Stock price synchronicity and information disclosure: Evidence from an emerging market

Omar Farooq [a,*], Moataz Hamouda [b]

[a] ADA University, Baku AZ1008, Azerbaijan
[b] American University in Cairo, New Cairo 11835, Egypt

A B S T R A C T

We provide empirical evidence on the informational role played by stock price synchronicity. Our findings suggest that the returns of firms with high synchronicity lead the returns of firms with low synchronicity in India during the period between 1999 and 2012. We argue that this lead-lag relationship arises because better information environment associated with firms exhibiting high synchronicity enables quick incorporation of relevant information. Our results are robust under different information conditions. We also show that the returns of firms with high synchronicity also lead the returns of market portfolio.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

Information transmission across securities has attracted considerable attention in prior literature (Brennan et al., 1993). Vast majority of this literature holds information environment of a firm as the main reason behind information transmission across securities. Badrinath et al. (1995), for instance, document that the direction of information transmission is from firms held by institutional investors to other firms. They argue that information environment of these firms is better due to differential information set-up costs and legal restrictions arising from the "prudent man" regulations. Both of these factors imply that institutional investors have to expend their resources on a small subset of stocks. As a result, they are better able to gather and interpret value-relevant information. Therefore, firms with high institutional ownership are supposed to have better information environment. Badrinath et al. (1995) posit that if information gathered by institutional investors has common effects across securities, then the returns of stocks held by institutional investors help predict the returns of stocks held by individual investors. The theoretical studies also show that as the number of informed investors increase, the stock price responds to the new information more quickly (Foster and Viswanathan, 1993). Using the number of analysts as a proxy for the number of informed investors, Brennan et al. (1993) and Chuang and Lee (2011) find that the returns of portfolios of firms that are followed by more analysts tend to lead those of firms that are followed by fewer analysts.

An important proxy of information environment that has received lesser attention in prior literature is the stock price synchronicity. Stock price synchronicity measure the extent to which stock prices co-move with the market. Prior literature argues that the extent of this co-movement is an increasing function of governance and information environment of a firm (Chan and Hameed, 2006; Dasgupta et al., 2010). Firms with better governance environment exhibit higher synchronicity

---

Table 1
Descriptive statistics for portfolios with high synchronicity and portfolios with low synchronicity.

	Equally-Weighted Portfolio		Value-Weighted Portfolio	
	High Synchronicity	Low Synchronicity	High Synchronicity	Low Synchronicity
Mean	0.00001	0.00049	−0.00101	−0.00082
Median	0.00000	0.00000	0.00000	0.00000
Standard Deviation	0.01984	0.01323	0.01714	0.02281
Skewness	−0.19371	0.30603	−1.45201	−0.32003
Kurtosis	2.84519	3.76435	17.74040	3.12060
No. of Observations	3643	3643	3643	3643

than firms with poor governance environment. Chan and Hameed (2006) document that stock price synchronicity increase as the extent of analyst coverage – an important mechanism via which information improves – goes up. In another related study, Farooq and Ahmed (2014) show that low stock price synchronicity is an indicative of poor governance and information environment. Dasgupta et al. (2010) argue that the positive relationship between synchronicity and governance environment of a firm is due to the fact that high quality governance mechanisms improve the accuracy of forecasts made by investors. They posit that, in efficient markets, stock prices respond only to unexpected events. Therefore, when disclosure and governance mechanisms improve, investors are able to accurately predict future firm-specific events. As a result, there is higher likelihood that prevailing stock prices have already factored in the occurrence of future events. Consequently, when events actually happen, stock prices do not react significantly to them. In other words, more informative stock prices today are associated with less firm-specific variation in stock prices in future. Lower firm-specific variation in stock prices leads to higher correlation between stock returns and market returns, thereby causing high stock price synchronicity. A secondary reasoning that follows Dasgupta et al. (2010) is that their arguments should be more relevant for investors that have required skills and sophistication to form accurate forecasts as information environment of a firm improves. Investors without such skills may not be able to benefit much from the improvements in information environment. We argue that individual investors lack the skills and abilities to make best use of available information. It is, usually, the institutional investors who have enough skills and sophistication to form accurate forecasts as the information environment of a firm improves. Therefore, it is very likely that firms with high synchronicity have high institutional ownership. Kelly (2007) also comes to the same conclusion and documents that firms with high synchronicity have dominant institutional holdings.

In this paper, we argue that better information environment associated with firms exhibiting high synchronicity has significant implications for how information is revealed in a market. Given better information environment of firms with high synchronicity, this paper hypothesizes that returns of firms with high synchronicity should lead the returns of firms with low synchronicity. Consistent with our hypothesis, we show that information originating from of firms with high synchronicity predicts returns of firms with low synchronicity. We also show that the converse does not hold – returns of firms with low synchronicity do not predict returns of firms with high synchronicity. We also show that returns of firms with high synchronicity Granger-cause returns of firms with low synchronicity. However, the opposite does not hold. We argue that this lead-lag relationship arises because better information environment associated with firms exhibiting high synchronicity enables quick incorporation of relevant information. Our results hold during the periods of negative market returns and during the periods of positive market returns.

The remainder of the paper is structured as follows: Section 2 summarizes the data. Section 3 presents assessment of our hypotheses and Section 4 document additional analysis. The paper ends with Section 5 where we present conclusions.

2. Data

This paper documents the informational role of stock price synchronicity in India during the period between 1999 and 2012. In order to compute stock price synchronicity, we estimate the following regression with return of stock 'i' during week 't' ($R_{i,t}$) as a dependent variable and return of market index 'M' for the same week ($R_{M,t}$) as an independent variable (Morck et al., 2000).

$$R_{i,t} = \alpha + \beta(R_{M,t}) + \varepsilon_{i,t} \tag{1}$$

The coefficient of determination (or R^2) obtained from the estimation of Eq. (1) is the measure of stock price synchronicity. We use the synchronicity to categorize firms in two groups. The first group (HS) consists of firms that have synchronicity in the top two deciles and the second group (LS) consists of firms that have synchronicity in the bottom two deciles. We compute daily equally-weighted and value-weighted returns for both portfolios. Table 1 documents the descriptive statistics for both portfolios. The results show that mean returns for low synchronicity portfolio are higher than mean returns of high synchronicity portfolio. The results also show that returns for low synchronicity portfolio are more positively skewed than returns of high synchronicity portfolio.