -.24. This optimal ratio does involve some shorting which is slightly riskier, but we do believe this ratio gives us good returns per unit of risk. The university has seen TAM’s past success and use of quantitative analysis to offer returns well above the market average. Although this is a slightly riskier investment for the university, we believe this Sharpe Ratio would be a good compromise between performance and risk. While we would like to receive an investment in our fund of $20 million, we understand that the risk associated with a fund like this can be concerning to investors. At an investment level of $5 million, we would recommend a portfolio heavily weighted in FNF (217.8%), LPLA, and ATO while shorting USM (-135.7%) and MRC with modest investment in the remaining stocks in the fund. This investment is smaller than desired so it would be a good idea to invest heavily in the riskier stocks since the potential loss is smaller. At an investment level of $10 million, we recommend a slightly less risky portfolio with reduced investments in FNF and USM. At an investment level of $15 million, we suggest bringing down the investment in FNF to 93.4% and the investment in USM to -78%.

Grade 22/40

Comments:

- Report should include tables with fund statistics and comparison to benchmark. While it's in the text, it's difficult to evaluate performance without the side-by-side comparison (-3).

- All ProValue measures are incorrect. These should be based on portfolio returns, which in turn are the percentage change in portfolio value, NOT the change in the values of the individual stocks! The way you calculated it only works if the fund holds the same percentage of each stock (equal-weighted).(-10)

- Variance-covariance matrix is incorrect. You used returns, when I showed you the example using excess returns (after subtracting the mean).(-5)

Roberto Stein , Apr 16 at 9:46am