

What betas can... and cannot do...

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There is no concept that is more abused, and more misinterpreted, than beta in corporate finance. I have heard betas blamed for everything from global warming to the market collapse. "Warren Buffet does not use beta", the refrain goes, "so why should I?"

I think the biggest mistake that people make is to wrap betas up with the assumptions of the capital asset pricing model (CAPM). Does the CAPM make unrealistic assumptions about no transactions costs and no private information to get to its final conclusion (that all exposure to market risk can be captured in a beta, which should then be the sole determinant of the differences in expected returns)? Absolutely. However, just because you don't like the CAPM's rigidity does not mean that you throw the baby out with the bathwater and abandon beta as a measure of risk, or worse, use no measure of risk at all.

I think of betas as measures of relative risk, with the risk defined as exposure to macro economic variables (interest rates, overall economic growth, inflation). Thus, a stock with a beta of 1.2 is 1.2 times more exposed to macro economic risk than the average stock in the market. That proposition stands, whether one buys into the CAPM or not. Seen from that perspective, here are the things betas cannot do:

1. Explain changes in returns for the entire market. The betas for all stocks cannot go up at the same time, since they have to average out to one. (This is in response to those who have argued that the recent drop in equity prices can be explained by an increase in betas across the board.)
2. Capture emerging market risk. If we regress the returns on emerging market stock against emerging market indices, which is the standard practice for most estimation services, the average beta for Indonesian stocks will be one, as will the average beta of Swiss stocks. If we run regressions against a global index, the results are often unpredictable, with betas for emerging market companies often dropping simply because they are such a small part of the index.
3. Capture firm specific risk: Betas cannot incorporate risks that affect only a firm or a few firms, even if these risks are huge. Thus, a tobacco company's beta cannot reflect litigation risk and a biotech firm's beta will not capture the uncertainty inherent in the FDA approval process.

Here is what betas can do. They can capture shifts in risk across the market. If a sector gets riskier, its beta should go up, but there has to be another sector whose risk has to go down to compensate. Thus, banks will have higher betas today than they did a year ago but technology firms may have seen their betas decline, as they have held up fairly well in this downturn. They provide simple, intuitive and surprisingly effective snapshots of how risky an investment is, relative to the rest of the market, especially if you are an investor with multiple investments in your portfolio.

I do have to mention in closing that running a regression of stock returns against a market index is both a terrible way of estimating betas and of thinking about betas. However, this post is already way too long for me to suggest alternatives to regression betas. That will come in the next post.