Front. Bus. Res. China 2014, 8(1): 1–17
DOI 10.3868/s070-003-014-0001-4

RESEARCH ARTICLE

**Hong Sun, Jacqueline Wenjie Wang, Wayne Yu, Kai Zhu**

# Harmonious Stock Prices

**Abstract** Stock price movements in China still remain highly harmonious, in spite of the many significant regulatory and structural changes over the recent years. A survey of the literature reveals that harmony in the stock price movements is related to a few salient features in China's capital market: high ownership concentration, high incidence of the use of pyramidal ownership structure, significant state ownership, and a lack of active institutional investors. In addition, we also point out that harmonious stock prices may generally result from low intensity of private information acquisitions by risk arbitrageurs.

**Keywords** stock price synchronicity, firm-specific information, market efficiency

## 1 Introduction

As a basis of modern corporate finance research, the concept of stock market efficiency depends on how well stock prices reflect all available information (Fama, 1970). In particular, information about market-wide shocks (e.g., an unexpected change in a country's monetary policy) may affect the prices of many stocks, while information specific to a firm (e.g., the loss of market share to its competitors) may affect only the firm's stock prices. Viewed this way, the market model $R^2$, the goodness of fit measure, from a regression of the returns of an individual stock on the returns of the market portfolio, represents the portion of the stock's returns explained by the market returns. Roll (1988) reports an

*Received October 15, 2013*

Hong Sun[a], Kai Zhu[b]
School of Accountancy, Shanghai University of Finance and Economics, Shanghai 200433, China
E-mail: [a]sophiesun126@gmail.com, [b]aczhuk@mail.shufe.edu.cn

Jacqueline Wenjie Wang[c], Wayne Yu[d] (✉)
School of Accounting and Finance, Hong Kong Polytechnic University, Hong Kong, China
E-mail: [c]afwwj@polyu.edu.hk, [d]wayne.yu@polyu.edu.hk

average market-model $R^2$ value of 0.2 for regressions using daily returns, suggesting that returns of individual stocks in the US are driven mainly by firm-specific information. Therefore, a lower market-model $R^2$ can be interpreted as evidence of greater capitalization of firm-specific information, making stock prices more informative in that firm-specific fundamentals are better tracked by stock prices. Consistent with this view, Morck, Yeung and Yu (2000) report that stock prices move in a much less synchronized manner in developed economies than in emerging ones.[1] They also find a declining pattern in the average market model $R^2$ in the US over the period of 1926 through 1995, which is subsequently confirmed by Campbell et al. (2001).[2] Morck, Yeung and Yu (2000) argue that in developed economies, investors have greater incentives and ability to gather firm-specific information and trade on it, because of the stronger property rights protection in those countries. Property rights matter because they determine the security of investors' gains from trading on private information and they also influence the incentives of corporate disclosure. Stronger property right, therefore, elevates the marginal benefit and lowers the marginal cost of information acquisitions. Similarly, Jin and Myers (2006) provide additional, consistent evidence that countries with higher corporate transparency tend to have lower market model $R^2$s and hence more informative stock prices.

A large body of research has demonstrated a linkage between firm-specific information intensity and economic efficiency. Intuitively, stock prices are more informative with if they better track changes in the fundamentals of the firms, which should result in more efficient resource allocation. For example, the share prices of Apple Inc. have vastly outperformed those of Nokia Corporation for the last few years, reflecting the changes in the fundamentals of the two companies. As a result, the cost of equity capital is much lower for Apple than for Nokia, and consequently economic resources (including equity capital) are being shifted out of Nokia and into Apple. Thus, more informative stock prices imply better resource allocation and faster economic growth. Consistent with this view, countries with greater intensity of firm-specific information capitalization enjoy higher per capita GDP (Morck, Yeung and Yu, 2013), and higher investment efficiency (Wurgler, 2000).

---

[1] Interestingly, Morck, Yeung and Yu (2000) initiated their study based on their casual observations that stock prices in China tended to move in tandem.

[2] However, Morck et al. (2013) find that stock price synchronicity in the US has risen quite significantly since 2000.

As China is the second largest economy in the world, and has one of the largest equity markets in terms of market capitalization, it is important to understand the forces that can help improve the stock market's ability in allocating resources. In this paper, we first survey a growing body of studies exploring these forces using data from the Chinese stock market. In addition, we also highlight the implications of the research findings and suggest some potential topics for future research. The rest of this paper is organized as follows: Section 2 briefly defines the information content of stock prices, and provides a time-series of this measure for the A-share stocks traded in Shanghai and Shenzhen. In Section 3, we review studies that focus on firm characteristics that are associated with the provision of firm-specific information, followed by Section 4, which reviews studies focusing on investor characteristics that may influence acquisitions of firm-specific information. Section 5 offers some directions for future research and concludes the paper.

## 2 Harmonious Stock Prices

A basic tenet of asset pricing models in finance is that individual stock returns are determined by systematic, or non-diversifiable, factors, with different models proposing different sets of these factors. One of the traditional models, the Capital Asset Pricing Model (CAPM), assumes there is only one such factor, the returns of the market portfolio. Using the market model version of the CAPM, we can express an individual stock's returns as

$$R_{it} = \alpha_i + \beta_i \times R_{\text{mt}} + \varepsilon_{it} . \quad (1)$$

Therefore, the return variation (or volatility) of an individual stock is the sum of market-wide return variation, $\beta_i^2 \times \text{var}(R_{\text{mt}})$ and firm-specific return variation, $\text{var}(\varepsilon_{it})$. $R_i^2$ for regression equation (1) is defined as follows:

$$R_i^2 \equiv \frac{\beta_i^2 \times \text{var}(R_{\text{mt}})}{\text{var}(R_{\text{it}})} = \frac{\text{marketvariation}}{\text{marketvariation+firm}-\text{specificvariation}} . \quad (2)$$

Holding the market-wide return variation constant, a lower $R_i^2$ means that more of the variation in stock $i$'s returns is firm-specific. In other words, the stock's returns are less synchronous with the overall market. Therefore, a poorer goodness of fit for equation (1), a lower $R^2$, suggests that firm-specific rather than market-wide information plays a bigger role in determining the stock returns. Therefore, harmonious stock prices, where individual stocks highly co-move

with the overall market, may suggest inefficient pricing.

There has been a large growing literature examining the information content of stock prices, following on the initial work of Roll (1988) and Morck, Yeung, and Yu (2000).[3] Subsequent studies following Morck et al. (2000) can be broadly classified into the following categories: The first strand of studies document that improvements in economic institutions are associated with greater capitalization of firm-specific information into stock prices. Improvements in economic institutions examined include greater market openness (Li et al., 2004; Bae et al., 2006), cross-listing into a market with stricter regulations (Bae et al., 2006, Gul et al., 2010), the permission of short sales (Bris et al., 2007; Chang et al., 2012), tougher inside trading regulation (Durnev et al., 2007; Fernanders and Ferreira, 2009), and stricter disclosure policies (Jin and Myers, 2006; Bissessur and Hodgson, 2012).

The second strand focuses on the economic consequences of more efficient pricing as measured by a lower market model $R^2$. For example, stock price synchronicity is negatively related to the risk of stock market crashes (Jin and Myers, 2006), higher investment efficiency (Wurgler, 2000), higher total factor productivity (Durnev et al., 2004; Chun et al., 2008), and more efficient pricing of future earnings (Durnev et al., 2003).

The third strand examines the impact of firm-specific characteristics on stock price synchronicity. Firms with lower stock price synchronicity are more likely to have higher earnings quality (Hutton, Marcus, and Tehranian, 2009), more expansive voluntary disclosure (Haggard et al., 2008), better corporate governance offering higher protection to outside investors (Ferreira and Laux, 2007), and more intensive disclosure and news coverage in the media (Boudoukh, Feldman, Kogan, and Richardson, 2013; Dasgupta, Gan, and Gao, 2010).

To gauge pricing efficiency of the Chinese stock market, we compute the market model $R^2$s for all A-share stocks listed on both the Shanghai and Shenzhen Stock Exchanges from 1994 through 2012. For each stock in each year, daily returns are regressed on the value-weighted returns of the top 300 stocks listed on the Shanghai or Shenzhen stock exchanges. Firms with less than 200 valid daily returns in each year are dropped to ensure reliability of the estimates. The average market model $R^2$ in each year is obtained by the ratio of the sum

[3] Interested readers are referred to a more comprehensive survey of this literature provided by Morck, Yeung, and Yu (2013).

across all valid firms of the numerator in equation (2) over the sum across all valid firms of the denominator in equation (2), consistent with the methodology used in Morck et al. (2000). The median $R^2$ is the median of all sample firms' $R^2$ in each year.

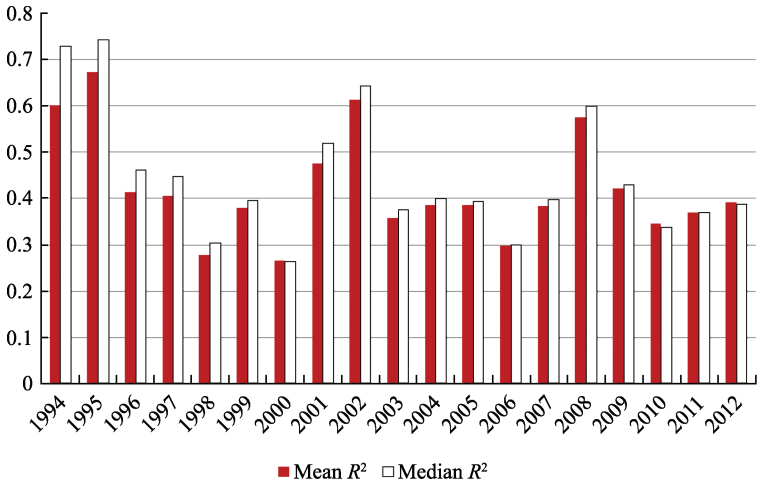


**Fig. 1** Mean and Median Market Model $R^2$ in China

Fig. 1 displays the average and median market model $R^2$ from 1994 through 2012. Consistent with Morck et al. (2000), the $R^2$s are very high in the early-and mid-1990s. Furthermore, both the mean and median $R^2$s remain persistently high through 2012, hovering around 0.4, without a clearly discernible declining pattern over this period of time. The high $R^2$ values suggest that individual stock prices are significantly driven by the market-wide, or systematic, factor.

Wang et al. (2009) provide direct evidence that stock prices in China do not provide very useful information to guide corporate investment decisions. If stock prices provide useful information, a firm's corporate investment over a period to years should be positively related to the rates of return on the stock. Contrary to the US findings by Chen, Jiang, and Goldstein (2007), Wang et al. (2009) fail to find any relationship between investment decisions and stock market performance, suggesting that the stock market in China does not serve as an effective mechanism in allocating resources. Furthermore, Wang et al. (2009) also perform further tests conditional on the differing degrees of stock price informativeness. Following Morck et al. (2000), they use an inverse of the

market model $R^2$ as such a proxy. However, Wang et al. (2009) still find no significant relationship between investment and stock price performance for the subsample whose stock prices are more informative.

Before turning to the next section, we note that the persistently high $R^2$ for the Chinese stock market is rather puzzling. First, the number of stocks listed in China has grown from a few hundred in the earlier 1990s to almost two thousands by the end of 2012, which should result in a pool of firms with distinctive business risks or fundamentals. With the sheer effect of the "law of large numbers" individual stock prices are expected to become less harmonious as the number of listed firms grows significantly. Second, and perhaps more importantly, there have been significant regulatory overhaul for the Chinese stock markets over the last two decades, ranging from enhancing corporate disclosure, promoting effective corporate governance, to converting non-tradable state-owned shares into tradable shares. These regulations were all intended to better protect outside, minority shareholders, making it easier for them to make better-informed investment decisions. Therefore, with more and stricter regulations over time, investors' ability to discriminately price individual stocks should rise. If so, individual stock prices should also become less harmonious over time.[4]

## 3 Firm-Specific Information: The Supply Side

Veldkamp (2006) develops a model, in the presence of high fixed costs, showing that the optimal information to produce is the information that is useful to the valuation of as many stocks as possible instead of firm-specific information on just one stock. As the production costs decrease (or as the benefits of information increase), more firm-specific information will be produced, and stock prices movements will become less synchronous. The theoretical analysis in Veldkamp (2006) may suggest high information production costs or low benefits of information in China, an implication which may be worth exploring in order to explain the persistently high $R^2$s as displayed in Fig. 1.

Other than the varying overall information production in an economy as modeled in Veldkamp (2006), there is also the dimension of cross-sectional

[4] The surge in the $R^2$s in 2008, coinciding with the year of the recent global financial crisis, is similar to the situation in the US as documented by Morck et al. (2013).

variation in information production. For example, Haggard et al. (2008) find higher firm-specific return variations for firms with more expansive voluntary disclosure; and Ferreira and Laux (2007) find that firms with better corporate governance also tend to have higher firm-specific return variations.

Ownership in many Chinese firms is heavily concentrated, with either the state or founding entrepreneurs as their controlling shareholders. Li (2005) examines the effect of ownership structure on stock price synchronicity in China. He argues that firms with a controlling shareholder are less transparent in order to maximize the private benefits of control (e.g., through tunneling), leaving investors with less firm-specific information, resulting in higher stock price synchronicity. However, as the controlling shareholder's ownership increases beyond a high level, there will be reduced incentives to engage in further tunneling as the ownership approaches 100%. Therefore, Li (2005) hypothesizes that transparency declines as the controlling shareholder's ownership initially rises, but increases as the controlling ownership further rises beyond a high level. Consequently, the relationship between the level of controlling shareholder's ownership and stock price synchronicity should follow an inverted "U" shape. These predictions are indeed borne out by the empirical findings. Furthermore, Li (2005) also tests the relationship between the nature of controlling ownership and stock price informativeness. He argues that firms controlled by the state may have to endure more political costs than those controlled by a private owner, and thus may need to hide even more information from outside investors. Consistent with this hypothesis, Li (2005) reports even higher stock price synchronicity for state-controlled firms relative to entrepreneur-controlled firms.

Extending Li's (2005) study, Li, Ye, and He (2011) investigate the effect of the presence of pyramid ownership structure on stock price synchronicity. Using 151 listed firms controlled by private owners for the period of 2004 through 2007, they find that the extent of the connections between the listed firm and related parties in the same group as well as magnitude of related party transactions are significantly positively related to stock price synchronicity.

In a similar vein, Gul et al. (2010) also report higher stock price synchronicity for firms with higher state ownership, lower foreign ownership, and firms that are not cross listed in Chinese Hong Kong or the US. Furthermore, Tang et al. (2011) argue that companies with political connections are more opaque in order to conceal their private transactions with the government, which increases the

information asymmetry between the companies and the outside investors. Consequently, the stock prices of politically connected firms are less likely to incorporate firm-specific information, and hence will have higher stock price synchronicity. Besides, companies with political connections may have easier access to economic resources such as capital in the form of bank loans, which also decreases the need for external financing, resulting in less disclosure of firm-specific information. Using a sample of all the listed, non-state controlled companies from 2004 to 2007, they show much higher stock price synchronicity for companies with political connections than those without. Furthermore, the positive relationship is more significant for politically-connected firms in provinces with lower levels of economic marketization, more government interventions and weaker legal enforcements, consistent with the hypothesis that political connections are more valuable where the market mechanisms are less effective in allocating resources.

In addition to studies examining the effect of ownership structure on stock price synchronicity, there have been other studies exploring the roles of other governance mechanisms. For example, Yu et al. (2010) test the relationship between board independence and stock price synchronicity in Chinese stock markets. Using the mandated policy change in 2001 by the China Security Regulatory Commission (CSRC) regarding the minimum ratio of independent directors in the board as an external shock, Yu et al. (2010) find evidence of a drop in the stock price synchronicity after the regulation, and the drop is more significant for firms with greater improvement in board independence. These findings suggest that board independence may encourage disclosure of firm-specific information. Similarly, Gul et al. (2010) argue that high-quality external auditors may force their client firms to disclose more firm-specific information in a timely manner. Consistent with this argument, firms using the Big 4 auditors have lower stock price synchronicity than those that do not use the Big 4.

While the studies above focus on the different incentives of disclosure, other studies examine the impact of disclosure quality on stock price synchronicity. For example, Yuan and Ju (2008) investigate how accounting information quality, proxied by accrual quality and earnings aggressiveness, affects stock price synchronicity. As expected, they find a negative association between accounting information quality and stock price synchronicity. Similarly, Jin (2010) also finds

that earnings management is positively related to stock price synchronicity. Interestingly, the positive relationship diminishes after the implementation of the new accounting standards in 2007, suggesting that there is perhaps less room for earnings management under the new standards. Finally, Lu and Shen (2011) also find that earnings aggressiveness and earnings smoothness are significantly positively related to stock price synchronicity, consistent with earlier findings in Yuan and Ju (2008) and Jin (2010).

## 4 Firm-Specific Information: The Demand Side

Section 3 above is mainly concerned with the provision of firm-specific information by the firm, which is usually publicly available once announced. However, the economics of information, in the spirit of Grossman and Stiglitz (1980), is also concerned with the private acquisition of information and the subsequent trading on such information. In particular, Grossman and Stiglitz (1980) argue that it is impossible to have a perfectly efficient market when information is costly. Therefore, investors will expend additional resources to acquire additional information only if the marginal benefit exceeds the marginal cost, and the equilibrium of information production would occur when the two are the same. In this setting, the changes in the stock prices correspond to the capitalization of private information gathered by informed arbitrageurs, which include institutional investors, financial analysts, and corporate insiders.

Ferreira and Laux (2007) find that firm-specific return volatility is positively correlated with trading by institutional investors, especially by risk arbitrageurs around the time of corporate mergers. Piotroski and Roulstone (2004), and Chan and Hameed (2006) find that analyst coverage (measured by the number of analysts following the stock) is negatively associated with firm-specific return variation, a result they interpret as evidence that the information provided by financial analysts is mainly market-or industry-wide information rather than firm-specific information. Similarly, Hameed, Morck, Shen, and Yeung (2010) find that firms whose fundamentals are closely correlated with other firms' fundamentals are more likely to enjoy more extensive analyst coverage, again consistent with the notion that analysts tend to produce information that is more of industry-wide than firm-specific.

With regards to the role of insiders as informed arbitrageurs, Piotroski and Roulstone (2004) provide evidence that insider trading in the US is positively

correlated with higher firm-specific return variation, in spite of the crowding-out effect on information acquisition by outside investors. However, Durnev and Nain (2007) provide contradictory evidence in emerging markets due to their lax enforcement of insider trading laws. Similarly, Fernandes, and Ferreira (2009) investigate the relationship between a country's enforcement of insider trading laws and firm-specific return variation over the period of 1980 to 2003, and find a positive relationship between the two only in developed countries. They interpret the results as evidence that stricter insider trading laws are effective in encouraging more information acquisition by outside investors in developed countries, but such information acquisition cannot make up for the information lost arising from stricter insider trading laws in developing countries.

Following Piotroski and Roulstone (2004), Hou and Ye (2008) examine the role of institutional investors in the Chinese stock market. Since institutional investors have more resources to acquire firm-specific information, the presence and the level of institutional ownership may lead to greater capitalization of firm-specific information. Hou and Ye (2008) find consistent results that there is a positive relationship between the level of trading by institutional investors and firm-specific information capitalized in the stock prices.

Jiang (2013) examines the effect of institutional ownership on the relationship between the number of analysts following and stock price synchronicity. Consistent with the findings in the US (Piotroski and Roulstone, 2004) and the emerging economies (Chan and Hameed, 2006), Jiang (2013) reports a positive relationship between analyst coverage and stock price synchronicity in China, interpreted as evidence that the information provided by financial analysts is mainly market-or industry-wide information rather than firm-specific. Jiang (2013) shows that institutional ownership weakens this positive relationship, suggesting that in the presence of institutional investors, analysts may produce more firm-specific information.

Besides the impact of institutional investors, several studies using Chinese data also examine the role played by security analysts. Zhu et al. (2007) find that analysts improve the capitalization of firm-specific information. Specifically, following Ayers and Freeman (2003), Zhu et al. (2007) examines the impact of analysts on the post-earnings drift, a situation where earnings surprises are inadequately priced at the time of announcements. Firms with more extensive analyst coverage are found to have smaller post-earnings drifts, consistent with

the hypothesis that analysts improve pricing accuracy at the time of earnings announcements.[5]

Following Piotroski and Roulstone (2004), both Feng and Li (2011) and Jiang (2013) find a positive relationship between analyst coverage and stock price synchronicity in China, suggesting that the information provided by financial analysts is mainly market-or-industry-wide information rather than firm-specific.[6] Quite interestingly, Jiang (2013) provides additional evidence that stock price synchronicity is negatively associated with analyst coverage for firms with better disclosure. This seems to suggest that analysts are able to provide firm-specific information only when there is already a great deal of disclosure provided by the firm, analogous to the evidence in Crawford, Roustone and So (2012) that analysts are able to produce firm-specific information on firms that are already covered by other analysts.

In addition to institutional investors and financial analysts, trading by other sophisticated players such as hedge fund managers may also improve the capitalization of firm-specific information into stock prices. Hedge fund managers often take both long and short positions in stocks in a way that the investment portfolios are "market-neutral" in that the fluctuations in the overall market would not affect the portfolios' values, but these hedged portfolios would gain when the mispricing of the long and short positions narrows. In order to execute such a hedging strategy, managers must be able to sell short stocks.

Bris, Goetzmann, and Zhu (2007) examine the impact of short selling on stock price informativeness for 48 markets around the world. Presumably, short-sales constraints impede the incorporation of firm-specific information into stock prices when the information is negative. With short-sales restrictions, investors with negative firm-specific information cannot trade if they do not already own the stock. Following Bris et al. (2007), Chang, Cheng, and Yu (2012) examine the impact of short-sale restrictions for stocks listed in Hong Kong, a Special Administrative Region of China. In particular, Chang, Cheng, and Yu (2012) separately estimate two measures of the market-model $R^2$: One based on

[5] The inconsistent findings in Zhu et al. (2007) and Jiang (2013) could be due to the different research designs and/or different samples. For example, the number of analysts is the predicted number of analysts based on a firm's size and profitability in Zhu et al. (2007), but is simply the actual number of analysts following a firm in Jiang (2013).

[6] Jiang (2013), however, argues that higher stock price synchronicity could be alternatively interpreted as greater capitalization of firm-specific information in a country with relatively poor disclosure environment.

regressing a firm's weekly returns on the market returns when the market returns are negative (Downside $R^2$) and another when the market returns are non-negative (Upside $R^2$). Their analysis predicts and confirms that short-sales constraints are associated with higher values of $R^2$, and that downside $R^2$ is generally higher than upside $R^2$, suggesting that short-sales restrictions reduce the amount of firm-specific information incorporated into stock prices, especially when the information is negative.

## 5 Conclusions

There is an extensive literature linking harmonious stock prices to inefficient pricing and hence inefficient resource allocation. Empirical findings so far also suggest a few ways to improve stock price informativeness. Studies using data from China suggest that stock price synchronicity is related to ownership structure and corporate disclosure quality, and it is also influenced by the intensity of private information acquisition by the investing professionals such as financial analysts, hedge fund managers, and institutional investors in general. A key distinctive finding is that ownership concentration, especially when it is coupled with state ownership, seems to be detrimental to the provision and hence the capitalization of firm-specific information. Another key feature of the ownership structure in China is the wide use of pyramid, which is also found to impede the capitalization of firm-specific information.

In spite of China's impressive economic development in the last three decades, there has not been a correspondingly impressive stock market performance. For example, from 2006 through 2012 the economy as measured by GDP had an average annual growth rate of around 10%, while the stock market performance, as measured by the most comprehensive stock market index, the Shanghai-Shenzhen Top 300 Index, was virtually flat. While the exact reasons for this disconnection await further research, it may be useful to explore the effect of harmonious stock prices, as shown in Fig. 1, because in such a market, neither good-performing firms are rewarded, nor bad-performers punished. As a result, the cost of equity capital is very much equalized when the stock prices of both good-and bad-performing firms change in a synchronized manner. If so, the allocation of equity capital would be inefficient.

One of the policy implications of the evidence reviewed in this paper is that corporate disclosure quality in China must continue to improve. For example,

while the recent overhaul in China's financial reporting standards (adopting most of the standards developed by the International Accounting Standards Board) is a good start, the effective implementation of the new, principle-based, accounting standards requires firms to make much more judgment about many accounting items such as the provisions for asset impairments. However, sound judgment is possible only if the interest of the preparers of such accounting information (often by management, which is likely influenced by the controlling shareholder) is well aligned with that of outside, often small, investors. Therefore, improvement in disclosure quality not only calls for better regulations, but also more importantly, calls for improvements in incentives alignment.

Second, to improve stock market pricing efficiency, the investing public, especially outside investors, should be better rewarded for firm-specific information acquisition. This is unlikely to occur if the laws governing insider trading are lax, for example, because under such a scenario outside investors must face higher probability as well as higher costs to trade against the well informed corporate insiders. The extant literature reviewed above seems to suggest that it is not the mere existence of insider trading but rather the lack of proper disclosure that deters information acquisition by outside investors. In other words, banning insider trading altogether may be neither practical nor helpful, the key is to restrict insider trading before material information is made public and to require timely and accurate disclosure of insider trading once happened.

Relatedly, investors should be able to profit in both bull and bear markets, and should be allowed to short sell individual stocks. The findings in Bris et al. (2007) and Chang et al. (2012) support the notion that when investors are allowed to profit from trading on negative news, they would have more incentives to acquire firm-specific information, making the stock prices more informative. The introduction of stock index futures in 2010 and short sales of individual stocks in 2012 should help to improve pricing efficiency.

However, there is another, perhaps more important, implication of harmonious stock prices. Consider a situation where the fundamentals (both cash flows and associated risks) of two companies are highly correlated. For such pair of stocks, their prices ought to move in a highly harmonious manner, tracking the similar changes in their fundamentals. Indeed, Morck, Yeung, and Yu (2000) explicitly control for firm-specific fundamentals variation, namely the variance of return on

assets (ROA) over a five-year window period. Subsequent studies reveal a positive relationship between firm-specific return variation and firm-specific fundamentals variation (e.g., Pastor and Veronesi, 2003; Wei and Zhang, 2006; and Chun et al., 2008). Therefore, harmonious stock price movements in China may be caused by highly correlated fundamentals among the listed firms. This may be quite plausible given that a company must meet a set of fairly uniform conditions about the firm's profitability before listing, as laid out by the China Securities Regulatory Commission.

Empirical evidence also suggests a few important channels to increase firm-specific fundamentals variation. For example, Irvine and Pontiff (2009) find that increased competition, as a result of deregulation in the US since the 1980s, is associated with more firm-specific variation in the fundamentals. Both Pastor and Veronesi (2003) and Fama and French (2004) report a positive relationship between firm age and firm-specific fundamentals. In addition, Cheng (2008) and Adams et al. (2005) find that firms controlled by founding entrepreneurs, and firms with smaller boards exhibit higher firm-specific fundamentals. Finally, investments in intangible assets such as R&D and building a brand name through advertising are correlated with higher firm-specific fundamentals variation (see, e.g., Kothari, Laguerre and Leone, 2002; Bartram, Brown and Stulz, 2012; and Osinga et al., 2011).

The fast developing and increasingly important Chinese stock market offers a great deal of research opportunities. Studies exploring the issues identified above may prove very fruitful, especially if they seek to identify and explain the mechanisms underlying these issues.

## References

Adams, R., Almeida, H., & Ferreira, D. 2009. Understanding the relationship between founder-CEOs and firm performance. *Journal of Empirical Finance*, 16 (1): 136–150.

Bae, K-H., Bailey. W., & Mao, C. 2006. Stock market liberalization and the information environment. *Journal of International Money and Finance*, 25(3): 404–428.

Bartram, S. M., Brown, G., & Stulz, R. M. 2012. Why are US stocks more volatile? *Journal of Finance*, 67(4): 1329–1370.

Bissessur, S., & Hodgson, A. 2012. Stock market synchronicity-an alternative approach to assessing the information impact of Australian IFRS. *Accounting and Finance*, 52(1): 187–212.

Bris, A., Goetzmann, W. N., & Zhu, N. 2007. Efficiency and the bear: Short sales and markets around the world. *Journal of Finance*, 62(3): 1029–1079.

Campbell, J., Lettau, M., Malkiel, B., & Xu Y. 2001. Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk. *Journal of Finance*, 56(1): 1–43.

Chan, K., & Hameed, A. 2006. Stock price synchronicity and analyst coverage in emerging markets. *Journal of Financial Economics*, 80(1): 115–147.

Chang, E., Cheng, J., Pinegar, M., &Yu, Y. 2012. Short-sale constraints: Reductions in costs of capital or overvaluation? Evidence from Hong Kong. *Pacific Basin Finance Journal*, 20(3): 506–520.

Cheng, S. 2008. Board size and the variability of corporate performance. *Journal of Financial Economics*, 87(1): 157–176.

Chun, H., Kim, J-W., Morck, R., & Yeung, B. 2008. Creative destruction and firm-specific performance heterogeneity. *Journal of Financial Economics*, 89(1): 109–135.

Crawford, S., Roulstone, D., & So, E. 2012. Analyst initiations of coverage and stock return synchronicity. *Accounting Review*, 87(5): 1527–1553.

Dasgupta, S., Gan. J., & Gao, N. 2010. Transparency, price informativeness, and stock return synchronicity: theory and evidence. *Journal of Financial and Quantitative Analysis*, 45(5):1189–1220.

Durnev, A., Li, K., Morck, R., & Yeung, B. 2004. Capital markets and capital allocation: Implications for economies in transition. *Economic Transition*, 12(4): 593–634.

Durnev, A., Morck, R., & Yeung, B. 2004. Value-enhancing capital budgeting and firm-specific stock return variation. *Journal of Finance*, 59(1): 65–105.

Durnev A, Morck R, Yeung B, Zarowin P. 2003. Does greater firm-specific return variation mean more or less informed stock pricing? *Journal of Accounting Research*, 41(5): 797–836.

Durnev, A., & Nain, A. 2007. Does insider trading regulation deter private information trading? International evidence. *Pacific Basin Finance Journal*, 15(5): 409–433.

Fama, E. 1970. Efficient capital markets: A review of theory. *Journal of Finance*, 25(2): 383–417.

Fama, E., & French, K. 2004. New lists: Fundamentals and survival rates. *Journal of Financial Economics*, 73(2): 229–269.

Feng, X., & Li, X. 2011. Do Chinese analysts produce firm-specific information? Evidence from stock synchronicity and analyst coverage. *Economic Science*, 4: 99–106.

Fernandes, N., & Ferreira, M. 2009. Insider trading laws and stock price informativeness. *Review of Financial Studies*, 22(5): 1845–1887.

Ferreira, M., & Laux, P. 2007. Corporate governance, idiosyncratic risk, and information flow. *Journal of Finance*, 62(2): 951–989.

Grossman, S., & Stiglitz, J. 1980. On the impossibility of informationally efficient markets. *American Economic Review*, 70(3): 393–408.

Gul, F., Kim, J-B., & Qiu, A. 2010. Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from China. *Journal of Financial Economics*, 95(3): 425–442.

Haggard, S., Martin, X., & Pereira, R. 2008. Does voluntary disclosure improve stock price informativeness? *Financial Management*, 37(4): 747–768.

Hameed, A., Morck, R., Shen, J., &Yeung, B. 2010. Information, analysts, and stock return co-movement. NBER Working Paper (http://www.nber.org/papers/w15833)

He, X., Wong, T. J., & Young, D. 2012. Challenges for implementation of fair value accounting in emerging markets: Evidence from China. *Contemporary Accounting Research*, 29(2): 538–562.

Hou, Y., & Ye, D. 2008. Institutional investors, informed trading and market efficiency: Evidence from China's capital market. *Journal of Financial Research*, 4: 131–145.

Irvine, P., & Pontiff, J. 2009. Idiosyncratic return volatility, cash flows, and product market competition. *Review of Financial Studies*, 22(3): 1149–1177.

Jiang, C. 2013. Financial analysts, insider information and efficiency of capital market: Evidence from relative amount of the firm-specific information impounded into stock prices in China's A-share market. *China Economic Quarterly*, 12(2): 429–452.

Jin, L., & Myers, S. 2006. $R^2$ around the world: New theory and new tests. *Journal of Financial Economics*, 79(2): 257–292.

Jin, Z. 2010. New accounting standard, accounting information quality and stock price synchronicity. *Accounting Research*, 7: 19–27.

Kim, J-B., & Shi, H. 2012. IFRS reporting, firm-specific information flows, and institutional environments: International evidence. *Review of Accounting Studies*, 17(3): 474–517.

Kothari, S. P, Laguerre, T., & Leone, A. 2002. Capitalization versus expensing: Evidence on the uncertainty of future earnings from capital expenditures versus R&D outlays. *Review of Accounting Studies*, 7(4): 355–382.

Lau, S. T, Ng, L., & Zhang, B. 2012. Information environment and equity risk premium volatility around the world. *Management Science*, 58(7): 1322–1340.

Li, K., Morck, R., Yang, F., & Yeung, B. 2004. Firm-specific variation and openness in emerging markets. *Review of Economic Statistics*, 86(3): 658–669.

Li, Z. 2005. Ownership structure and stock price co-movement: Evidence from the Chinese stock market. *China Accounting and Finance Review*, 7(3): 57–100.

Li, Z., Ye, Q., & He, H. 2011. Inter-firm relationship, corporate transparency and stock price characteristics. *Accounting Research*, 1: 44–51.

Lu, Y., & Shen, X. 2011. Informativeness of stock prices and earnings management: Evidence from Chinese stock market. *Journal of Financial Research*, 12: 131–146.

Malkiel, B., & Xu, Y. 2002. Idiosyncratic risk and security returns. Working Paper, University of Texas at Dallas.

Morck, R., Yeung, B., & Yu. W. 2000. The information content of stock markets: Why do emerging markets have synchronous stock price movements? *Journal of Financial Economics*, 58(1/2): 215–260.

Morck, R., Yeung, B., & Yu, W. 2013. $R^2$ and the economy. *Annual Review of Financial Economics*, forthcoming.

Osinga, E., Leeflang, P., Srinivasan, S., & Wieringa, J. 2011.Whydo firms invest in consumer advertising with limited sales response? A shareholder perspective. *Journal of Marketing*, 75(1): 109–124.

Pastor, L., & Veronesi, P. 2003. Stocks valuation and learning about profitability. *Journal of Finance*, 58(5): 1749–1789.

Piotroski, J., & Roulstone, D. 2004. The influence of analysts, institutional investors, and insiders on the incorporation of market, industry, and firm-specific information into stock prices. *Accounting Review*, 79(4): 1119–1151.

Roll, R. 1988. $R^2$. *Journal of Finance*, 43(3): 541–566.

Tang, S., Hu, W., & Sun, Z. 2011. Political connections, institutional environment and informativeness of stock prices. *Journal of Financial Research*, 7: 182–195.

Veldkamp, L. 2006. Information markets and the co-movement of asset prices. *Review of Economic Studies*, 73(3): 823–845.

Wang, Y., Wu, L., Yang, Y. 2009. Does the stock market affect firm investment in China? A price informativeness perspective. *Journal of Banking and Finance*, 33: 53–62.

Wei, S., & Zhang, C. 2006. Why did individual stocks become more volatile? *Journal of Business*, 79(1): 259–292.

Wurgler, J. 2000. Financial markets and allocation of capital. *Journal of Financial Economics*, *58* (1/2): 187–214.

Yu, W., Zhu, K., Wang, H., & Zhang, L. 2010. Play safe on the board: The role of independent directors-Evidence from listed firms in China. *China Accounting and Finance Review*, 12(3): 129–147.

Yuan, Z., & Ju, X. 2008. Empirical research on the correlation between accounting information quality and stock price informativeness in Chinese listed companies. *Chinese Journal of Management Science*, 10: 231–234.

You, J., Zhang, J., & Jiang, W. 2006. Institutional building, firm-specific information and the synchronicity of stock prices: A $R^2$-based perspective. *China Economic Quarterly*, 6(1): 189–206.

Zhu, H., He, X., & Tao, L. 2007. Can Chinese analysts improve capital market efficiency? Evidence based on stock price synchronicity and informativeness. *Journal of Financial Research*, 2: 110–121.