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Institutional investors and stock returns volatility: Empirical evidence from a natural experiment☆

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A B S T R A C T

In this paper, we provide empirical evidence on the impact of institutional investors on stock market returns dynamics. The Polish pension system reform in 1999 and the associated increase in institutional ownership due to the investment activities of pension funds are used as a unique institutional characteristic. Performing a Markov-switching-GARCH analysis we find empirical evidence that the increase of institutional ownership has temporarily changed the volatility structure of aggregate stock returns. The results are interpretable in favor of a stabilizing effect on index stock returns induced by institutional investors.

1. Introduction

The increase in the number of institutional investors trading on stock markets world-wide since the end of the 1980s has caused a rise in financial economists' interest in institutions' impact on stock prices. In particular, there is the suggestion that institutional traders destabilize stock prices due to their specific investment behavior and thereby induce autocorrelation and increase volatility of

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stock returns. Among others, herding and positive feedback trading are the two main arguments put forward for the destabilizing impact on stock prices induced by institutional investors. Consequently, empirical investigations have focused on the question of whether institutional traders exhibit these types of investment behavior.[1]

However, evidence in favor of herding and positive feedback trading does not necessarily imply that institutional traders destabilize stock prices. If institutions herd and all react to the same fundamental information in a timely manner, then institutional investors speed up the adjustment of stock prices to new information and thereby make the stock market more efficient. Moreover, institutional investors may stabilize stock prices, if they jointly counter irrational behavior in individual investors' sentiment. If institutional investors are better informed than individual investors, institutions will likely herd to undervalued stocks and away from overvalued stocks. Such herding can move stock prices towards rather than away from fundamental values. Similarly, positive feedback trading is stabilizing, if institutional traders underreact to news (Lakonishok et al., 1992).

Consistent with the above arguments, Cohen et al. (2002) find a stabilizing impact of institutions on US stock prices. Institutions respond to positive cash-flow news by buying stocks from individual investors, thus exploiting the less than one-for-one response of stock prices to cash-flow news. Moreover, in case of a price increase in the absence of any cash-flow news institutions sell stocks to individuals. The findings by Cohen et al. indicate that institutional investors push stock prices to fundamental values and, hence, stabilize rather than destabilize stock prices. Barber and Odean (in press) find for the US that individual investors display attention-based buying behavior on days of abnormally high trading volume, on days of extremely negative and positive 1-day returns and when stocks are in the news. In contrast, institutional investors do not exhibit attention-based buying. While the behavior of individual investors may contribute to stock returns autocorrelation and volatility, institutions may induce a stabilizing effect on stock price dynamics. Supporting evidence also comes from the literature on the trading behavior and the impact of foreign, predominantly institutional, investors. Choe et al. (1999) and Karolyi (2002) analyze data during crisis periods from Korea and Japan, respectively. Both investigations conclude that although foreign investors appear to follow positive feedback trading strategies their trading behavior does not destabilize the markets.

We can conclude from the short discussion above that empirical findings on institutional investors' herding and positive feedback trading behavior are not necessarily evidence in favor of a destabilizing effect on stock prices. Hence, these results provide only indirect empirical evidence on the destabilizing effects of institutional investors' trading behavior on stock prices. To our best knowledge no empirical evidence is available about the direct effect of institutional traders' destabilizing impact on stock prices. The existing literature on institutional trading behavior is predominantly forced to rely on quarterly ownership data to compute changes in institutional holdings and in turn draws conclusions about the behavior of institutional investors.[2] In contrast, under the condition that the entrance date of a large number of institutional investors in the stock market is known, a Markov-switching-GARCH model may provide direct empirical evidence of whether institutions change significantly the volatility structure of stock index returns. In a time series framework we are able to investigate empirically the consequences of a structural break in institutional ownership on stock returns volatility behavior.

The short history of the Polish stock market provides a unique institutional feature which allows us to contribute to the literature on the institutional investors' impact on stock prices. The special characteristic arises from the pension system reform in Poland. In 1999 privately managed pension funds were established and allowed to invest on the capital market. We focus on the volatility behavior of stock returns prior to and after the first transfer of money to the pension funds on 19 May 1999. The appearance of large institutional traders and the resulting increase in institutional ownership allows us to investigate the impact on stock returns volatility in the environment of a natural experiment.

[1] Evidence on institutions' trading behavior can be found in, for example, Lakonishok et al. (1992), Grinblatt et al. (1995), Sias and Starks (1997), Nofsinger and Sias (1999), Wermers (1999), Badrinath and Wahal (2002), Griffin et al. (2003), Sias and Whidbee (2006) and Yan and Zhang (in press).

[2] Sias et al. (2006) provide a solution to the problem that high-frequency institutional ownership data are not available. The estimates of higher frequency covariances between changes in institutional ownership and stock returns rely on the use of higher frequency stock returns data and the exploitation of covariance linearity.