



Why Do Firms Engage in Selective Hedging? Evidence from the Gold Mining Industry

Tim R. Adam

School of Business and Economics, Humboldt University of Berlin

Chitru S. Fernando

Michael F. Price College of Business, University of Oklahoma

Jesus M. Salas

College of Business & Economics, Lehigh University

Available at SSRN:

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2613920

"The widespread practice of managers speculating by incorporating their market views into firms' hedging programs ('selective hedging') remains a puzzle. Using a 10-year sample of North American gold mining firms, we find no evidence that selective hedging is more prevalent among firms that are believed to possess an information advantage. In contrast, we find strong evidence that selective hedging is more prevalent among financially constrained firms ..."

Introduction

The main thrust of this research paper is to provide insights into what kinds of firms "selectively hedge." The paper distinguishes between *passive hedging* and *selective hedging*. Passive hedging is where a company passively matches its commodity exposures with derivatives. In contrast, selective hedging is deemed to occur when the size and timing of the company's hedging varies through time. In the language of derivatives, a firm can be termed a selective hedger if its commodity "hedge ratio" surpasses a threshold amount of variability compared to a peer-group of fellow commodity hedgers. The hedge ratio, in turn, is the percentage of a firm's commodity exposure that has been hedged with derivatives.

What are the characteristics of firms that selectively hedge? The paper examines this question with a set of data uniquely available in the gold-mining industry. The authors provide useful, but preliminary, answers to the question of what types of firms selectively hedge. The reason we might term the results as preliminary is because the study is limited to the gold industry; it is an open question regarding how generalizable the results are across industries. But even so, one would expect such a study to be quite valuable to investors in gold equities.

Why the Paper's Research Question is Important

The authors note that selective hedging can also be referred to as speculative activity. They note that previous work using a similar data set to the one in their current paper found that "speculation does not create value for shareholders." Then what sort of firm would engage in such an activity? The answer to this question should be of interest to investors, and perhaps regulators as well, given that selective hedging likely is not a value-maximizing activity for shareholders.



Data Description

The authors use 10 years of quarterly data, collected by Ted Reeve of Scotia Capital. This data includes the “derivatives usage of a sample of 92 North American gold mining firms between 1989 and 1999.” Mr. Reeve’s data collection ended in 1999.

They further note that to their “knowledge[,] the gold mining industry is the only industry where data is available in sufficient detail at quarterly intervals to enable a systematic study of corporate speculation with derivatives.”

The researchers also use financial data from Compustat “or from a manual search of firms’ financial statements if a firm is not covered by Compustat. Stock prices are obtained from CRSP.” CRSP, in turn, is the University of Chicago’s Center for Research in Security Prices at the Booth School of Business.

Description of Investigation

One can summarize the paper’s main investigation as follows.

Dependent Variable

The dependent variable, selective hedging, can be proxied as the yearly variability of a firm’s hedge program. And what is the metric for a firm hedge’s program? Uniquely, with the benefit of the Scotia Capital data, the researchers can calculate over quarterly timeframes, the fraction of each gold mining company’s production that had been hedged forward over a period of three years. This is a firm’s total hedge ratio with respect to production.

The researchers also calculate an alternative hedge ratio: the fraction of each company’s gold reserves that had been hedged forward over a period of three years, referencing the reserve estimates from each firm’s financial statements.

Of note, the paper uses additional sophisticated measures of speculation beyond just the year-by-year standard deviation of quarterly hedge ratios, but the results were robust across speculation metrics.

Independent Variables

Which characteristics does the paper specifically examine to see if they can explain selective-hedging behavior? The researchers examine the following two characteristics of each firm: (1) a propensity to have an informational advantage, and (2) the ability to withstand market volatility.



The paper uses various measures of size in the gold marketplace to proxy for the level of informational advantage that a firm might be expected to have. In addition, the paper uses two probability-of-financial-distress metrics to proxy for whether a firm is in a particularly precarious situation to be engaged in attempting to outsmart the market.

Results

Using a sophisticated regression technique, the authors find that it is actually the smaller firms (those presumed to have the least informational advantage), as well as the firms that are likely in the most distress, that tend to selectively hedge. This is the case whether the hedge metric is based on the fraction of gold production hedged, or the fraction of gold reserves hedged.

In an unreported analysis, the authors additionally note that they were able to obtain a different data set from the period, 2002 through 2011, “from surveys collected by the VM Group for Fortis Bank Nederland.” Similar to the 1989-1999 study, “[l]arger firms speculate[d] less and more constrained firms speculate[d] more.”

Conclusion

The paper’s empirical results point to the following conclusion: the gold-mining firms that have selectively hedged (or speculated) are the firms that had the least economic motive to do so. For investors in such companies, such activity should be flagged as not confidence-inspiring, to say the least.

Keywords

Corporate risk management, selective hedging, speculation, financial distress, corporate governance, managerial compensation.