Quantum The monthly newsletter of the Deutsche Bank Quantitative Strategy team

Welcome to the September 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!

September was quite a busy month of research for us. In the U.S., we delved deeper into what is perhaps the most vexing puzzle in finance: the lack of empirical support for a positive **risk-return relationship**. Stocks that appear risky on traditional risk measures - like realized volatility or beta - should in theory deliver higher returns to compensate investors for bearing this risk. But in practice we often see the opposite; hence the tremendous interest in so-called low risk strategies like minimum variance. In our paper we show that the holding period matters a lot, and as we go to a longer holding period we do indeed start to see the expected positive relationship. Even better, we can exploit this "term structure" through smarter factor construction.

This month we also revisited one of the all-time favorite quant signals: sell-side analyst **earnings revisions**. This has been a staple of quant models for a long time, but more recent performance has been disappointing. In our paper we suggest a new way to construct an analyst sentiment factor. Our new factor is based on analysts' implied price target return, but with a twist - we filter out those stocks where a high or low return is purely driven by a falling or rising share price.

In Europe, our focus this month has been on **insider transactions** (of the legal type of course). Do the trades of high-level company executives carry information, and if so, what is the best way to exploit it? We use a unique dataset of insider transactions in Europe to show that there is alpha to be had in this data, particularly if one is careful to screen for the trades with the most information content.

On the subject of Europe, thank you very much for those of you who took the time to support us in the **Institutional Investor All-Europe Research Team** survey. We are tremendously grateful for your support. If you haven't submitted your ballot yet, there is still a week left before the cut-off.

We have a number of events coming up in the next month. Next Monday we'll be speaking at the **Inquire UK Autumn Seminar** in Bath on the topic of factor crowding, and on October 17th we'll be presenting at the **Thomson Reuters News Roundtable** in New York. If you'd like to attend the latter event, you can register here. Hope to see many of you there!

Regards,

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Recent Research

North America

- **Signal Processing: Disentangling the downside** (September 20th, 2012): We study the puzzling relationship between risk and return by investigating new risk factors and studying the multiperiod dynamics of these factors. We use our results to suggest a smarter way to capture a risk premium. To read the whole report, click here.
- **Signal Processing: Rebooting revisions** (September 11th, 2012): We design an enhanced sentiment factor by combining two traditional sentiment factors using a technique we call Triangle Factor Mapping. Empirical tests show this factor has strong and consistent predictive power before, during, and after the financial crisis. To read the whole report, click here.
- **QCD Model: September update** (September 6th, 2012): In our regular monthly update of our flagship alpha model, we recommended allocating more weight to value and growth factors, and less weight to momentum and quality factors. To read the whole report, click here.

Europe

- **Quantitative Musing: Are insiders alpha generators?** (September 26th, 2012): We investigate whether information contained in insider trades is valuable to investors. We find a number of metrics to be helpful in detecting which trades can add value for investors, and suggest a simple portfolio implementation to generate abnormal returns. To read the whole report, click here.

- **Top-Down Monthly Update: MCRM update** (September 3rd, 2012): Our Macromomentum Country Rotation Model (MCRM) uses trade linkages between countries to predict future country-level equity market performance. The current allocation of the long portfolio is tilted towards United Kingdom, Switzerland, Mexico and Hong Kong. In the short portfolio, we highlight the exposure to Greece, China, India, and Brazil. To read the whole report, click here.

Global

- **Academic Insights: Harnessing the best ideas from academia** (September 27th, 2012): Every month we survey the latest academic research for any ideas relevant to quantitative investing. This month we highlight an interesting paper on one of our favorite topics: the impact of news on stock returns. Or in this particular case, the impact of *no* news on stock returns! 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:

- **Behind new dynamics of next generation of quant funds** (*afr.com*, September 19th, 2012): Quantitative investing has had a rough time in the press over the past five years, but recently the mood seems to be shifting towards a more balanced perspective - at least down in Australia. 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.

For those who are fans of Bayesian statistics (and who isn't?) you might be familiar with BUGS, a statistical package frequently used in that field. Well, it turns out there's now a new tool on the block - an open source software package called STAN has recently been released. STAN is specifically designed for performance, and actually converts models to compiled C++ code for precisely this reason. But wait, there's more: it turns out that this new library is easily called from R, via a package called RStan, which makes accessing the tools from R a breeze. Yet another example of how R can be used as a central platform to access other tools not necessarily native to R.