Quantum The monthly newsletter of the Deutsche Bank Quantitative Strategy team

Welcome to the July edition of the DB Quantitative Strategy Team's monthly newsletter, **Quantum**. The aim of Quantum is to make it easier for you to keep track of all the research we publish, and to serve as a forum to highlight the latest news and thinking in the quant investing world. If you only read one email from us every month, make it Quantum!

One of the questions we get a lot is how one can **combine quantitative and fundamental approaches** to investing. In theory, a blended approach sounds like the best of both worlds: a rigorous systematic process fused with human oversight to catch the one-off situations the model misses. But in practice it is rarely so easy. A lot of the time, the combined approach boils down to something like "let's run some screens and then hand the PM a list of stocks to pick from". While this can work, it is also a little ad hoc. The must be a better way.

One potential solution, which we explore in our research this month, is to use the **Black-Litterman** framework. This has been around for a while, but it often seems to be overlooked due to its perceived complexity. In our report, we study how one can tilt a portfolio based on consensus sell-side analyst implied price target returns (as a proxy for a portfolio manager's views). First, we walk through a simple example that will hopefully take some of the mystery out of the Black-Litterman model. Next, we show how a real-world portfolio can be constructed using the methodology. As readers will see, the approach is quite flexible and can easily be deployed to combine a quant forecast with fundamental views, or vice versa.

Regards,

The Deutsche Bank Quantitative Strategy Team
North America: +1 212 250 8983
Europe: +44 20 754 71684
Asia: +852 2203 6990
DBEQS.Global@db.com | https://eqindex.db.com/gqs/

Recent Research

North America

- **The Quant View** (July 2nd, 2013): In this report we present our latest quantitative forecasts for bottom-up stock selection and top-down asset allocation. This month we studied the impact of the potential end of Quantitative Easing (QE) on quant factors. To read the whole report, click here.
- **The Quant View: Small cap edition** (July 2nd, 2013): In the world of small caps, we also study the potential implications of a withdrawal of QE on systematic strategies. We revisit our Variance Risk Premium (VRP) as a useful tool for navigating volatile markets. To read the whole report, click here.

Asia

- **Quantiles: Price targets - Heuristics, biases and portfolios** (July 8th, 2013): In this report we study sell-side analyst price targets in detail. Overall we find they are not the best signal on a stand-alone basis, but we demonstrate an interesting way to use them via a Black-Litterman framework. To read the whole report, click here.

Global

- **Academic Insights: Harnessing the best ideas from academia** (July 25th, 2013): Every month we scan the latest academic research for innovative but practical quant investment ideas. This month one of the interesting papers we highlight suggests that investors purchase stocks in much the same way that they purchase other consumer goods - they look for the ones that look nice visually. Stocks with nice features like a past price pattern that trends up at an increasing rate tend to show much more momentum-type behavior. To read the whole report, click here.

Note: to access these links you need a login to the DB Quant website; if you don't have a login, or have forgotten your password, please click here and fill out the requested details.

Quant in the News

Interesting news articles related to quant investing:

- **Humans Beating Robots Most Since '08 as Trends Shift: Currencies** (*bloomberg.com*, July 24th, 2013): Sharp shifts in risk appetite - like those precipitated by QE speculation - are always challenging for quants, irrespective of the asset class being traded. To read the whole article, click here.
- **Risk Parity: What Happened?** (*ai-CIO.com*, July 2nd, 2013): Risk parity has been one of the hottest topics in asset allocation over the past five years. However, the recent sell-off in bonds triggered drawdowns in a number of these strategies, given their natural tilt towards lower-volatility assets relative to more traditional allocations. To read the whole article, click here.

Quantomatic: Latest trends in quant technology

Each month we use this section to focus on the technological side of quant investing. Our view is that better technology can be a source of alpha in its own right - either via new, cutting-edge data sources or through more data intensive modeling techniques.

Most of you probably know by now that R is our language of choice here in the Deutsche Bank quant team (although we've given up on trying to convert Miguel from his archaic SAS ways). One the biggest reasons we like R is the tremendous amount of user-generated code, available for easy download via "packages". A great example of how much time these can save is highlighted in the latest edition of the R Journal. A paper by Zagaglia [2013] explains a new package for computing the Probability of Informed Trading (PIN) from tick data. Regular readers might remember we wrote a white paper on using PIN as a stock-selection signal a couple of years back. One of the most time-consuming parts of that research was coding up the PIN algorithm. Had this package been available back then we would have saved at least a couple of weeks of research time.