NORTH-HOLLAND

Fraud and Financial Markets: The 1997 Collapse of the Junior Mining Stocks

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The Vancouver Composite Index fell by over 25 percent in less than 6 weeks during spring 1997 as the junior mining sector collapsed. We argue that this market collapse was triggered by the failure of Bre-X Minerals when that company's Indonesian claims, previously believed to contain the world's largest gold deposit, were shown to be pure fraud. Our event study, based on market returns for the Vancouver Composite Index and for a portfolio of 59 gold stocks, shows the effects of the Bre-X scandal to be both sizeable and significant. There is also some evidence that smaller exploration companies were hardest hit.

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> One plan of acquiring sudden wealth was to "salt" a wildcat claim and sell out while the excitement was up. The process was simple. The schemer located a worthless ledge, sunk a shaft on it, bought a wagon-load of rich "Comstock" ore, dumped a portion of it into the shaft and piled the rest by its side above-ground. Then he showed the property to a simpleton and sold it to him at a high figure. (Twain, 1913, pp. 21–22)

> For the mining industry, where salting is viewed as the stratagem of scoundrels, Bre-X was a mammoth embarrassment, not only because it overshadowed the good work carried out by honest geologists and engineers, but because it had become one scam too many. Mining, particularly junior mining, is an industry that needs public support to survive. The trust built up over decades by honest mining men had been undermined too often . . . Enough had become enough. (Danielson and Whyte, 1997, p. 9)

I. Introduction

While 1997 was a very good year for most major Canadian and U.S. stock market indices, it was a disastrous year for investors in Canadian junior mining stocks. The Composite Index of the Vancouver Stock Exchange, home to most smaller mining companies, collapsed in the spring of 1997 falling by more than 25 percent in less than 6 weeks.

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Interestingly, while this crash predated the major weakness in gold prices that set in later in 1997, its onset coincides precisely with the well-publicized failure of a mining company known as Bre-X. Bre-X rose from a minor penny stock to a company with a market cap of more than 6 billion Canadian dollars on the strength of a reputedly enormous gold deposit in Indonesia. It is hardly surprising that, when it became clear that the company's claims were fraudulent, Bre-X stock plunged in value. What is more remarkable is the way that Bre-X seemed to carry the whole junior mining market with it. On March 20, 1997, just prior to the first reports that independent tests did not confirm Bre-X company claims, the Vancouver Composite Index stood at 1307.99. By May 5, 1997, when Strathcona Mining Services Ltd., an independent consulting firm hired to assess the veracity of Bre-X's findings, issued its final report concluding that the Bre-X claims were a fraud "without precedent in mining history," the index had fallen to 1003.53.[1]

In this paper, we address the impact of the Bre-X factor on a sample of 59 gold mining companies. These companies range from behemoths like Barrick Gold with numerous operating mines to smaller, junior companies, with no production, that are valued solely for the potential success of their exploration activities. We show that not only does news of the Bre-X fraud significantly lower excess returns across the board but also there is some evidence that the negative effects are higher for junior mining companies. We cannot be sure whether these market declines reflected a collapse of confidence in all exploration companies, fears that other junior companies were as fraudulent as Bre-X, forced selling to make good losses and/or margin calls on Bre-X holdings, or some combination of all these things. However, the massively negative impact is clear. The results show how important reputation and full disclosure can be to asset markets where prices are based on high-value, low-probability events.

II. The Bre-X Fraud, the Gold Price, and Mining Stock Prices

Previous research has concluded that gold mining stocks are highly sensitive to gold price movements. Blose and Shieh (1995) find a gold price elasticity significantly greater than one. Tufano (1998) derives an average elasticity of two, but also notes that this average is subject to considerable variation across time and across firms. Tufano's results also indicate that firms with larger reserves, larger production, and larger market values are more sensitive to changes in gold prices. The common equity of junior gold mining stocks with few or any proven reserves is rather like an out-of-the-money option. With a small probability of finding a large amount of gold that is economically feasible to mine, the value of the option is likely to be more sensitive to changes in the probability of finding a minable deposit than it is to changes in the gold price. Take, for example, Bre-X prior to its claims of a massive gold deposit at Busang in Indonesia. The only reason that the stock had a positive value in the pre-Busang days was the hope that the company would be able to find gold or other valuable mineral deposits before it ran out of money. Were the company to find such a deposit, the stock price stood to rise substantially regardless of the then-current gold price. While none of this is meant to imply that gold prices are irrelevant to junior mining stocks, it does indicate that such stocks are also sensitive to

[1] While Bre-X was listed on the Toronto, NASDAQ, Montreal, and Alberta stock exchanges, neither Bre-X nor its sister companies Bresea and Bro-X traded on the Vancouver exchange. Therefore the drop in the Vancouver index reflects only the declining fortunes of companies unaffiliated with Bre-X.