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Gold and silver manipulation: What can be empirically verified?

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ABSTRACT

The issue of gold and silver price manipulation, in particular price suppression, is examined. We use a mixture of normal approach to decompose the returns into abnormal and control samples. Price suppression is a form of market manipulation of the runs type, where longer negative runs with lower returns than expected would be observed. To explore whether this form of manipulation can be empirically detected the length of runs and the total return observed during a run were computed for modelled abnormal and control clusters in gold and silver. In both metals the proportion of negative runs in the abnormal cluster is greater than the proportion of negative runs in the control cluster. In both cases the average return for negative runs is significantly lower in the abnormal cluster than in the control cluster. When average returns over positive runs are compared the abnormal group has significantly higher expected returns than the control group. Given the short maximum run lengths in the abnormal cluster and the fact that positive runs have significantly higher average returns in the abnormal cluster than in the control cluster, it is likely that that the high volatility associated with the abnormal cluster is the driver of the results presented in this study, as opposed to manipulation.

1. Introduction

Are observed precious metals prices the result of the forces of supply and demand? Or are they instead the outcome of manipulation by shadowy forces? A common meme holds that gold prices are manipulated, generally downwards, in what is described as price suppression. This is a claim that is easier to make than to verify. In the "Smoking Gun" example[1] the analysis that is produced to support the claim of manipulation uses one-minute data from nine futures markets over the period from 2009 to 2015. The author defines events of interest as "a large spike down (or up) in a small increment of time", defined as a move of more than 0.5% of the current price in a one-minute interval. The number of events and the dollar value of the price changes are tabulated and results for the gold and silver contracts are compared with those tabulated for seven other commodity and financial futures contracts. This comparison leads the author to conclude the gold and silver contracts have more, larger downwards moves than the other contracts analysed. As is common in this type of article the author goes on to conclude that the observed differences are the result of price manipulation.

What constitutes market manipulation is in fact not well understood. While market manipulation differs from insider trading, frequently the same legislation captures both types of offences (e.g. the United States Securities Acts of 1933–1934).[2] What we know from instances where market regulators launch legal action (such as the LIBOR scandal as discussed by Ashton and Christophers, 2015) is that manipulation can and does take place. Frequently emerging, or developing financial markets, are often identified as being prone to manipulation due to market structure, legal and other impediments (e.g. Aktas and Kryzanowski, 2014a, 2014b; Chaturvedula et al., 2015), although the LIBOR scandal (amongst others) has revealed that manipulation will occur in developed financial markets despite known and often severe penalties. However, given that we only observe those instances that are prosecuted by regulators we do not know the true extent of market manipulation and all of the mechanisms that could be used to manipulate market prices.

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[1] For a typical example of this type of web posting see: The Smoking Gun Proving Silver & Gold Manipulation (http://www.peakprosperity.com/blog/94852/exclusive-smoking-gun-proving-silver-gold-manipulation)

[2] A comprehensive reporting of the insider trading literature is outside the scope of this paper. However, some examples of recent empirical studies include Agrawal and Cooper, 2015; Aitken et al., 2015; Cumming et al., 2015; Chauhan et al. (2016); Kallunki et al. (2016), and Silvers (2016).

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In a survey of the market manipulation literature Putniņš (2012) provides a taxonomy of manipulation techniques. A *run manipulation* involves an investor taking a position in the market then moving the price in a profitable direction, while attracting new investors, finally the position is closed out and the investor takes a profit. In a run, the manipulator profits by trading against less informed investors who are unwittingly trading at the manipulated price. A *contract manipulation* involves making profit in a derivative market by manipulating the price of the underlying asset. Finally, *market power* manipulations occur when a market participant exploits their ability to control the fundamentals of an asset so that prices are moved in a direction that maximises their ability to profit.

Allen and Gale (1992) define empirically testable manipulations that can be applied to each of the categories described above. Manipulations can be: *trade* based, where prices are influenced through the trading process; *information* based, where false information about the asset is released to inflate or deflate a price; or *action* based, where those with responsibility for reporting, or regulating, take actions that will influence the value or perceived value of the asset. Putniņš (2012) represents these common forms of manipulation in a tree structure (see Fig. 1).

If manipulation events are distinct from an underlying data generating process, instances of price manipulation will appear as anomalies. The question of interest is whether it is possible to reliably identify market conditions that are consistent with price manipulation in the absence of an indicator variable, which reliably delineates periods of market manipulation. In the case of market power manipulations in commodity futures markets Pirrong (2004) uses inventory theory and regression analysis to show that "manipulated prices and quantities can be reliably distinguished, moreover, from competitive prices and quantities even if fundamental market conditions are unusual". Couched in this form, the problem is to first identify the normal data generating process, and then identify departures from this process.

Finance theory suggests that a random walk or geometric Brownian motion, as implied by the definition of weak form efficiency (e.g. Samuelson, 1965; Fama, 1970), should be considered as the basic data generating process. The null hypothesis in all the empirical work to follow will be that the data observed comes from a weak form efficient market. Anomalies will be defined as deviations from this process, with the existence of anomalies being a *necessary* condition for price manipulation. However, as anomalies may not be due to price manipulation alone, their existence is not a *sufficient* condition to conclude that prices have been manipulated.

There is a rich literature that investigates the benefits of investing in precious metals versus other assets (e.g. Auer, 2015; Low et al., 2016), the application of trading rules in low and high frequency data (e.g. Auer, in press) and the dynamic relationships between precious metals and other commodities (e.g. Antonakakis and Kizys, in press; Charles,

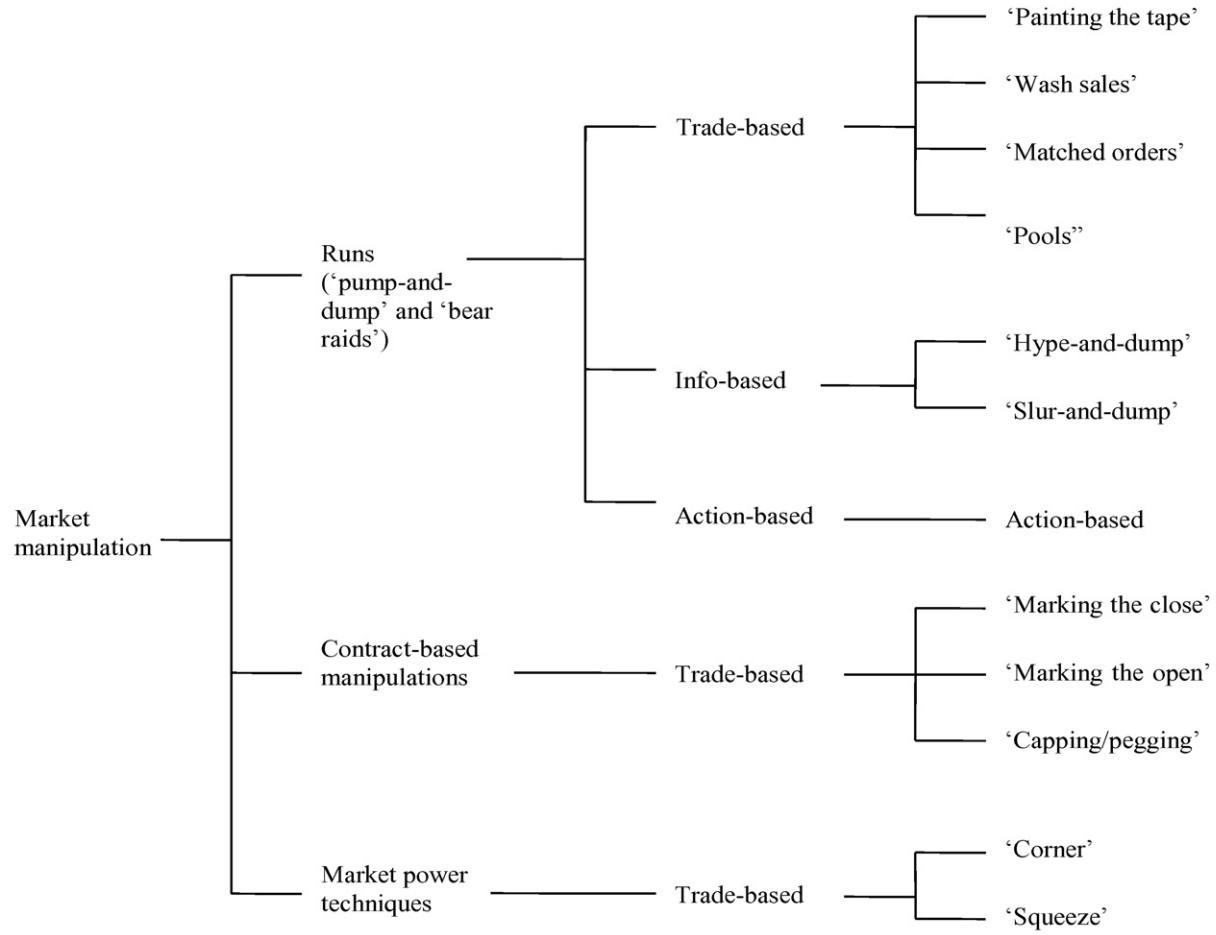

Fig. 1. Different types of market manipulation. Source: Putniņš, 2012: Taxonomy of manipulation.