Swiss Finance Insight

MAY 2014

Beta Strategies for Quantitative Funds

Renaud de Planta, Managing Partner of Pictet Group and a member of SFI's Foundation Board, answers our questions on beta-arbitrage portfolio strategies and gives us his view on Swiss asset management.

How have portfolio strategies at Pictet Asset Management (PAM) evolved over the past few years with the advent of smart betas?

At PAM, we started looking into smart betas ten years ago. It is, however, important to be precise here: none of our current products fully implements the low-beta strategy as it is outlined in the research paper presented on page 2. Low betas are one of many ingredients we consider for our asset management strategies, especially our quantitative strategies. But obviously the smart betas research has influenced our quantitative funds. One example is our Global Quality Equity Fund where we select quality firms that are likely to outperform the market over a cycle. These firms tend to have low betas, but not only - they also have low financial leverage and low operating leverage.

What keeps you from fully implementing low-beta strategies?

PAM has a multi-boutique structure with over USD 160 billion third party institutional money under management. With a variety of asset classes and investment products (e.g. fixed-income, thematic equities, …), it is hard to focus exclusively on low-beta stocks.

You mentioned your Global Quality Equity Fund. How has this fund performed so far?

This year, it has so far outperformed the benchmark by about one percent. Since the fund has only been around for two years, we don't have a long enough performance history yet. But the fund is defensive by design and should normally do relatively well in down markets.

Beta strategies rely heavily on statistics and somewhat less on economics. Is this a strength or a weakness?

I'd say it is rather a weakness. The danger of relying too much on statistical figures or "data mining" is that one may end up identifying a pattern that isn't actually there. It is essential to root one's investment process on sound theoretical thinking and common sense, not just statistical evidence, no matter how supportive it may appear at first glance.

> "Asset management is an art and not just science."
>
> R. DE PLANTA

What is your view about Swiss asset management and its position in the international arena?

I am optimistic for us at PAM, but not sure I can be equally optimistic for Swiss asset managers in general. There have been too few success stories in the country and that is probably because most asset managers rely too heavily on in-house retail or private clients rather than institutional third-party clients. While relying on in-house clients can be comfortable in the short run, it is only when you depend on third-party clients that you are forced to excel. Asset management is often a neglected activity in Swiss banks. Instead, it should be an engine of growth and a source of large institutional clients, for whom beating the market is the key deliverable. Asset management is an art and not just science. Unfortunately, however, in recent years people in Switzerland have too often focused on the "science" side and ignored the "art."

What is your personal opinion about research collaboration between SFI academics and asset managers at Pictet?

I am glad to see the relationship between academic research and practitioners in general get stronger in Switzerland. This relationship can only be mutually beneficial. On the one hand, practitioners get a better access to cutting edge fundamental research; on the other hand, through contacts with the industry, academics can better identify relevant areas of research. As we sometimes discuss at SFI board meetings, it is also crucial for SFI research to connect the dots between quantitative finance and macroeconomics. Having better quantitative models is not sufficient to avoid a repeat of the problems the financial sector has recently gone through; we need to understand better the issues at the intersection of macroeconomics and modern finance.

SFI NEWS

SFI White Paper on the Extra Cost of Swiss Banking Regulation

Prof. Jean-Charles Rochet examines the extra costs incurred through the Swiss banking regulations that came into force in 2012 and go further than international standards or the recommendations made under the Basel III accord.
For more information:
www.sfi.ch/whitepaper

New Education Offerings

SFI Education launched three new offerings in March 2014: the new Masters of Advanced Studies in Banking as well as two new Certificate of Advanced Studies offerings in the fields of Real Estate Finance and Financial Analysis & Valuation.
For more information:

- www.sfi.ch/mas
- www.sfi.ch/casref
- www.sfi.ch/casfav

Upcoming Events

May 8, 2014 – Zurich
Bankdienstleistungen für Schweizer Firmen: Bedürfnisse, Angebot und Trends
SFI Banking Conference 2014 in partnership with McKinsey & Co. and the Swiss Bankers Association.

May 15, 2014 – Zurich
Die grösste Völkerwanderung der Geschichte – was die Urbanisierung in Asien für den Immobilienmarkt bedeutet
SFI breakfast seminar with Jürg Syz, Partner at Diener Syz Real Estate on the consequences of urbanization in Asia for the real estate market.

June 2-3, 2014 – Gerzensee
SFI Research Days
Annual academic event for Swiss faculty and PhD students.

June 17, 2014 – Zurich
Can financial engineering cure cancer? A new approach to funding biomedical innovation
SFI evening seminar with Andrew Lo, Professor at the MIT Sloan School of Management.

June 17, 2014 – Geneva
Momentum Crashes
SFI Outstanding Paper Award with Tobias Moskowitz, Professor at the University of Chicago.

For more information on upcoming events: www.SFI.ch/Events

Beta-arbitrage Strategies

When and why do low-beta strategies work?

> "The role of the model is to identify the conditions under which to invest more in low-beta stocks."
>
> T. BERRADA

Recent SFI research conducted with Ersel Asset Management and Pictet Asset Management provides a theoretical framework to study the behavior of beta-weighed portfolios, which have been shown to beat the market portfolio under certain market conditions.

The Capital Asset Pricing Model (CAPM) remains a popular approach for the pricing of individual securities and portfolios. The model's popularity owes much to its simplicity of use in several applications. Its main finding is that firms more vulnerable to aggregate market risk should on average earn higher returns than firms with lower market risk.

The CAPM introduced the beta, a measure of a stock's risk arising from its exposure to general market movements as opposed to firm-specific events. It has been shown that a portfolio that bets on an increase in the price of low-beta stocks and on a decrease in the price of high-beta stocks produces positive returns in excess of the market portfolio, which consists of all stocks weighed by their own capitalizations. This contradicts the CAPM.

Beta Behavior

New research by SFI Professor Tony Berrada (University of Geneva), conducted with Gianluca Oderda, Head of Quantitative Investments at Ersel Asset Management (previously at Pictet Asset Management), Reda Jurg Messikh, Senior Quantitative Analyst at Pictet Asset Management, and Olivier Pictet, Quantitative Analyst at Pictet Asset Management, develops a theoretical framework to study the behavior of beta-weighed portfolios. Moreover, to verify their theoretical findings, the authors conduct an empirical analysis on a variety of asset categories.

The theoretical framework of Berrada and his co-authors builds on the assumption of a financial market allowing for a diverse set of securities. This means that no single security should end up over time dominating the market: when a company grows extremely, its rate of growth must eventually decline sharply to avoid it becoming the only security traded in the market. This allows other securities to remain traded. Therefore, holding the stock with the largest market capitalization proves to be detrimental to any portfolio, including the market portfolio, since it must also hold that stock.

The authors suggest that, given the assumption of market diversity, an adequately chosen dynamic strategy outperforms the market portfolio. This mechanism also applies to a portfolio constructed on the basis of stocks' betas. Hence, a beta-weighed portfolio is shown in the study to deliver a better performance than the market portfolio.

Key Concepts

Capital Asset Pricing Model (CAPM): Theoretical model used for the pricing of risky securities based on the relationship between the security's risk and its expected return.

Beta: Measure of a security's risk arising from its exposure to general market movements as opposed to firm-specific events.

Empirical Evidence

Berrada and his co-authors provide empirical support to their theoretical explanation by analyzing different types of assets: equity country indices, international equity sectors, individual stocks, and stock portfolios. Their analysis considers different data sets and different time periods to verify the robustness of results.

The empirical tests confirm the theory. Indeed, a portfolio that under-weighs high-beta securities and overweighs low-beta securities performs better than the market portfolio. This holds true even when transaction costs are accounted for.

Long-term Strategy

However, the strategy varies over time and its weights are not permanent. As Berrada explains, "the portfolio is tilted towards low-beta stocks under some very specific market conditions. The role of the model is to identify these conditions. We find that on some markets it is best not to deviate from the market portfolio for long periods of time."

Besides building a new theoretical framework and providing supportive empirical evidence, Berrada and his co-authors show how to construct optimal beta-weighed portfolio strategies that maximize the expected return relative to a given benchmark.

Links

- **"Beta-arbitrage strategies: When do they work, and why?",** by T. Berrada, R. J. Messikh, G. Oderda, and O. Pictet. http://ssrn.com/abstract=1976285
- **Prof. Tony Berrada:** www.SFI.ch/berrada

Impressum

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