

**PREDICTABILITY, PERSISTENCE OF EARNINGS AND STOCK PRICE SYNCHRONICITY
EVIDENCE FROM INDIAN STOCK MARKET**

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Abstract

This paper investigates the association between stock price synchronicity both in persistence and predictability of earnings. We use sample of 220 firms with 1,471 firm observations of companies listed in Bombay stock exchange (BSE 500) in India. We employed panel regression model to study the relationship between stock price synchronicity both in persistence and predictability of earnings. We find statistical reliable negative association between persistence of earnings and stock price synchronicity. This evidence supports notion that more persistence earnings matters in the process of incorporating firm specific information. Our findings support prior findings conducted by Jing (2007) using USA data who find that same. However, we also find that there is no reliable relationship between predictability of earnings and stock price synchronicity. The evidence suggests that predictability of earnings do not influence firm specific information impounded into share price.

Key words: Stock price synchronicity, stock price informativeness, earnings quality, persistence and predictability of earnings.

INTRODUCTION

Stock price synchronicity is increasingly accepted in accounting research as measure of firm specific information incorporated into share price (Piotroski and Roulstone 2004; Jing, 2007; Ferreira et al. 2011). Stock price synchronicity which represents firm specific information impounded into share price is inverse measure of stock price informativeness. Evidence from prior studies such as Morck et al. (2004), Piotroski and Roulstone (2004); Jing (2007) indicates that lower stock price synchronicity indicates more informative stocks whereas higher stock price synchronicity indicates less informative stocks.

Studies have documented evidence that earnings quality (persistence and predictability) matters in influencing the process of incorporating firm specific information. For example study conducted by Jing (2007) using data from USA stock markets finds that more persistent and predictability earnings are associated with more firm specific information impounded into share. Likewise a study by Johnston (2009) reveals a negative relationship between stock price synchronicity and earnings quality measured by accrual quality.

However, Morck et al. (2000) conducted study to investigate stock price synchronicity across countries and find that stock returns are less informative in emerging countries than in developed countries. Moreover, the findings reveal that in India for example more than 65% of stock return move together with the market which indicates less firm specific information is impounded into share price. Likewise, Wurgler (2000) finds that efficiency allocation of capital across financial market is positively related to the extent of firm specific information impounded into share price. The findings suggest that investor's protection, less insider trading and less state ownership are related to more firm specific information impounded into stock prices.

There is little evidence from India to support that earnings quality improves firm specific information impounded into share price. Regulatory framework of financial reporting and capital markets, culture, and business settings of India are slightly difference from developed economies where there earnings quality matters in improving firm specific information impounded into share. Therefore we motivated to conduct country wise particularly in India to investigate the relationship between stock price synchronicity both in persistence and predictability of earnings. Specifically we examine the relation between stock price synchronicity and persistence. We also examine relationship between stock price synchronicity and predictability of earnings.

This study is important because of three major reasons. First the concurrent debate that exists on the ability of stock price synchronicity to measure firm specific information impounded into share price is far from resolved. Mixed findings have been documented by prior studies on the ability of stock price synchronicity to measure firm specific information impounded into share price some supporting (Jing 2007, Johnston 2009) others opposing (Skeife et al. 2006, Teoh, 2007). We are motivated to test the same in emerging market.

Second, little or no evidence that have been reported in India on investigating the relationship between stock price synchronicity both in persistence and predictability of earnings. More studies have done in developed economies and few in emerging markets (Jing 2007, Johnston 2009, and Teoh et al. 2007). This study offers new insight from emerging market. Third, pattern of business settings, culture, regulatory framework in India differs from developed economies make this study unique to investigate the relationship in India Therefore, this study is positioned to fill these gaps.

The paper is organized into five sections, section two evaluate literature review, section three deals with hypothesis and research design, section four discuss the findings and section five form the conclusion of this study.

LITERATURE REVIEW

Stock price synchronicity

Stock price synchronicity has long history originated from study carried by Roll (1988) who finds that large part stocks prices changes is not explained by market wide factors. He concluded that such unexplained part may represent firm private information. Subsequently, Morck et al. (2000), Piotroski and Roulstone (2004), Durnev et al. (2004) expanded the idea by developing models to capture firm specific information impounded into share price by naming it stock price synchronicity. So far, stock price synchronicity represents is a measure of firm specific information impounded into share price (Morck et al. 2000, Durnev et al. 2004, Piotroski and Roulstone 2004). It is computed as the R-square of regression firm returns on current and lagged market and industry return. Lower R-square represents more informative stocks and higher R-square represents less informative stocks. Therefore, stock price synchronicity is an inverse measure of stock price informativeness.

Persistence of Earnings

Persistence is among key earnings quality indicators that measure the quality of reported earnings. The persistence of the reported earning is measured by the sustainability of the reported earnings of entity (Penman and Zhang 2002, Francis et al. 2004). Prior studies focusing on earnings quality reveal that earnings which are more persistent are more sustainable and are of high quality, also earnings which are less persistent are more transitory and are of lower quality (Vincent 2004, and Penman and Zhang 2002). Empirically, findings suggest that investors value much more persistence earnings than less persistence earnings (Lipe 1986, and Kormendi and Lipe 1987).

Predictability

Predictability measures the ability of the reported earnings to predict future earnings or component of operating income (Lipe 1990, and Penman and Zhang 2002). More predictability ability represents high quality earnings whereas low predictability ability indicates low earnings quality. Moreover, prior studies reveal that the ability of earnings to predict future earnings is measured by the error variance of regression of current earnings per share against lagged earnings per share (Cornell and Landsman 2003 and Francis et al. 2004). So far, studies reveal inverse relationship between error variance and predictability ability whereas large error

indicates less predictability ability while low error variance indicates more predictability ability (Lipe 1990, Cornell and Landsman 2003, Francis et al. 2004).

Empirical Literature

Wurgler (2000) using data from 65 countries finds that efficiency allocation of capital in financial market is positively related to the extent of firm specific information impounded into share price. Similarly, Durnev et al. (2004) findings reveal that low stock price synchronicity is associated with efficient allocation of capital in capital markets.

Morck et al. (2000) investigate stock price synchronicity across 40 countries including India find that stock are more synchronicity in emerging market than in developed economies. However, in contrary to the conclusion drawn by Morck et al. (2000), Skeife et al. (2006) conducted across country study and find that high stock price synchronicity is associated with more informative stock prices in Germany and USA.

Gul et al. (2011) conducted country wise study in China to examine relationship between ownership and stock price synchronicity. Their findings show that stock price synchronicity decrease with increase foreign ownership. Moreover, their findings suggest that stock price synchronicity increase when large part of ownership is by government. Their findings support the use of stock price synchronicity in emerging market as measure of firm specific information impounded into share price.

Cheung et al. (2005) examine the association between free cash flow and stock price synchronicity in USA. Their findings suggest that firm with poor governance measured by free cash flow and low growth opportunities experience high stock price synchronicity. Similarly, Cheng et al. (2013) investigate the relationship between stock price informativeness and output growth in 62 emerging markets. The finding affirms that there is positive relationship between stock price informativeness and output growth in emerging economies.

Johnston (2009) conducted study in USA to investigate the relationship between stock price synchronicity and earnings quality measured by accrual quality. The finding reveals negative relationship between stock price synchronicity and accrual quality. This finding imply that firm with higher earnings quality indicated by higher accrual quality are more informative and firms with earnings quality as indicated by poor accrual quality as less informative.

Jing (2007) investigate the association between earnings quality and stock price synchronicity in USA stock markets. The finding shows that stock price synchronicity is significantly positively related to earnings quality indicators measured by predictability, persistence. Their findings imply that more persistent and predictability earnings are associated with more firm specific information impounded into share price. However, Teoh et al. (2007) conducted study to examine the relationship between earnings quality indicators and stock price

synchronicity. Their study reveals that more persistence and predictability of earnings are associated with less firm specific information impounded into share price.

The evidence presented by prior studies in this part suggests that the contemporary debate on the ability of stock price synchronicity to measure information efficiency is not yet resolved. In addition, it is also noted that studies that link persistence, predictability of earnings and stock price synchronicity are few and are based on developed economy. Therefore, unresolved debate and presence of few studies in emerging markets offers research gap for studying the relationship between stock price synchronicity and both persistence and predictability of earnings.

HYPOTHESES AND RESEARCH METHODOLOGY

Hypothesis Development

More persistence and predictability earnings are associated with more firm specific information impounded into share price (Jing 2007). In line with findings of Jing (2007), we first investigate the relationship between persistence and stock price synchronicity. Second, we also examine how predictability and stock price synchronicity are related. Therefore this lead to our two hypotheses stated in alternative form as stated below.

H_1 : Persistence earning is negatively related to stock price synchronicity.

H_2 : There is negative relationship between predictability and stock price synchronicity

Since higher predictability and persistence represents better earnings quality news, and stock price synchronicity is inverse measure of stock price informativeness. We set our hypothesis that, predictability and persistence of earnings are negatively related to stock price synchronicity. We predict negative relationship between stock price synchronicity and both predictability and persistence of earnings.

Research Design

The study employed quantitative research approach to study the relationship between stock price synchronicity and earnings quality indicators (persistent and predictability of earnings). In line with previous studies Jing (2007) and Johnston (2009) we employed panel data regression model to investigate the relationship. Furthermore, we used Stata statistical package with standard error cluster option to capture cross section and time series dependence of the variables under this study.

Data and sample selection

The data for this study is secondary data have been extracted from large sample of companies listed in BSE 500. We extracted this data from Prowess database that is maintained by the

Center for Monitoring Indian Economy. The sample period is seven year ranges from 2006 to 2012. We used rolling ten years to compute our independent variables persistence and predictability (Francis et al. 2004, Jing 2007). Therefore, our independent variables increased the sample period to 16 years spanning from 1997 to 2012.

The initial sample comprised of 500 companies listed in BSE 500, however companies with incomplete information for computing earnings quality indicators (persistence and predictability), stock price synchronicity and control variables were removed and therefore this force the sample to decline to 220 companies with a total of 1,471 firm year observation.

Dependent variable

Our dependent variable is the R-square obtained in equation one. We employed regression model similar with prior studies Piotroski and Roulstone (2004), Jing (2007) and Johnston (2009) in estimating the dependent variable.

$$RT_{j,t} = \beta_0 + \beta_1 MARKTR_{w,t} + \beta_2 MARKTR_{w,t-1} + \beta_3 INDR_{w,t} + \beta_4 INDR_{w,t-1} + w_{i,w} \quad (1)$$

Where,

$RT_{j,t}$ = Compounded return for company j for week t.

$MARKTR_{w,t}$ = Compounded weekly market return for weighted market index

$INDR_{w,t}$ = Compounded weekly return for weighted industry index

We transform our R-square to unbounded range by applying log transformation similar with prior studies Piotroski and Roulstone (2004) and Jing (2007) as given below.

$$SYNC = \text{Log}(R^2 / 1 - R^2) \quad (2)$$

Independent Variables

We estimated the value of persistence which is our independent variables as the slope (χ_1) of equation three by regressing earnings per share on lagged earnings per share (Francis et al. 2004, Jing 2007). Higher value of the slope indicates more persistence earnings which represent high quality earnings and lower value indicates less persistence earnings indicates poor earnings quality (Francis et al. 2004). We also estimated the value of predictability using

equation three as the square root of the error variance $\sqrt{\sigma_{i,t}}$, in the similar way as work of Francis et al. (2004). In line with prior studies large value of square root of error variance indicates less predictability of earnings which indicates poor earnings quality and converse is also true (Francis et al. 2004 and Jing 2007). We adopted ordering of attributes proposed by

previous studies Francis et al. (2004), and Zing (2007) by negating the value of predictability so that large value represent more predictability earnings and lower value represent less predictable earnings.

$$EPS_{i,t} = \chi_0 + \chi_1 EPS_{i,t-1} + \sigma_{i,t} \quad (3)$$

Where;

$EPS_{i,t}$ = Earnings per share for firm i at time t. and $\sigma_{i,t}$ = Error term of the equation.

Model development

We employed model similar to model used by prior studies to investigate the relationship between stock price synchronicity and both persistence and predictability of earnings (Jing 2007; Johnston 2009).

$$syn_{i,t} = \beta_0 + \beta_1 eq_{i,t} + \beta_2 res_{i,t} + \beta_3 sdra_{i,t} + \beta_4 \log mv_{i,t} + \beta_5 io_{i,t} + \beta_6 ic_{i,t} + \beta_7 nfi_{i,t} + \beta_8 fsc_{i,t} + \beta_9 reg_{i,t} + \psi_t$$

Where;

$syn_{i,t}$ = Stock price synchronicity for firm i at time t

$eq_{i,t}$ = Earnings quality for firm i at time t (persistence and predictability)

$res_{i,t}$ = Idiosyncratic risk for firm i at time t

$sdra_{i,t}$ = Standard deviation of return on asset

$\log mv_{i,t}$ = Size for firm i at time t

$io_{i,t}$ = Institutional ownership for firm i at time t

$ic_{i,t}$ = Industry concentration for industry i at time t

$nfi_{i,t}$ = Number of firms in industry at time t

$fsc_{i,t}$ = Firm specific concentration at time t

$reg_{i,t}$ = Dummy variable equal to one if firm is in banking and financial services industry, otherwise zero, ψ_t = Error term

Control Variables

Our analysis requires control variables to control for factors that may influence the results in the same way as previous studies conducted by Jing (2007) and Johnston (2009). Our study control for size by including log of market value of equity (logmv) similar with previous studies (Piotroski and Roulstone 2004, Jing 2007 and Johnston 2009). Likewise, we predict positive relationship between size and stock price synchronicity. We also control for industry concentration and firm specific concentration by including log of Herfindhal index of the industry (ic) and firm specific

herfendhal index (fsc) (Jing 2007 and Johnston 2009). We predict both industry concentration and firm specific concentration are positively related to stock price synchronicity.

Similar with prior study for example Johnston 2009, we control for ownership (io) by including log of 1 plus institutional ownership, predict negative relationship institutional ownership and stock price synchronicity. Furthermore, we follow Johnston (2009) to control for idiosyncratic volatility (res) by including the residual sum of square from equation 1. In line with Johnston (2009) with predict negative relationship between idiosyncratic volatility and stock price synchronicity.

Likewise, we control for regulated firm by including a dummy variable equal to one for regulated firms and zero for unregulated firms (reg) (Johnston 2009). We predict positive relationship regulated firms and synchronicity. Similarly, we control for volatility of firms earnings (sdroa), however we do not predict the relationship between stock price synchronicity and firm volatility (Jing 2007).

ANALYSIS & FINDINGS

Descriptive Statistics

Table 1 present descriptive statistics for variables used to study relationship between stock price synchronicity and both persistence and predictability. We used raw data with 1,471 firm year observations to compute the descriptive statistics. Our average value of persistence is 0.452 which similar value 0.482 reported by Francis et al. (2004).

The mean value of predictability is -3.176. The mean value of stock price synchronicity is -0.397 which differs from -1.644 reported by Johnston (2009). Our average value of size is 4.636 which is closer to mean value of 4.836 and 4.341 reported by Francis et al. (2004) and Jing (2007). The mean value of institutional ownership is 0.219 which do not differ much from mean value of 0.293 reported by Johnston (2009). The mean value of number of firm in industry is 3.218 which is slight lower from mean of 4.975 reported by Johnston (2009). Our industry concentration measure is 3.059 which differ to average of -3.301 reported by Johnston (2009), however the difference might be contributed by use of decimal or percentage. We use percentage to estimate industry concentration. Average firm specific concentration is 0.054 which differs from the average value of 0.898 reported by Johnston (2009). Regulated firms which include banking and financing companies make up 18.2% of the total sample.

Table1 Descriptive statistics

	N	μ	δ	ρ_{50}	Min	Max	Kurtosis	Skewness
R^2	1471	0.386	0.1802	0.383	0.018	0.887	-0.704	0.212
$syn_{i,t}$	1471	-0.397	0.5275	-0.305	-2.912	0.855	1.980	-1.0756
$pers_{i,t}$	1471	0.452	0.416	0.412	-0.253	1.257	-0.738	0.229
$pred_{i,t}$	1471	-3.176	1.388	-2.916	-6.489	-1.196	0.004	-0.761
$res_{i,t}$	1471	0.024	0.017	0.019	0.002	0.135	4.823	1.803
$sdroa_{i,t}$	1471	3.499	3.485	2.716	0.018	26.676	8.658	2.425
$\log mv_{i,t}$	1471	4.636	0.639	4.542	2.799	6.622	-0.095	0.497
$io_{i,t}$	1471	0.219	0.117	0.228	0.0002	0.632	-0.197	0.168
$ic_{i,t}$	1471	3.059	0.196	3.048	2.739	3.562	-0.890	0.179
$nfi_{i,t}$	1471	3.218	0.479	3.332	1.386	3.784	1.174	-1.197
$fsc_{i,t}$	1471	0.0539	0.078	0.0253	0.00001	0.5074	8.798	2.808
$reg_{i,t}$	1471	0.182	0.386	0	0	1	0.718	1.648

Notes: R^2 is obtained by regressing firm weekly return on current and lagged market and industry return within specified period. $syn_{i,t}$ is the transformation of R-square to form unbounded number between one and zero. $pers_{i,t}$ Stand for persistence as slope of regressing current earnings per share on lagged earnings per share, $pred_{i,t}$ predictability of earnings given by error variance of regressing current earnings per share on lagged earnings per share, other variables are control variables defined in model development section. N=number of observation, ρ_{50} =median, μ =mean, δ =standard deviation

Pairwise Correlation

Table 2 presents pairwise correlation between stock price synchronicity, predictability, persistence, and control variables. We find no statistical significance between stock price synchronicity and both persistence and predictability. Also stock price synchronicity is strongly negatively related to both idiosyncratic risk ($r=-0.099$, $p<0.05$) and standard deviation of return on asset ($r=-0.101$, $p<0.05$). As table 4-4 depict, stock price synchronicity is strongly positively correlated to size ($r=0.065$, $p<0.05$) and institutional ownership ($r=0.114$, $p<0.05$). Stock price synchronicity and industrial concentration are positively correlated ($r=0.017$). Moreover, there is strong negative correlation between number of firm in industry and synchronicity ($r=-0.065$,

$p < 0.05$). We also find strong positive association stock price synchronicity and both regulated firms ($r = 0.159$, $p < 0.05$) and firm specific concentration ($r = 0.124$, $p < 0.05$).

Table 2 Pairwise Correlation

	syn	pers	pred	res	sdaroa	Logmv	io	ic	nfi	fsc	reg
syn	1										
pers	-0.006	1									
pred	0.026	0.181*	1								
res	-0.099*	-0.016	0.071*	1							
sdaroa					-						
a	-0.101*	-0.074*	0.194*	0.109*	1						
logmv	0.065*	0.036	0.169*	0.289*	0.105*	1					
io	0.114*	0	0.077*	0.141*	0.169*	0.331*	1				
ic	0.017	-0.002	0.005	0.037	0.054*	-0.006	-0.008	1			
nfi	-0.065*	0.058*	0.011	0.047	-0.044	-0.036	0.104*	0.674*	1		
fsc	0.124*	-0.027	0.124*	0.149*	0.127*	0.515*	0.235*	0.311*	0.387*	1	
reg	0.159*	0.176*	0.052*	-0.046	0.342*	0.075*	0.206*	0.128*	0.286*	0.058*	1

Notes: The table reports the pairwise correlation among variables for the full sample. * denotes statistical significance at 5% level.

Results of tests

This part presents the results of the tests used. We checked for heteroskedasticity and multicollinearity for our independent variables using Breusch-Pagan and Cook-Weisberg test for heteroskedasticity and variance inflation factor (VIF). Table 3 presents the results of the heteroskedasticity test using Breusch-Pagan test. We reject the null hypothesis of constant variance since the p-value is less than 0.05 or the chi-square reported of 29.85/31.83 is beyond 3.84. To alleviate the problem of heteroskedasticity we used Stata statistical package with standard error robust (Thompson 2011).

Table 3, Heteroskedasticity test

Breusch-Pagan test: stock price synchronicity and persistence	Breusch-Pagan test: stock price synchronicity and predictability
Ho: Constant variance	Ho: Constant variance
Variables: pers, res, sdaroa, logmv, io, ic, nfi, fsc,reg	Variables: pred, ,res, sdaroa, logmv, io, ic, nfi, fsc, reg
chi2(9) = 29.85	chi2(9) = 31.83
Prob > chi2 = 0.0005	Prob > chi2 = 0.0002

Notes: Results of heteroskedasticity test, where pers stand for persistence and pred stand for predictability.

Moreover, table 4 reports the results of multi-collinearity test. The result reveals no evidence of problem of multi-collinearity of the independent variables since the value variance inflation factor for our variables were less than 10 (Hair, et al 1995, Gujarat 2003). We also mitigate the influence of extreme observation in regression by using deciles rank of independent variables similar with prior studies Jing (2007) and Johnston (2009).

Table 4, Multi-collinearity test using variance inflation factor

Independent variables	VIF (persistence and control variables)	VIF (predictability and control variables)
Number of firm in industry (nfi)	2.25	2.24
Industry concentration (ic)	2.01	2.01
Firm specific concentration (fsc)	1.92	1.94
Size (logmv)	1.76	1.76
Regulated firms (reg)	1.61	1.58
Firm volatility (sdaroa)	1.5	1.58
Institutional ownership (io)	1.19	1.19
Idiosyncratic risk (res)	1.16	1.16
Persistence of earnings	1.04	-
Predictability of earnings	-	1.11
Mean VIF	1.6	1.62

Notes: Results of multi-collinearity test.VIF stands for variance inflation factor.

Pooled results

Stock price synchronicity and persistence of earnings

Table 5- report the results of regression of stock price synchronicity on both persistence and predictability of the reported earnings. Model 1 reports result of the relationship between stock price synchronicity and persistence of earnings. Likewise model 2 presents result of relationship between stock price synchronicity and predictability of earnings. The results in model 1 reveal that there is significance negative ($\beta_1 = -0.078$, $p < 0.1$) relationship between stock price synchronicity and persistence of earnings.

The results support our hypothesis stated in alternative that, stock price synchronicity is negatively related to persistence of earnings. The results are similar with prior findings of Jing (2007) how find higher persistence is associated with more firm specific information impounded into share price as measured by stock price synchronicity. We find that there is no significant between stock price synchronicity and predictability of earnings as reported in model 2. This finding do not support our second hypothesis stated in alternative.

We also find that idiosyncratic is statistically significance negatively related to stock price synchronicity for both models. Moreover, we find that firm volatility is significantly related to stock price synchronicity for both models. Moreover we find that both regulated firms and measure of firm specific concentration are significantly positively related to stock price synchronicity. We also find that size is positively related to stock price synchronicity when examining synchronicity predictability relationship.

However we find no significant relationship between size and stock price synchronicity when investigating relationship between stock price synchronicity and persistence. Finally, we find that institutional ownership, industry concentration and number of firms in industry do not have significant relationship with stock price synchronicity.

Table 5: Relationship between stock price synchronicity and both persistence and predictability of earnings.

$$syn_{i,t} = \beta_0 + \beta_1 eq_{i,t} + \beta_2 res_{i,t} + \beta_3 sd roa_{i,t} + \beta_4 \log mv_{i,t} + \beta_5 io_{i,t} + \beta_6 ic_{i,t} + \beta_7 nfi_{i,t} + \beta_8 fsc_{i,t} + \beta_9 reg_{i,t} + \psi_t$$

	Model 1 (synchronicity & persistence)	Model 2 (synchronicity & predictability)
Intercept(β_0)	-0.39*** (0.00)	-0.397** (0.001)
Persistence of earnings (β_1)	-0.0782* (0.087)	
Predictability of earnings(β_1)		0.043 (0.496)
Idiosyncratic risk (β_2)	-0.273*** (0.00)	-0.391*** (0.00)
Firm volatility (β_3)	-0.121** (0.03)	-0.063 (0.363)
Size (β_4)	-0.057 (0.348)	0.183** (0.024)
Institutional ownership (β_5)	0.074 (0.136)	0.0885 (0.201)
Industry concentration (β_6)	0.035 (0.571)	0.034 (0.71)
Number of firm in industry (β_7)	0.084 (0.245)	0.114 (0.25)
Firm specific concentration (β_8)	0.157*** (0.00)	0.312** (0.001)
Regulated firms(β_9)	0.157*** (0.00)	0.177** (0.006)
R-square	0.0872	0.0815
Number of observation	1,471	1,471

Notes: This represents results of pooled OLS regression using standard error (clustered by firm and year). The values presented in parentheses represent the probability values attached to the coefficient. ***, ** and * represent levels of significance at 1%, 5% and 10% respectively according to two tailed hypotheses.

DISCUSSION OF FINDINGS

Our findings show that there is significant negative relationship between stock synchronicity and persistence of earnings. Our findings are similar with Jing (2007) who find that high earnings quality proxied by persistence are associated with lower to stock price synchronicity. Also our findings are support prior evidence of negative association between stock price synchronicity and earnings quality proxied by accrual quality. This evidence documented by this study that persistence is negatively related to synchronicity has practical benefit to analyst and other market participants. They may improve their trading approaches by focusing on persistence of the earnings as a tool to identify stock to buy, sell or hold.

We also find that there is no significant relationship between stock price synchronicity and predictability. Our findings are similar with that of Teoh et al. (2007). Our findings suggest that predictability of earnings do not influence the amount firm specific information impounded into share price. Therefore, analyst and investors should not focus much on predictability in trading; rather need to focus on earnings indicators that influence firm specific information.

CONCLUSION

Prior studies conducted in developed economies have documented the importance of improving earnings quality as means to improve firm specific information impounded into share price (Jing 2007, Johnston 2009). However, there is inadequate evidence reported in emerging on the importance of improving earnings quality so as to improve firm specific information incorporate into share. We focused on two key earnings quality indicators (persistence and predictability) and investigate the association between stock price synchronicity and both persistence and predictability of earnings using sample of companies listed in Bombay stock exchange in India. We find statistical reliable negative association between persistence of earnings and stock price synchronicity. This evidence supports notion that more persistence earnings matters in the process of incorporating firm specific information. Similarly, this findings support prior findings conducted by Jing (2007) using USA data who find that persistence is negatively related to stock price synchronicity.

However, we also find that there is no reliable relationship between predictability of earnings and stock price synchronicity. This evidence suggest that predictability of earnings measured by error variance of regressing current on lagged earnings per share do not influence firm specific information impounded into share price.

Our results are subject to some limitations. First, high persistence of earnings is not only factor that influence specific information incorporate into share price, therefore our results may be affected by other factors related firm governance and regulatory. Second, we were constrained to use eight rolling years instead of 10 rolling years in computing predictability due to data

availability prior to 1997, we therefore do not rule the influence of shorter rolling time in our results.

However, there is need to conduct further research to investigate the relationship between stock price synchronicity and earnings quality indicators. That will uncover the relationship between stock price synchronicity and earnings quality indicators.

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APPENDIX 1 Definition of Variables

Variable	Definition
$syn_{i,t}$	Stock price synchronicity given by R-square of regressing current return on current and lagged market and industry return.
$pers_{i,t}$	Persistence of earnings given by the slope of regression of current Earnings per share on lagged earnings per share.
$pred_{i,t}$	Predictability of earnings is obtained as error variance of regressing current earnings per share on lagged earnings per share.
$sdroa_{i,t}$	Firm volatility given by rolling ten year standard deviation of return on asset.
$logmv_{i,t}$	Size given as log of market value of equity.
$io_{i,t}$	It is institutional ownership given as log (1+institutional ownership)
$ic_{i,t}$	Industry concentration given by $\log(\sum_1^n si^2)$ Where $si = FS / IS$ FS=firms sales and IS=industry sales
$nfi_{i,t}$	Number of firm in industry given by log(number of firm in industry)
$fsc_{i,t}$	Firm specific concentration given by $\log(si^2)$
$reg_{i,t}$	Dummy variable equal to one if firm is in banking and financial services industry, otherwise zero.