
PRACTITIONER'S DIGEST

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PRICE INFLATION AND WEALTH TRANSFER DURING THE 2008 SEC SHORT-SALE BAN

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Lawrence E. Harris, Ethan Namvar and Blake Phillips

In response to the financial crisis of 2007–2009, financial regulators around the world responded by imposing bans on short-selling financial sector stocks. The objective of the bans was to restore market equilibrium, stabilize prices and provide a disincentive to the dissemination of false rumors seen as contributing to price spirals.¹ The short-sale ban creates a unique opportunity for the analysis of the effects of short-selling in financial markets as it provides a time-series discontinuity when most prior research has been reliant on cross-sectional identification of short-selling bans.² Analysis of ban effects is also important from a policy perspective for market regulators, both from an efficacy standpoint and the identification of collateral effects. In this paper, we focus on the stated objective of restoring market equilibrium and examine the effect of the short-sale ban in the U.S. on short-selling and the prices of the banned stocks.

In this paper we use a factor-analytic approach to estimate the market values that would have been observed for the banned stocks had the ban not been imposed. In the first stage, we estimate stock specific, risk factor loadings over the year preceding the ban, for both short-sale banned and not-banned stocks. In the second stage, using only the not-banned stocks, we estimate daily aggregate factor loadings utilizing the first stage factor estimates. Our results suggest that, during the short-sale

¹See SEC Release No. 34-58592 and SEC Release No. 2008-211 for discussion of the objectives of the short-sale ban in the U.S. by SEC Chairman Christopher Cox and SEC Acting Secretary Florence E. Harmon.

²See, for example, Bris *et al.*, 2007.

ban, the stock prices of financial sector firms were inflated by approximately 10–12%, depending on the weights used to compute benchmark returns. Cross-sectional analysis suggests that the noted inflation was more marked for non-optionable stocks. As option market makers were exempt from the ban, option markets served as a potential mechanism for investors to circumnavigate the ban by purchasing put options. We find that price effects of the ban on optionable stocks were negligible. Our results suggest that options provided an effective substitute for direct short-sales during the ban and consequently, the options exchanges likely benefited from the ban via increased or more sustained transactions revenue.

Potentially of greatest interest to policy makers is the sustainability of ban effects. In the post-ban period we find limited evidence of a reversal of the noted inflation in the aggregate banned stock sub-sample. But, when we segment our sample by stock performance in the 6 month prior to the ban, we find that ban inflation reversed for negative performing stocks 1 to 2 weeks following the ban. Ban related stock price inflation was only sustained for stock with positive pre-ban performance. If financial stocks were indeed overvalued, or if they were merely properly valued before the ban, the ban on short-selling had a potentially significant unintended consequence. By preventing short-sellers from trading, the SEC created a bias toward higher prices. The unintended consequence of this bias is that buyers could have bought at prices above fundamental value. If so, these buyers would face significant losses when prices ultimately adjust downward towards their true, intrinsic values. Depending on how the reversal evidence is interpreted, we estimate that buyers transferred \$2.3 to \$4.9 billion more to sellers than they would have had the SEC not imposed the ban.

WHEN SELL-SIDE ANALYSTS MEET HIGH-VOLATILITY STOCKS: AN ALTERNATIVE EXPLANATION FOR THE LOW-VOLATILITY PUZZLE **PAGE 28**

Jason C. Hsu, Hideaki Kudoh and Toru Yamada

This paper offers an interesting perspective on how sell-side analysts might help drive the low-volatility puzzle. Research shows that sell-side forecasts drive market prices despite a general acknowledgement that the forecasts tend to be “optimistic” on average. In our paper, we find that sell-side analysts tend to provide much more optimistic earnings growth forecasts for the more volatile stocks. Their very aggressive growth forecast for the most volatile companies, which can help inflate prices for their stocks, may contribute to the low returns earned by risky stocks. Investors are therefore advised to be particularly cautious when using sell-side research to guide their investments in companies with more cash flow and business uncertainty.

However, we also find that sell-side analysts do appear to have valuable private information about companies despite their tendency to inflate earnings forecasts. Specifically, when we used analyst earnings forecast to compute forward E/P, we find that the high E/P stocks tend to produce outsized future returns. This evidence rejects the cynical view, shared by many investors, that sell-side analysts are mostly unskilled and are story-spinners hired to provide favorable research to support affiliated

investment banking activities. Investors can actually produce superior investment results by judiciously using analyst earnings forecast to compute forward E/P for screening stocks.

APPROACHES TO IMPROVING BANK SHARE VALUE USING CREDIT-PORTFOLIO MANAGEMENT AND CREDIT-TRANSFER PRICING **PAGE 47**

Jeffrey R. Bohn and Roger M. Stein

The recent financial crisis has been marked by unexpectedly severe losses at many large financial institutions. While each loss experience reflects institution-specific issues, it is often also the case that incentives within a financial institution unintentionally lead banks to take on greater concentration risk, which in turn can result in solvency-threatening losses. Prudent credit risk management within a bank requires that a number of agents within the firm communicate, agree and act in a concerted fashion to manage credit risk both at the individual exposure level and at the broader portfolio level. This can be challenging given the nature of credit portfolios. Even highly diversified credit portfolios display heavily skewed loss distributions that imply relatively long quiescent periods (during which losses are lower than their mathematical expectations and the benefits of risk management less visible) and occasional periods of much higher losses.

Credit-transfer pricing is one method for aligning incentives across a financial institution. Credit-transfer pricing provides organizational motivations to create sustainable and growing income streams while reducing the probability of incurring unusually large portfolio losses. An effective credit-transfer price incorporates the “cost” of adding more concentration risk to a particular portfolio at the time of origination, rather than deferring this analysis until after a trade or loan is made. This cost increases as concentration in the portfolio risk increases. The transfer price becomes a communication mechanism across an institution that relates the impact of contemplated transactions to the current state of the portfolio. Such analysis can also be used as an integral component in compensation calculations and strategy development. Centralizing the monitoring and management of concentration risk in a credit-portfolio management function can further improve a financial institution’s ability to avoid exposure to dangerously large concentration risks that are not always readily apparent at the individual level.

In this non-technical paper, we discuss mechanisms by which banks can better align the behaviors of underwriters, traders, risk managers and senior managers within large institutions while also increasing the communications between these groups. We also reflect on some of the challenges in implementing credit-transfer pricing and credit-portfolio management. Transfer-pricing approaches grew out of industry practice and are currently in use to varying degrees by a number of large banks worldwide. While many implementation challenges still persist, innovations in both credit modeling and credit markets suggest that these challenges have begun to diminish in recent years. Some recent empirical evidence suggests that institutions with successful earnings growth strategies can increase shareholder value by also implementing concentration-risk management techniques and credit-portfolio management functions, as these can lead to higher sustainability of this earnings growth.

MUTUAL FUND'S NET ECONOMIC ALPHA: DEFINITION AND EVIDENCE PAGE 73*Sharon Garyn-Tal and Beni Lauterbach*

It is widely argued that existing methodologies for comparing a mutual fund's return with that of a factor model or a performance benchmark are unfair, as fund's return is taken net of expenses and benchmark return is gross of expenses (and thus unattainable by investors). Morningstar website asserts that: "There are limitations to alpha's ability to accurately depict a manager's added or subtracted value. In some cases, a negative alpha can result from the expenses that are present in the fund figures but are not present in the figures of the comparison index." Fama and French (2009) concur, writing that "... if the question is whether mutual funds are better for investors than passive investments, benchmark returns, like fund returns, should be net of costs."

This study suggests a methodology to correct the above-discussed bias. We compute the net economic alpha by adding to the traditional alpha, as extracted from a regression model, the cost of mimicking the fund's systematic risk and benchmarks via ETFs. We can show that the net economic alpha is essentially the alpha extracted from a regression of the net of fee fund return on the net of fee benchmark returns. Examining over 1000 U.S. non-specialized mutual funds in 2001–2009, we find that net economic alphas are higher than regular alphas by 0.1%-0.8% per year on average (depending on the factor or benchmark model used). Furthermore, according to our estimates, the mutual fund industry is becoming more and more competitive (relative to ETFs) over time.

VARGAMMA STRESS TESTS

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Kent Osband

Standard financial stress tests are *ad hoc*. They offer no guidance on how to select the target stress levels, how to adjust for randomness within crisis, or how to integrate the results with other risk measures. The VarGamma metric introduced by Osband (2013) offers a theoretically appealing and mathematically tractable alternative. It estimates a risk premium for crisis stress that can be added directly to the premium for ordinary risk.

However, the general formula depends on unfamiliar parameters for the variance of extra crisis variance and the impact of variance on returns. This paper reformulates VarGamma crisis estimates using two more familiar parameters: the probability of crisis and the mean extra loss in crisis. Either backward-looking returns or forward-looking options prices can be used for empirical fitting.

In contrast to standard stress tests or mean-variance analysis, the core modeling assumptions of VarGamma are consistent with fat-tailed historical returns and near-ubiquitous option smiles. This opens new vistas for estimating fair market-implied risk premia at various levels of risk aversion. Such measures might also be used for capital regulation, with greater precision and less distortion of incentives than Value-at-Risk.