

Overnight Stock Returns and Time-Varying Correlations

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Abstract

Time-varying correlation of the stock market returns across countries in the context of international investments has been well researched in the literature in last few years. It has also been recognized that there is “volatility effect in correlation”, as the stock return correlations tend to rise on high-volatility days. Recent research has however, highlighted the pitfalls of using sample correlation for comparison, particularly when the conditional volatility across samples is not same. It has been shown that the sample correlation of two independent random variables is expected to rise when the conditional volatility of the variables is high and vice-versa, even if the unconditional correlation between them is constant. Empirically, it has been long well known that the overnight (closed-market) stock returns are less volatile than the open-market returns. Making use of this regularity, we test whether the stock returns correlation are higher during trading or non-trading hours. Using five years’ daily returns of 30 constituent stocks of Sensitive Index (Sensex) of The Stock Exchange, Mumbai, we find that almost all the pair-wise closed market stock return correlations are higher than the open market correlations despite lower volatility of the closed market returns. These results are further reinforced after using the univariate and bivariate conditional volatility models. Higher closed market stock return correlations are consistent with the possibility that information, which arrives during non-trading, is more on common factors. Arrival of information on common factors would imply higher stock return correlations during non-trading hours. This has implication for managing risks associated with any stock portfolio, as the diversification benefits might be over-estimated for overnight positions and under-estimated during trading hours if daily close-to-close returns are used to estimate variance-covariance matrix.

1. Introduction

The Volatility and Correlation of stock returns are important to the researchers and the practitioners alike. They are used in portfolio selection, hedging, derivative valuation and in computing value at risk. After the stock market crash of October 1987 in the US and its impact on the markets world over, there has been questioning of the extent of benefits associated with *international diversification*. If the correlation computed historically were to breakdown, the so-called *correlation breakdown*, it raises the question of usefulness of diversification. Erb, Harvey and Viskanta (1994), Longin and Solnik (1995), and Karolyi and Stulz (1996) have shown that the correlations between the returns on national stock market indices vary with time according to the phases of the business cycle. Even casual observations suggest that the correlations between returns on financial assets tend to increase in periods of heightened market volatility casting doubts on the usefulness of diversification and the validity of use of correlations computed from historical returns. This phenomenon has also been termed “volatility effect in correlation” (Andersen et al. 1999). Recently, Boyer, Gibson and Loretan (1999), using probability theory, have however shown that the sample or conditional correlation between any two random variables is expected to go up if the conditional volatility¹ of random variables rises even if the underlying process² generating those random variables remains same. Their result implies that the observed higher return correlations during the periods of high volatility are theoretically consistent with an unchanging return generating process and constant unconditional correlations. The correlations of asset returns computed for a sample drawn from a volatile period are accordingly expected to be higher than true unconditional correlations and vice-versa.

In this paper, we use the results obtained by Boyer, Gibson and Loretan (1999) to test whether the stock returns are generated by a single process covering both trading and non-trading hours. Since the overnight return volatility of the stocks has been found to be substantially less than the open-market return volatility, we rely on this empirical regularity³ to check whether the conditional correlations of stock returns are higher during trading hours or not. In order to explain this regularity, French and Roll (1986) tested three alternative hypotheses that could explain substantially higher return variance during trading hours. The first of these is that the arrival of more public information during the trading hours could induce higher volatility. Alternatively, more private information arrives and gets assimilated during the trading hours causing higher volatility. Lastly, the observed higher volatility during trading hours could simply be due to noise in prices/mis-pricing during trading. French and Roll study concludes that most of the increase in volatility during trading hours is mostly

¹ Besides time-varying correlations, time-varying volatility of stock returns has been well documented empirically after the pioneering work of Engle (1982) on “Conditional Volatility”. The initial ARCH model of Engle was later generalized by Bollerslev (1986) and various forms of GARCH models have since been used to model and forecast volatility.

² Usually, the assumption is that continuously compounded stock returns are *multivariate normally* distributed. Even though departures of the stock returns from the assumption of multivariate normal distribution have been overwhelmingly recorded, the use of linear correlation has been remained popular. Existence of correlation requires *joint stationarity* of the random variables.

³ Noted by Fama (1965) and French and Roll (1986). Others include Granger and Morgenstern (1970), and Oldfield and Rogalski (1980)

due to increase in arrival and assimilation of private information during trading hours. Since the French and Roll study, it is an accepted stylized fact in the literature that trading drives stock market volatility.

The result of Boyer, Gibson and Loretan (1999) has an interesting empirical testable implication for the correlations of overnight stock returns. Their result implies that the conditional correlations of the stock returns during non-trading hours should be lower than the conditional correlations of the returns during trading hour. Alternatively however, it can be argued that the overnight information, which manifests itself in the form of close-to-open returns, is predominantly macroeconomic in nature and is more public. If this is true, then the return correlations across stocks could possibly be higher during non-trading hours. Intuitively, since the private information is likely to be more firm-specific and is likely to come in play during trading hours, the return correlations among stocks could possibly be lower trading hours than during non-trading hours when the information is more likely to be macro. Unfortunately, literature has not focussed on the intraday stock return correlations as much as it has on the intraday variance or volatility. In this paper, we report an empirical comparison of the stock return correlations during trading and non-trading hours with a view to test the implication of Boyer, Gibson and Loretan theorem. Our results indicate that almost all the overnight correlations are higher than during trading hours despite lower volatility of the overnight returns across stocks. Further, when the total sample is sub-divided into two sets of returns based on volatility of the market, the overnight as well as open-market stock return correlations are in line with the argument put forward by Boyer et al. Since the volatility and correlation could be time varying, we also use univariate and bivariate conditional volatility models to test the robustness of these results. Results from conditional volatility models also support the results obtained from much simpler unconditional volatility and correlation estimates. Our results indicate that the overnight stock return correlations are fundamentally different from the open-market stock return correlations. Besides understanding the intraday stock price behavior and the volatility-correlation dynamics, any change in the conditional correlations of stock returns is also important in managing risks associated with stock portfolios. The variance-covariance matrices estimated using daily close-to-close returns might not correctly capture the risks involved in case the conditional correlations do undergo change.

This paper is organized as follows. In the next section of this paper, we briefly review the empirical research on time-varying correlations, the theorem due to Boyer, Gibson and Loretan (1999) and link it with the empirical regularity of lower overnight return volatility. In section 3, we report our empirical results. Finally, we conclude in section 4 by summarizing our results.

2. Conditional Correlation and Volatility

Time-varying volatility of stock returns has been widely documented since the pioneering work of Fama (1965) and has been extensively modeled since Engle (1982) and Bollerslev (1986). Besides time-varying volatility and other departures from the assumption of returns being normally distributed, the changes in the correlations of asset returns have also been documented. Longin and Solink (1995), using monthly returns of seven national

stock markets over the period 1960-1990, found that the covariance and correlations matrices vary over different periods. They reject the hypothesis of constant conditional correlations and report that the international correlations have increased and that correlations increase with the increase in volatility. Erb, Harvey and Viskanta (1994) have shown that the international correlations of stock returns tend to vary with the phases of the business cycle. In particular, they report higher correlations during recessions than during periods of growth. Similarly, Karolyi and Stulz (1996) have reported time-varying correlation between the US and Japan stock returns. Other studies by Hamao, Masulis and Ng (1990) and Lin, Engle and Ito (1994) have also reported that correlation among asset returns tend to be high when volatility is high. Even though some of the earlier (and later as well) studies⁴ have not found any evidence of changing correlations in the international investment context, the changing correlations of asset returns has been observed by others within a market. Andersen et al. (1999) termed it as “volatility effect in correlation”. Recently, Boyer, Gibson and Loretan (1999) provided the proof that the probability theory implies that the conditional correlations would rise with increase in the conditional volatility of the asset returns. The theorem provided by them is as follows-

Let us consider a pair of i.i.d. bivariate normal random variables x and y with standard deviation σ_x and σ_y respectively, and covariance σ_{xy} . Let ρ ($=\sigma_{xy}/(\sigma_x\sigma_y)$) be the unconditional correlation between x and y . According to the theorem, the correlation between x and y conditional on an event $x \in \mathcal{A}$, for any $\mathcal{A} \subset \mathbb{R}$ with $0 < \text{Prob}(\mathcal{A}) < 1$, is given by-

$$\rho_{\mathcal{A}} = \rho \left[\rho^2 + (1-\rho^2) * \sigma_x^2 / \text{Var}(x | x \in \mathcal{A}) \right]^{-1/2}$$

The implications of this theorem for the correlation of asset returns are straightforward. First, the conditional correlation is expected to rise with increase in the conditional volatility. Secondly, the proportionate rise in conditional correlation is more if the unconditional correlation is low. Boyer, Gibson and Loretan pointed out the flaw of comparing conditional correlations computed over a sample of high-volatility period for comparison with out-of-sample return correlations computed over the periods of low-volatility. They argued that for the valid test⁵ of time-varying correlations, it is imperative to use data-coherent model of return generating process with possibility of structural change built into the model. Loretan and English (2000a, 2000b), using three pairs of asset returns, show that much of the observed movement of correlations in time can be explained by this theoretical relationship.

Juxtaposing this result with the empirical regularity that overnight stock returns tend to be substantially less volatile than the trading hour or open market returns, leads to an interesting implication. If the conditional

⁴ There are studies, which have found no significant presence of time-varying correlations and others, which report time-varying correlations. All the studies referred to are based on different asset markets in the international context. Detailed review and critique of this stream of literature is outside the scope of this paper except for the fact that this stream of literature has focussed on time-varying correlations across asset markets.

⁵ Longin and Solnik (1995) and Karolyi and Stulz (1996) studies are cited as employing valid tests of time-varying correlations.

volatility of the overnight returns is lower than during trading hours, then the result of Boyer, Gibson and Loretan implies that the conditional correlations (or observed overnight sample stock correlations) during non-trading hours would be less than the conditional correlations during trading hours. In an early and pioneering work on stock returns, Fama (1965) has empirically noted that overnight return volatility is less than the open-market return volatility. French and Roll (1986) analyzed the stock returns and tested alternative hypotheses offering potential explanations for this phenomenon. The three competing hypotheses explaining higher volatility during trading hours tested by them were- (a) Increase in production, arrival and assimilation of public information during trading hours, (b) Increase in private information production and arrival, and (c) Noise induced by trading. They concluded that higher volatility during trading hours is possibly due to increased arrival and assimilation of private information brought into the market by the traders. Since then, it is a stylized fact in the literature that trading drives volatility.

Extending the argument further, if the character of information during non-trading hours is more public or is related to common factors (more macroeconomic in character) affecting the stock returns, then the stock return correlations during non-trading hours are expected to be higher despite lower observed volatility of overnight returns. In this view, predominantly information on *common factors* drives the volatility of overnight returns as opposed to information on *firm-specific or idiosyncratic factors*, which is hypothesized as the main driver of open-market returns. It is quite likely that the former is more in public domain than latter. If this view were correct, then as stated earlier, the observed correlations of closed market stock returns would be higher and in the direction opposite to that of result obtained by Boyer et al. Unfortunately, the literature has not focussed on the overnight return correlations as much as it has on the time-varying volatility, the volatility dynamics and the time-varying correlations across markets. In this paper, we report our analysis of comparison of the overnight stock return correlations with that of the open-market correlations to directly test whether the overnight returns are more due to common factors as compared to trading hour returns. Specifically, higher overnight return correlations across stocks would support the hypothesis that overnight returns are driven by the information on common factors. On the other hand, lower or similar correlations would be consistent with the result obtained by Boyer, Gibson and Loretan, and constant conditional correlation model⁶ respectively.

3. Empirical Results

3.1 The Data

In order to test the implication of Boyer, Gibson and Loretan theorem on conditional correlations of overnight returns, we use data set of daily prices of 30 constituent stocks of the sensitive index of The Stock Exchange,

⁶ For modeling time-varying volatility, one of the simplest versions of multivariate GARCH model is Constant Conditional Correlation (CCC) model, due to Bollerslev (1990). It is popular as it ensures positive definite conditional covariance matrix and is computationally simple. There are other multivariate GARCH specifications such as BEKK model (Baba, Engle, Kraft and Kroner 1991) and Factor model (Engle, Ng, Rothschild 1990), which do not assume constant conditional correlation.

Mumbai. The sensitive index, also known as Sensex, is a popular value-weighted index of 30 large capitalization and liquid stocks. Though the constituents of the index have changed periodically, we use 30 stocks, which are its constituents as at the end of April 2002, except for one stock, i.e., HCL Technologies Ltd. We use NIIT instead, which was replaced by HCL in the beginning of 2002. The reason for the change was that HCL was listed only for a part of the five-year period, 1997-2001, over which we compare the correlations. We use adjusted daily price time-series of PROWESS; a database of firms compiled by Centre for Monitoring Indian Economy (CMIE), Mumbai. In a very few cases, the stocks were not traded on a particular day. We treat such cases as the missing data.

Table 1 reports the computed close-to-open (overnight) return and the open-to-close (trading hours) return volatility. As noted by earlier works on intraday stock price behavior, we find that the average return volatility is about 2.1 times higher during trading hours. For all the stocks, the volatility is higher during the trading hours and it varies from 1.71 times in case of Cipla to 2.60 times in case of ACC.

Insert Table 1 about here.

3.2 Unconditional Volatility and Correlations

3.2.1 The results on Overnight Correlations

Since the return volatility of all the stocks was considerably lower for overnight returns, we compute and compare return correlations for overnight and trading hours periods pair-wise for all the 30 stocks. Table 2 shows this comparison. Besides the open-to-close and close-to-open return correlations, the magnitude of latter in terms of number of times of the former is also shown. Of 435 pair-wise correlations of 30 stock returns, only in 10 instances the computed open-market return correlations are greater than their overnight counterparts. Even in these 10 cases, about half of the cases are such that both the overnight and open-market correlations are very similar ($\rho_{\text{close}} < \rho_{\text{open}} < 1.05 \text{ times } \rho_{\text{close}}$). Given the lower volatility of overnight returns, lower overnight correlations would not have been surprising in line with the result shown by Boyer et al. However, the average open-market correlations are only about 2/3rd of the overnight correlations despite the open-market volatility being about 2.1 times that of the overnight returns volatility. Based on average open-market correlations of 0.3, the overnight return correlations should have been about half of the open-market correlations, whereas they are about 1.5 times.

Insert Table 2 about here.

3.2.2 The results on Correlations during High-Volatility vs. Low-Volatility Periods

In order to test whether the conditional correlations increase during the period of high-volatility; we subdivide the sample returns into two using the squared close-to-close daily return of the sensitive index for ordering the data set. Each subset consists of 617 open market and overnight returns, except for missing data in few cases due to non-trading. The open market and the overnight correlations for low-volatility and high-volatility subsets are reported in Table 3. Of 435 pair-wise correlations, only one overnight correlation computed using data from high-volatility subset is slightly less than (0.97 times) computed from low-volatility subset of the data. On an average, the overnight correlations are about 1.67 times higher in the high volatility periods as compared to the low volatility periods. This empirical result is in line with the theory. The results on open-market correlations are similar with only two computed correlations being lower in the higher volatility data subset. What is interesting however, is that the increase in correlations in the high-volatility data subset is much more variable across pairs. In some cases, the open-market correlations are negative or close to zero and become significant and substantially high with increase in volatility. Even though open-market correlations are expected to rise proportionately more, the “volatility effect in correlation” seems to affect open-market correlations much more (beyond theoretically expected) than overnight correlations. An alternative explanation would be that the open-market stock return correlations are more affected by the trading induced noise.

Insert Table 3 about here.

These results indicate that the overnight correlations of stock returns in comparison with the open-market return correlations are much higher than what would be implied by a constant return generating process. The observed weaker correlations during the trading hours are consistent with the French and Roll (1986) finding that the return volatility during trading hours is caused by private information. If the private information is more related to firm-specific or idiosyncratic factors, then the correlations during trading hours are expected to be lower, particularly if the information flow overnight is more on common factors affecting the stock prices and hence returns. Both the computed open-market correlations and overnight correlations change expectedly with change in volatility, but seem to be generated by different return generating process. We also find that the change in volatility affects the open-market correlations much more than the overnight return correlations. This is also consistent with the hypothesis that overnight returns are driven mainly by information on common factors.

3.3 Conditional Volatility and Correlations

3.3.1 Volatility Differences during Trading and Non-trading Periods: Univariate GARCH Model

Starting with Mandelbrot (1963) and Fama (1965), it has been widely documented that volatility is time varying and is clustered in time. In order to test whether the conditional volatility is systematically different during trading hours from non-trading hours, we construct a time-series of daily closed-market returns and open-

market returns⁷. We use GARCH (1,1) model specifications to model the time varying volatility of returns using following specification for variance equation -

$$\sigma_t^2 = \omega + \alpha \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2 + \gamma \text{DUM}$$

where,

$\omega, \alpha, \beta, \gamma$ are parameters to be estimated, and
DUM is a dummy variable, which takes a value of 1 for closed-market returns (Non-trading hours or close-to-open returns) and 0 for open-market returns.

In case the conditional volatility of closed-market returns is significantly different and lower, we would expect the coefficient γ to be negative and significant. Since the estimation procedure for conditional volatility models requires continuous data (time-series), we dropped 3 out of 30 stocks (Zee Telefilm, Hero Honda & NIIT), as these stocks did not trade on more than 2 days during the sample period. The estimated parameters of variance equation are reported in Table 4. As expected, the coefficient associated with dummy variable (γ) is negative for all the 27 stocks. Except for Telco, these coefficients are also significant⁸ for remaining 26 stocks. These results confirm that the conditional volatility of closed-market returns is significantly lower than the open-market returns.

Insert Table 4 about here.

3.3.2 Conditional Correlation during Trading and Non-trading Periods: Bivariate BEKK Model

In order to incorporate the time varying characteristics of volatility and correlations while testing for any significant difference in the correlations of stock returns during trading and non-trading periods, we use bivariate GARCH model on the time-series of closed-market returns and open-market returns separately⁹. For estimation, we use restricted version of bivariate BEKK model proposed by Engle and Kroner (1995) available on EViews software. After estimating the model, we compute the conditional correlations of open-market and closed-market return correlations using estimated variance-covariance matrix. Pair-wise average conditional correlation and their standard deviation is reported in Table 5 for 71 such pairs (out of 325 possible pairs from 26 stocks, excluding Telco¹⁰, Zee Telefilms, Hero Honda and NIIT). Even though conditional correlations are at times lower for closed-market returns than the open-market counterparts, the average conditional correlations are much higher for closed-market returns as is evident from the table. Except for one out of 71

⁷ Normally, daily close-to-close returns are used for modeling time varying volatility. Since our objective is to find out the differences in the characteristics of close-to-open (closed-market) returns and open-to-close (open-market) returns, we use time-series consisting of both returns.

⁸ The z-statistic reported in Table 4 are based on robust standard errors and do not assume error term to be conditionally normally distributed.

⁹ Unlike univariate model estimation, where we use combined time-series of closed and open-market returns; here we use separate time-series of open-market and closed-market returns for ease of estimation.

¹⁰ Telco has to be excluded, as the bivariate model using its time-series didn't converge with most of the other stocks. The other three stocks were excluded due to non-trading days.

pair, the correlations of closed-market returns are higher in all other cases. Even in that one case of L&T-ACC stock returns, the correlation of open-market returns is just about slightly higher than the closed-market return correlation (0.5985, as compared to 0.5905). Moreover, the standard deviation of the conditional correlations of closed-market returns is lower than the standard deviation of conditional correlation of open-market returns across pairs.

Insert Table 5 about here.

To sum up, our results indicate that the conditional stock return correlations tend to be higher during non-trading hours than during trading hours. Further, the closed-market or overnight return correlations are more stable than the correlations during market hours. This is consistent with the hypothesis that the information arrival overnight is mainly on common factors, which drives closed-market return process.

4. Conclusions and Implications

While time-varying correlations of asset returns across markets have seen voluminous research, relatively little attention has been given to the dynamics of stock return correlations within a market. Even though “volatility effect in correlation” and “substantial proportion of overall returns volatility being concentrated during trading hours” are known phenomena, any systematic change in correlations between the trading and the non-trading hours has not been well documented. Any such change, if persistent, warrants incorporating such a change in various practical applications using asset return correlations. Models such as VaR, based on daily close-to-close return volatility and correlations might be inappropriate for managing risks associated with overnight positions if the correlation of asset returns are different and higher, when the markets are closed. Motivated by the well-documented empirical regularity of overnight returns being less volatile and a recent result that the conditional correlations are expected to increase in periods of higher conditional volatility, we empirically compared the overnight stock correlations with their open-market counterparts. Our results overwhelmingly indicate that instead of theoretically expected lower correlations, the overnight stock return correlations are much higher than their open-market counterparts.

Besides the practical implications, the changing stock return correlations also shed some light on the “price discovery process” as well. Increase in the overnight return correlations, for example, is consistent with the possibility of overnight return being caused more by the information on the common factors affecting the stock prices and returns. Lower trading hours correlations, on the other hand, are consistent with the possibility that the information during trading hours is predominantly firm specific. While both the overnight and open market sample correlations do increase with the increase in volatility, as is theoretically expected, the open-market correlations seem to be more sensitive to changes in volatility. This effect needs to be empirically investigated further.

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**Table 1: Open-to-Close (Trading hours) and Close-to-Open (Non-trading hours)
Returns Volatility of The Sensitive Index Stocks**

Based on daily prices between 1st Jan'1997- 31st Dec'2001

Stock	Open-to-Close Volatility* (σ_{op})	Close-to-Open Volatility* (σ_{cl})	σ_{op}/σ_{cl}
HLL	2.224%	0.990%	2.25
Reliance	2.696%	1.087%	2.48
Infosys	3.436%	1.968%	1.75
L&T	3.031%	1.215%	2.49
Telco	3.430%	1.747%	1.96
Tisco	2.891%	1.247%	2.32
ACC	3.395%	1.304%	2.60
Bajaj Auto	2.337%	1.158%	2.02
ITC	2.772%	1.163%	2.38
Zee Tele	4.536%	2.347%	1.93
SBI	2.730%	1.162%	2.35
MTNL	3.069%	1.390%	2.21
Ranbaxy	2.715%	1.277%	2.13
Colgate	2.335%	1.232%	1.90
Nestle	2.328%	1.234%	1.89
Glaxo	2.606%	1.242%	2.10
Cipla	2.838%	1.657%	1.71
Satyam	4.420%	1.934%	2.29
BHEL	3.261%	1.371%	2.38
BSES	2.819%	1.350%	2.09
Guj.Ambuja	2.896%	1.449%	2.00
Grasim	3.221%	1.568%	2.05
Hero Honda	2.925%	1.650%	1.77
Hindalco	2.499%	1.381%	1.81
HPCL	3.107%	1.468%	2.12
RPL	2.693%	1.558%	1.73
Dr Reddy	3.039%	1.534%	1.98
Castrol	2.239%	1.240%	1.81
ICICI	3.513%	1.743%	2.02
NIIT	4.068%	1.843%	2.21
Average of σ_{op}/σ_{cl}			2.09

* Volatility reported in this table is not annualized.

Table 2: Open-Market Stock Return Correlations vs. Overnight Return Correlations

Based on daily prices between 1st Jan'1997- 31st Dec'2001

Stocks	ρ_{op}^*	ρ_{cl}^{ϕ}	ρ_{op}/ρ_{cl}	Stocks	ρ_{op}	ρ_{cl}	ρ_{op}/ρ_{cl}
NIIT-HLL	0.1390	0.4209	0.33	ICICI-Hero Honda	0.2123	0.3347	0.63
NIIT-Reliance	0.2661	0.4590	0.58	ICICI-Hindalco	0.2083	0.3530	0.59
NIIT-Infosys	0.4391	0.4909	0.89	ICICI-HPCL	0.2221	0.3929	0.57
NIIT-L&T	0.2738	0.4642	0.59	ICICI-RPL	0.2946	0.3849	0.77
NIIT-Telco	0.2398	0.3620	0.66	ICICI-Dr Reddy	0.2374	0.4093	0.58
NIIT-Tisco	0.2367	0.4698	0.50	ICICI-Castrol	0.2625	0.3689	0.71
NIIT-ACC	0.2217	0.4254	0.52	Castrol-HLL	0.2448	0.3493	0.70
NIIT-Bajaj Auto	0.1789	0.3545	0.50	Castrol-Reliance	0.2848	0.4191	0.68
NIIT-ITC	0.2159	0.4147	0.52	Castrol-Infosys	0.2196	0.2358	0.93
NIIT-Zee Tele	0.3080	0.4832	0.64	Castrol-L&T	0.3045	0.3765	0.81
NIIT-SBI	0.2873	0.4681	0.61	Castrol-Telco	0.2823	0.2781	1.02
NIIT-MTNL	0.2322	0.4452	0.52	Castrol-Tisco	0.3068	0.4264	0.72
NIIT-Ranbaxy	0.1980	0.4149	0.48	Castrol-ACC	0.2907	0.3785	0.77
NIIT-Colgate	0.1910	0.3493	0.55	Castrol-Bajaj Auto	0.2534	0.3318	0.76
NIIT-Nestle	0.1157	0.3213	0.36	Castrol-ITC	0.3119	0.3282	0.95
NIIT-Glaxo	0.2284	0.4230	0.54	Castrol-Zee Tele	0.2256	0.2911	0.77
NIIT-Cipla	0.2141	0.3423	0.63	Castrol-SBI	0.3432	0.4319	0.79
NIIT-Satyam	0.4479	0.5583	0.80	Castrol-MTNL	0.2512	0.3565	0.70
NIIT-BHEL	0.2262	0.4345	0.52	Castrol-Ranbaxy	0.1455	0.3230	0.45
NIIT-BSES	0.2208	0.3843	0.57	Castrol-Colgate	0.3567	0.3924	0.91
NIIT-Guj.Ambuja	0.1740	0.3944	0.44	Castrol-Nestle	0.3266	0.3317	0.98
NIIT-Grasim	0.1696	0.3744	0.45	Castrol-Glaxo	0.2408	0.3368	0.71
NIIT-Hero Honda	0.1525	0.2978	0.51	Castrol-Cipla	0.1631	0.2971	0.55
NIIT-Hindalco	0.1246	0.3432	0.36	Castrol-Satyam	0.3045	0.3274	0.93
NIIT-HPCL	0.1560	0.4221	0.37	Castrol-BHEL	0.2850	0.3382	0.84
NIIT-RPL	0.2176	0.4111	0.53	Castrol-BSES	0.2755	0.3423	0.81
NIIT-Dr Reddy	0.2351	0.3929	0.60	Castrol-Guj.Ambuja	0.2505	0.3953	0.63
NIIT-Castrol	0.1931	0.3180	0.61	Castrol-Grasim	0.2273	0.3050	0.75
NIIT-ICICI	0.2098	0.3824	0.55	Castrol-Hero Honda	0.2027	0.2594	0.78
ICICI-HLL	0.2070	0.4212	0.49	Castrol-Hindalco	0.1817	0.2947	0.62
ICICI-Reliance	0.3150	0.4573	0.69	Castrol-HPCL	0.1569	0.3362	0.47
ICICI-Infosys	0.2348	0.3431	0.68	Castrol-RPL	0.2206	0.3747	0.59
ICICI-L&T	0.3440	0.5000	0.69	Castrol-Dr Reddy	0.1941	0.3886	0.50
ICICI-Telco	0.2693	0.3273	0.82	Dr.Reddy-HLL	0.2493	0.4211	0.59
ICICI-Tisco	0.3592	0.4180	0.86	Dr.Reddy-Reliance	0.2876	0.4592	0.63
ICICI-ACC	0.3359	0.4363	0.77	Dr.Reddy-Infosys	0.2503	0.3760	0.67
ICICI-Bajaj Auto	0.2034	0.3532	0.58	Dr.Reddy-L&T	0.3473	0.4478	0.78
ICICI-ITC	0.2417	0.3886	0.62	Dr.Reddy-Telco	0.2353	0.3319	0.71
ICICI-Zee Tele	0.2267	0.3855	0.59	Dr.Reddy-Tisco	0.3191	0.4679	0.68
ICICI-SBI	0.3384	0.4557	0.74	Dr.Reddy-ACC	0.3418	0.4181	0.82
ICICI-MTNL	0.3144	0.5005	0.63	Dr.Reddy-Bajaj Auto	0.2568	0.3773	0.68
ICICI-Ranbaxy	0.1964	0.3935	0.50	Dr.Reddy-ITC	0.3350	0.3684	0.91
ICICI-Colgate	0.3026	0.4317	0.70	Dr.Reddy-Zee Tele	0.2437	0.3886	0.63
ICICI-Nestle	0.1961	0.3426	0.57	Dr.Reddy-SBI	0.3077	0.4409	0.70
ICICI-Glaxo	0.2578	0.4182	0.62	Dr.Reddy-MTNL	0.2814	0.4416	0.64
ICICI-Cipla	0.1684	0.3344	0.50	Dr.Reddy-Ranbaxy	0.3843	0.4336	0.89
ICICI-Satyam	0.2969	0.4201	0.71	Dr.Reddy-Colgate	0.3149	0.3920	0.80
ICICI-BHEL	0.3466	0.4068	0.85	Dr.Reddy-Nestle	0.2309	0.3865	0.60
ICICI-BSES	0.2951	0.4207	0.70	Dr.Reddy-Glaxo	0.3738	0.4742	0.79
ICICI-Guj.Ambuja	0.2846	0.4501	0.63	Dr.Reddy-Cipla	0.3358	0.3460	0.97
ICICI-Grasim	0.2299	0.3288	0.70	Dr.Reddy-Satyam	0.2788	0.4680	0.60

* Correlation of returns during trading-hours

ϕ Correlation of overnight returns

ϕ

Stocks	ρ_o	ρ_c	ρ_o/ρ_c	Stocks	ρ_o	ρ_c	ρ_o/ρ_c
Dr.Reddy-BHEL	0.3114	0.4460	0.70	HPCL-BHEL	0.3198	0.4871	0.66
Dr.Reddy-BSES	0.2366	0.3940	0.60	HPCL-BSES	0.2533	0.4430	0.57
Dr.Reddy-Guj.Ambuja	0.2751	0.4172	0.66	HPCL-Guj.Ambuja	0.2491	0.4297	0.58
Dr.Reddy-Grasim	0.1728	0.3523	0.49	HPCL-Grasim	0.2369	0.4133	0.57
Dr.Reddy-Hero Honda	0.1588	0.3587	0.44	HPCL-Hero Honda	0.1072	0.3156	0.34
Dr.Reddy-Hindalco	0.1902	0.3955	0.48	HPCL-Hindalco	0.2365	0.3817	0.62
Dr.Reddy-HPCL	0.1857	0.3363	0.55	Hindalco-HLL	0.2174	0.3997	0.54
Dr.Reddy-RPL	0.2595	0.3663	0.71	Hindalco-Reliance	0.2791	0.4377	0.64
RPL-HLL	0.2343	0.4309	0.54	Hindalco-Infosys	0.1580	0.3199	0.49
RPL-Reliance	0.4843	0.5216	0.93	Hindalco-I&T	0.2759	0.3872	0.71
RPL-Infosys	0.2649	0.3526	0.75	Hindalco-Telco	0.2173	0.2621	0.83
RPL-I&T	0.3556	0.5106	0.70	Hindalco-Tisco	0.2712	0.4241	0.64
RPL-Telco	0.3096	0.3515	0.88	Hindalco-ACC	0.2404	0.4140	0.58
RPL-Tisco	0.4165	0.5180	0.80	Hindalco-Bajaj Auto	0.2085	0.3896	0.54
RPL-ACC	0.3878	0.4492	0.86	Hindalco-ITC	0.2608	0.3626	0.72
RPL-Bajaj Auto	0.2284	0.3833	0.60	Hindalco-Zee Tele	0.1423	0.3826	0.37
RPL-ITC	0.2777	0.4111	0.68	Hindalco-SBI	0.2391	0.4031	0.59
RPL-Zee Tele	0.2055	0.3901	0.53	Hindalco-MTNL	0.2544	0.3709	0.69
RPL-SBI	0.3705	0.4914	0.75	Hindalco-Ranbaxy	0.1788	0.4058	0.44
RPL-MTNL	0.3220	0.4694	0.69	Hindalco-Colgate	0.2703	0.4244	0.64
RPL-Ranbaxy	0.2196	0.3859	0.57	Hindalco-Nestle	0.2365	0.3980	0.59
RPL-Colgate	0.2406	0.4413	0.55	Hindalco-Glaxo	0.2070	0.4156	0.50
RPL-Nestle	0.2110	0.3475	0.61	Hindalco-Cipla	0.1697	0.3683	0.46
RPL-Glaxo	0.2731	0.4133	0.66	Hindalco-Satyam	0.1617	0.3495	0.46
RPL-Cipla	0.2166	0.3514	0.62	Hindalco-BHEL	0.2144	0.4024	0.53
RPL-Satyam	0.2885	0.4307	0.67	Hindalco-BSES	0.2223	0.3953	0.56
RPL-BHEL	0.2921	0.4380	0.67	Hindalco-Guj.Ambuja	0.2452	0.4259	0.58
RPL-BSES	0.3295	0.4616	0.71	Hindalco-Grasim	0.2040	0.3658	0.56
RPL-Guj.Ambuja	0.2571	0.4098	0.63	Hindalco-Hero Honda	0.1121	0.3254	0.34
RPL-Grasim	0.2560	0.4164	0.61	Hero Honda-HLL	0.1714	0.2958	0.58
RPL-Hero Honda	0.1564	0.3277	0.48	H.Honda-Reliance	0.1979	0.3835	0.52
RPL-Hindalco	0.1964	0.3684	0.53	H.Honda-Infosys	0.1192	0.2944	0.41
RPL-HPCL	0.2474	0.3793	0.65	H.Honda-I&T	0.2371	0.3006	0.79
HPCL-HLL	0.2045	0.3833	0.53	H.Honda-Telco	0.2274	0.2819	0.81
HPCL-Reliance	0.2831	0.4541	0.62	H.Honda-Tisco	0.1963	0.3174	0.62
HPCL-Infosys	0.1371	0.3311	0.41	H.Honda-ACC	0.1865	0.3613	0.52
HPCL-I&T	0.3108	0.4787	0.65	H.Honda-Bajaj Auto	0.1823	0.2617	0.70
HPCL-Telco	0.2350	0.3478	0.68	H.Honda-ITC	0.2148	0.3000	0.72
HPCL-Tisco	0.3260	0.4867	0.67	H.Honda-Zee Tele	0.1064	0.3483	0.31
HPCL-ACC	0.3003	0.4641	0.65	H.Honda-SBI	0.2311	0.3612	0.64
HPCL-Bajaj Auto	0.2139	0.3862	0.55	H.Honda-MTNL	0.1828	0.3590	0.51
HPCL-ITC	0.2234	0.3850	0.58	H.Honda-Ranbaxy	0.1431	0.3232	0.44
HPCL-Zee Tele	0.1528	0.4065	0.38	H.Honda-Colgate	0.1992	0.3651	0.55
HPCL-SBI	0.2705	0.4674	0.58	H.Honda-Nestle	0.2245	0.3046	0.74
HPCL-MTNL	0.3283	0.4637	0.71	H.Honda-Glaxo	0.2025	0.3482	0.58
HPCL-Ranbaxy	0.2180	0.4335	0.50	H.Honda-Cipla	0.1625	0.2576	0.63
HPCL-Colgate	0.2867	0.4742	0.60	H.Honda-Satyam	0.1493	0.3677	0.41
HPCL-Nestle	0.1980	0.3621	0.55	H.Honda-BHEL	0.2222	0.3401	0.65
HPCL-Glaxo	0.1989	0.4323	0.46	H.Honda-BSES	0.1331	0.3693	0.36
HPCL-Cipla	0.1478	0.3385	0.44	H.Honda-Guj.Ambuja	0.2240	0.3686	0.61
HPCL-Satyam	0.1679	0.3912	0.43	H.Honda-Grasim	0.1471	0.3127	0.47

Stocks	ρ_o	ρ_c	ρ_o/ρ_c	Stocks	ρ_o	ρ_c	ρ_o/ρ_c
Grasim-HLL	0.1376	0.3166	0.43	BSES-SBI	0.3529	0.5073	0.70
Grasim-Reliance	0.2650	0.4011	0.66	BSES-MTNL	0.3625	0.5229	0.69
Grasim-Infosys	0.1623	0.3162	0.51	BSES-Ranbaxy	0.1937	0.4061	0.48
Grasim-L&T	0.4158	0.4427	0.94	BSES-Colgate	0.3234	0.4381	0.74
Grasim-Telco	0.2776	0.3171	0.88	BSES-Nestle	0.2467	0.4158	0.59
Grasim-Tisco	0.3189	0.4482	0.71	BSES-Glaxo	0.2409	0.4971	0.48
Grasim-ACC	0.3977	0.4362	0.91	BSES-Cipla	0.1618	0.3342	0.48
Grasim-Bajaj Auto	0.1588	0.3754	0.42	BSES-Satyam	0.2846	0.4134	0.69
Grasim-ITC	0.2071	0.3711	0.56	BSES-BHEL	0.3096	0.4590	0.67
Grasim-Zee Tele	0.1870	0.3857	0.48	BHEL-HLL	0.2500	0.4620	0.54
Grasim-SBI	0.2952	0.4867	0.61	BHEL-Reliance	0.3469	0.5276	0.66
Grasim-MTNL	0.2526	0.4698	0.54	BHEL-Infosys	0.2499	0.3711	0.67
Grasim-Ranbaxy	0.1820	0.3449	0.53	BHEL-L&T	0.4181	0.5185	0.81
Grasim-Colgate	0.2367	0.4193	0.56	BHEL-Telco	0.3593	0.4323	0.83
Grasim-Nestle	0.1740	0.3305	0.53	BHEL-Tisco	0.3866	0.5496	0.70
Grasim-Glaxo	0.2077	0.3914	0.53	BHEL-ACC	0.4192	0.5150	0.81
Grasim-Cipla	0.1802	0.2956	0.61	BHEL-Bajaj Auto	0.3402	0.4248	0.80
Grasim-Satyam	0.1822	0.3786	0.48	BHEL-ITC	0.3368	0.4407	0.76
Grasim-BHEL	0.3070	0.4584	0.67	BHEL-Zee Tele	0.2318	0.4238	0.55
Grasim-BSES	0.2553	0.4537	0.56	BHEL-SBI	0.3783	0.5390	0.70
Grasim-Guj.Ambuja	0.3792	0.4337	0.87	BHEL-MTNL	0.4071	0.5329	0.76
Guj.Ambuja-HLL	0.2962	0.4248	0.70	BHEL-Ranbaxy	0.3064	0.4738	0.65
Guj.Ambuja-Reliance	0.3126	0.4569	0.68	BHEL-Colgate	0.3488	0.4724	0.74
Guj.Ambuja-Infosys	0.2200	0.2960	0.74	BHEL-Nestle	0.2773	0.3641	0.76
Guj.Ambuja-L&T	0.4740	0.4712	1.01	BHEL-Glaxo	0.3269	0.4743	0.69
G.Ambuja-Telco	0.3350	0.3328	1.01	BHEL-Cipla	0.2684	0.3449	0.78
G.Ambuja-Tisco	0.4014	0.4838	0.83	BHEL-Satyam	0.2555	0.4337	0.59
G.Ambuja-ACC	0.4781	0.5192	0.92	Satyam-HLL	0.1994	0.4274	0.47
G.Ambuja-Bajaj Auto	0.2817	0.3691	0.76	Satyam-Reliance	0.3464	0.5014	0.69
G.Ambuja-ITC	0.3090	0.4164	0.74	Satyam-Infosys	0.5956	0.5113	1.16
G.Ambuja-Zee Tele	0.1922	0.3717	0.52	Satyam-L&T	0.3359	0.4799	0.70
G.Ambuja-SBI	0.3472	0.4964	0.70	Satyam-Telco	0.2790	0.3584	0.78
G.Ambuja-MTNL	0.3465	0.5091	0.68	Satyam-Tisco	0.3446	0.4667	0.74
G.Ambuja-Ranbaxy	0.2481	0.4404	0.56	Satyam-ACC	0.3054	0.4186	0.73
G.Ambuja-Colgate	0.3312	0.4714	0.70	Satyam-Bajaj Auto	0.1666	0.3648	0.46
G.Ambuja-Nestle	0.2513	0.3971	0.63	Satyam-ITC	0.3076	0.4396	0.70
G.Ambuja-Glaxo	0.2576	0.4420	0.58	Satyam-Zee Tele	0.4689	0.5684	0.83
G.Ambuja-Cipla	0.2208	0.3542	0.62	Satyam-SBI	0.3513	0.4878	0.72
G.Ambuja-Satyam	0.2504	0.4023	0.62	Satyam-MTNL	0.3233	0.4551	0.71
G.Ambuja-BHEL	0.3569	0.4613	0.77	Satyam-Ranbaxy	0.2644	0.4020	0.66
G.Ambuja-BSES	0.3055	0.4754	0.64	Satyam-Colgate	0.2439	0.3937	0.62
BSES-HLL	0.2262	0.4509	0.50	Satyam-Nestle	0.1813	0.4076	0.44
BSES-Reliance	0.3902	0.4702	0.83	Satyam-Glaxo	0.2385	0.4499	0.53
BSES-Infosys	0.2374	0.3614	0.66	Satyam-Cipla	0.2090	0.3638	0.57
BSES-L&T	0.3733	0.4909	0.76	Cipla-HLL	0.2103	0.3829	0.55
BSES-Telco	0.3498	0.3463	1.01	Cipla-Reliance	0.2143	0.3957	0.54
BSES-SBI	0.3909	0.4781	0.82	Cipla-Infosys	0.2006	0.2487	0.81
BSES-ACC	0.3681	0.4850	0.76	Cipla-L&T	0.2714	0.3795	0.72
BSES-Bajaj Auto	0.2666	0.3838	0.69	Cipla-Telco	0.2326	0.2605	0.89
BSES-ITC	0.2651	0.4444	0.60	Cipla-Tisco	0.2476	0.3787	0.65
BSES-Zee Tele	0.2534	0.4073	0.62	Cipla-ACC	0.2515	0.3107	0.81

Stocks	ρ_o	ρ_c	ρ_o/ρ_c	Stocks	ρ_o	ρ_c	ρ_o/ρ_c
Cipla-Bajaj Auto	0.1410	0.2882	0.49	Ranbaxy-HLL	0.2237	0.4206	0.53
Cipla-ITC	0.2680	0.3312	0.81	Ranbaxy-Reliance	0.2852	0.5008	0.57
Cipla-Zee Tele	0.2143	0.3764	0.57	Ranbaxy-Infosys	0.2389	0.3533	0.68
Cipla-SBI	0.2351	0.3605	0.65	Ranbaxy-L&T	0.2785	0.4932	0.56
Cipla-MTNL	0.2662	0.3700	0.72	Ranbaxy-Telco	0.2296	0.3345	0.69
Cipla-Ranbaxy	0.3029	0.4215	0.72	Ranbaxy-Tisco	0.2750	0.4755	0.58
Cipla-Colgate	0.2070	0.3340	0.62	Ranbaxy-ACC	0.2880	0.4359	0.66
Cipla-Nestle	0.1638	0.3507	0.47	Ranbaxy-Bajaj Auto	0.1901	0.3739	0.51
Cipla-Glaxo	0.3109	0.3716	0.84	Ranbaxy-ITC	0.2712	0.3954	0.69
Glaxo-HLL	0.2625	0.4999	0.53	Ranbaxy-Zee Tele	0.2653	0.4124	0.64
Glaxo-Reliance	0.2832	0.5211	0.54	Ranbaxy-SBI	0.2462	0.4601	0.54
Glaxo-Infosys	0.2076	0.3408	0.61	Ranbaxy-MTNL	0.2922	0.4635	0.63
Glaxo-L&T	0.3749	0.5195	0.72	MTNL-HLL	0.2907	0.5124	0.57
Glaxo-Telco	0.2720	0.3561	0.76	MTNL-Reliance	0.3778	0.5428	0.70
Glaxo-Tisco	0.3336	0.5167	0.65	MTNL-Infosys	0.2681	0.3997	0.67
Glaxo-ACC	0.3124	0.4647	0.67	MTNL-L&T	0.4069	0.5836	0.70
Glaxo-Bajaj Auto	0.2677	0.4296	0.62	MTNL-Telco	0.3568	0.4067	0.88
Glaxo-ITC	0.3421	0.4502	0.76	MTNL-Tisco	0.4080	0.4981	0.82
Glaxo-Zee Tele	0.2263	0.4423	0.51	MTNL-ACC	0.4236	0.5180	0.82
Glaxo-SBI	0.2869	0.5119	0.56	MTNL-Bajaj Auto	0.2433	0.4332	0.56
Glaxo-MTNL	0.2803	0.5402	0.52	MTNL-ITC	0.3712	0.5538	0.67
Glaxo-Ranbaxy	0.3357	0.4630	0.73	MTNL-Zee Tele	0.2524	0.4461	0.57
Glaxo-Colgate	0.3411	0.4993	0.68	MTNL-SBI	0.3808	0.5828	0.65
Glaxo-Nestle	0.3431	0.4543	0.76	SBI-HLL	0.3279	0.5172	0.63
Nestle-HLL	0.3242	0.4195	0.77	SBI-Reliance	0.5802	0.6318	0.92
Nestle-Reliance	0.2736	0.4324	0.63	SBI-Infosys	0.3154	0.4196	0.75
Nestle-Infosys	0.1804	0.2936	0.61	SBI-L&T	0.5119	0.5916	0.87
Nestle-L&T	0.2486	0.4280	0.58	SBI-Telco	0.3977	0.3568	1.11
Nestle-Telco	0.2198	0.2614	0.84	SBI-Tisco	0.5182	0.6414	0.81
Nestle-Tisco	0.2786	0.4327	0.64	SBI-ACC	0.4905	0.5574	0.88
Nestle-ACC	0.2812	0.4287	0.66	SBI-Bajaj Auto	0.3380	0.4625	0.73
Nestle-Bajaj Auto	0.2416	0.3723	0.65	SBI-ITC	0.4116	0.5433	0.76
Nestle-ITC	0.3306	0.3878	0.85	SBI-Zee Tele	0.2749	0.4463	0.62
Nestle-Zee Tele	0.1835	0.3907	0.47	Zee-HLL	0.1939	0.4054	0.48
Nestle-SBI	0.2729	0.4048	0.67	Zee-Reliance	0.2876	0.4411	0.65
Nestle-MTNL	0.2850	0.4014	0.71	Zee-Infosys	0.3965	0.4719	0.84
Nestle-Ranbaxy	0.2019	0.3864	0.52	Zee-L&T	0.2760	0.4472	0.62
Nestle-Colgate	0.3776	0.4866	0.78	Zee-Telco	0.2269	0.2910	0.78
Colgate-HLL	0.2831	0.4752	0.60	Zee-Tisco	0.2638	0.4235	0.62
Colgate-Reliance	0.3707	0.5512	0.67	Zee-ACC	0.2563	0.3892	0.66
Colgate-Infosys	0.2248	0.3392	0.66	Zee-Bajaj Auto	0.0963	0.3459	0.28
Colgate-L&T	0.3555	0.4963	0.72	Zee-ITC	0.2355	0.3831	0.61
Colgate-Telco	0.3761	0.3614	1.04	ITC-HLL	0.3251	0.4976	0.65
Colgate-Tisco	0.4428	0.5181	0.85	ITC-Reliance	0.4293	0.4583	0.94
Colgate-ACC	0.3546	0.4445	0.80	ITC-Infosys	0.2940	0.3763	0.78
Colgate-Bajaj Auto	0.3213	0.4293	0.75	ITC-L&T	0.3962	0.4874	0.81
Colgate-ITC	0.3224	0.4150	0.78	ITC-Telco	0.3229	0.3404	0.95
Colgate-Zee Tele	0.1910	0.3588	0.53	ITC-Tisco	0.3740	0.5022	0.74
Colgate-SBI	0.4074	0.5155	0.79	ITC-ACC	0.3509	0.4928	0.71
Colgate-MTNL	0.3332	0.5037	0.66	ITC-Bajaj Auto	0.2774	0.4139	0.67
Colgate-Ranbaxy	0.2261	0.4481	0.50	Bajaj Auto-HLL	0.2269	0.4049	0.56

Stocks	ρ_o	ρ_c	ρ_o/ρ_c	Stocks	ρ_o	ρ_c	ρ_o/ρ_c
Bajaj-Reliance	0.2788	0.4637	0.60	Tisco-Telco	0.5186	0.4805	1.08
Bajaj-Infosys	0.1893	0.3410	0.56	Telco-HLL	0.2554	0.3419	0.75
Bajaj-L&T	0.3340	0.4783	0.70	Telco-Reliance	0.4165	0.4425	0.94
Bajaj-Telco	0.3010	0.3632	0.83	Telco-Infosys	0.2391	0.2595	0.92
Bajaj-Tisco	0.2841	0.4650	0.61	Telco-L&T	0.4502	0.4517	1.00
Bajaj-ACC	0.3008	0.4258	0.71	L&T-HLL	0.2840	0.5387	0.53
ACC-HLL	0.2798	0.4729	0.59	L&T-Reliance	0.4699	0.6028	0.78
ACC-Reliance	0.4033	0.5554	0.73	L&T-Infosys	0.3183	0.4210	0.76
ACC-Infosys	0.2853	0.4138	0.69	Infosys-HLL	0.1913	0.3729	0.51
ACC-L&T	0.6200	0.5651	1.10	Infosys-Reliance	0.3311	0.4049	0.82
ACC-Telco	0.4195	0.3983	1.05	Reliance-HLL	0.3124	0.5105	0.61
ACC-Tisco	0.5232	0.5362	0.98				
Tisco-HLL	0.2655	0.4810	0.55	Number of times $\rho_o > \rho_c$			10
Tisco-Reliance	0.5171	0.6719	0.77				
Tisco-Infosys	0.2892	0.4014	0.72	Average of ρ_o/ρ_c			0.66
Tisco-L&T	0.4924	0.6095	0.81				

Table 3: Stock Return Correlations in Low and High Volatility Periods

Based on two subsets of the data ordered on squared daily returns of the Sensitive Index

Stocks		Low-Volatility		High-Volatility		$\rho_{o,h}/\rho_{o,l}$	$\rho_{c,h}/\rho_{c,l}$
		Open ($\rho_{o,l}$)	Overnight ($\rho_{c,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{c,h}$)		
NIIT-	HLL	-0.0557	0.3214	0.2379	0.4765	-4.27	1.48
	Reliance	0.1160	0.3282	0.3368	0.5345	2.90	1.63
	Infosys	0.2026	0.3728	0.5544	0.5627	2.74	1.51
	L&T	0.0828	0.3438	0.3796	0.5321	4.58	1.55
	Telco	0.1580	0.2281	0.2910	0.5102	1.84	2.24
	Tisco	0.0375	0.4082	0.3440	0.5071	9.18	1.24
	ACC	0.0500	0.3773	0.3124	0.4548	6.25	1.21
	Bajaj Auto	0.1222	0.2436	0.2123	0.4177	1.74	1.71
	ITC	0.0086	0.3369	0.3240	0.4601	37.73	1.37
	Zee Tele	0.1186	0.3831	0.4134	0.5490	3.49	1.43
	SBI	0.0680	0.4141	0.3925	0.5012	5.77	1.21
	MTNL	0.0783	0.2619	0.3141	0.5464	4.01	2.09
	Ranbaxy	0.0953	0.2722	0.2544	0.4975	2.67	1.83
	Colgate	0.0057	0.1361	0.2952	0.4820	51.92	3.54
	Nestle	0.0117	0.2609	0.1822	0.3609	15.52	1.38
	Glaxo	0.0755	0.2715	0.3190	0.5087	4.23	1.87
	Cipla	0.0664	0.2695	0.3125	0.3979	4.71	1.48
	Satyam	0.2340	0.4459	0.5632	0.6248	2.41	1.40
	BHEL	0.1135	0.3314	0.2880	0.4995	2.54	1.51
	BSES	0.0982	0.2466	0.2878	0.4727	2.93	1.92
Guj.Ambuja	-0.0102	0.2768	0.2758	0.4656	-27.14	1.68	
Grasim	0.0649	0.2665	0.2382	0.4438	3.67	1.67	
Hero Honda	0.0296	0.2456	0.2391	0.3339	8.09	1.36	
Hindalco	0.0062	0.2255	0.1927	0.4132	31.07	1.83	
HPCL	0.0109	0.3279	0.2414	0.4953	22.17	1.51	
RPL	0.0675	0.3361	0.3091	0.4550	4.58	1.35	
Dr Reddy	0.1520	0.2056	0.2880	0.5004	1.89	2.43	
Castrol	0.0430	0.2132	0.3046	0.3844	7.09	1.80	
ICICI	0.0714	0.2286	0.2932	0.4757	4.11	2.08	
ICICI-	HLL	0.0054	0.3221	0.3122	0.4669	57.32	1.45
	Reliance	0.0822	0.3385	0.4236	0.5165	5.15	1.53
	Infosys	0.0630	0.2129	0.3190	0.4125	5.07	1.94
	L&T	0.2262	0.4137	0.4090	0.5423	1.81	1.31
	Telco	0.1478	0.2604	0.3442	0.4073	2.33	1.56
	Tisco	0.2207	0.3493	0.4324	0.4515	1.96	1.29
	ACC	0.1716	0.3803	0.4219	0.4654	2.46	1.22
	Bajaj Auto	0.0553	0.2633	0.2927	0.3982	5.29	1.51
	ITC	0.0137	0.2729	0.3605	0.4463	26.33	1.64
	Zee Tele	0.0384	0.2800	0.3329	0.4478	8.67	1.60
	SBI	0.2047	0.3573	0.4023	0.5050	1.97	1.41
	MTNL	0.1283	0.4297	0.4161	0.5353	3.24	1.25
	Ranbaxy	0.0298	0.3337	0.2891	0.4245	9.69	1.27
	Colgate	0.1792	0.2570	0.3736	0.5296	2.08	2.06
	Nestle	0.0724	0.2374	0.2743	0.4051	3.79	1.71
	Glaxo	0.1139	0.3814	0.3450	0.4374	3.03	1.15
	Cipla	-0.0139	0.2467	0.2938	0.3975	-21.21	1.61
	Satyam	0.1441	0.3391	0.3800	0.4609	2.64	1.36
	BHEL	0.1744	0.3382	0.4429	0.4456	2.54	1.32
	BSES	0.1589	0.3772	0.3679	0.4461	2.32	1.18
Guj.Ambuja	0.1774	0.3464	0.3458	0.5059	1.95	1.46	
Grasim	0.1323	0.2856	0.2954	0.3540	2.23	1.24	
Hero Honda	0.1376	0.2927	0.2664	0.3620	1.94	1.24	
Hindalco	0.0316	0.2696	0.3128	0.3971	9.89	1.47	

Stocks		Low-Volatility		High-Volatility			
		Open ($\rho_{o,l}$)	Overnight ($\rho_{c,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{c,h}$)	$\rho_{o,h}/\rho_{o,l}$	$\rho_{c,h}/\rho_{c,l}$
ICICI-	HPCL	0.1086	0.3078	0.2895	0.4557	2.67	1.48
	RPL	0.1579	0.2874	0.3741	0.4321	2.37	1.50
	Dr Reddy	0.0570	0.2432	0.3508	0.4932	6.15	2.03
	Castrol	0.1514	0.2403	0.3448	0.4414	2.28	1.84
Castrol	HLL	0.1387	0.2404	0.3159	0.4016	2.28	1.67
	Reliance	0.1082	0.2766	0.3906	0.4914	3.61	1.78
	Infosys	0.0824	0.1446	0.3061	0.2886	3.71	2.00
	L&T	0.1898	0.2225	0.3843	0.4474	2.03	2.01
	Telco	0.1380	0.2102	0.3930	0.3541	2.85	1.68
	Tisco	0.1633	0.2897	0.4033	0.4958	2.47	1.71
	ACC	0.1560	0.3010	0.3790	0.4223	2.43	1.40
	Bajaj Auto	0.1087	0.2191	0.3600	0.3903	3.31	1.78
	ITC	0.1700	0.2534	0.4048	0.3691	2.38	1.46
	Zee Tele	0.1569	0.1977	0.2751	0.3483	1.75	1.76
	SBI	0.2192	0.2970	0.4240	0.5031	1.93	1.69
	MTNL	0.0747	0.2340	0.3707	0.4179	4.96	1.79
	Ranbaxy	0.0176	0.2671	0.2325	0.3544	13.17	1.33
	Colgate	0.2305	0.2800	0.4480	0.4587	1.94	1.64
	Nestle	0.2710	0.2466	0.3675	0.3836	1.36	1.56
	Glaxo	0.0971	0.2618	0.3484	0.3747	3.59	1.43
	Cipla	0.0879	0.2041	0.2263	0.3642	2.58	1.78
	Satyam	0.1432	0.2341	0.4154	0.3785	2.90	1.62
	BHEL	0.1041	0.1487	0.4104	0.4501	3.94	3.03
	BSES	0.0528	0.2544	0.4240	0.3946	8.02	1.55
	Guj.Ambuja	0.0903	0.3146	0.3649	0.4412	4.04	1.40
	Grasim	0.1344	0.1963	0.3038	0.3707	2.26	1.89
	Hero Honda	0.1095	0.2236	0.2830	0.2815	2.58	1.26
	Hindalco	0.0808	0.2112	0.2564	0.3417	3.17	1.62
	HPCL	0.0472	0.2643	0.2374	0.3897	5.02	1.47
	RPL	0.0650	0.1937	0.3288	0.4644	5.06	2.40
	Dr Reddy	0.0392	0.2154	0.3109	0.4808	7.93	2.23
Dr Reddy	HLL	0.0173	0.2848	0.3756	0.4763	21.66	1.67
	Reliance	0.0531	0.3022	0.4009	0.5314	7.54	1.76
	Infosys	0.1182	0.1939	0.3190	0.4652	2.70	2.40
	L&T	0.1169	0.3113	0.4811	0.5063	4.12	1.63
	Telco	0.0348	0.1952	0.3653	0.4725	10.49	2.42
	Tisco	0.1006	0.3270	0.4398	0.5291	4.37	1.62
	ACC	0.1386	0.3340	0.4523	0.4581	3.26	1.37
	Bajaj Auto	0.1377	0.2055	0.3320	0.4561	2.41	2.22
	ITC	0.1493	0.2651	0.4354	0.4147	2.92	1.56
	Zee Tele	0.0713	0.2065	0.3455	0.4896	4.84	2.37
	SBI	0.0633	0.2875	0.4288	0.5121	6.77	1.78
	MTNL	0.0859	0.3318	0.3931	0.4898	4.58	1.48
	Ranbaxy	0.3354	0.2700	0.4122	0.5119	1.23	1.90
	Colgate	0.1308	0.2269	0.4253	0.4779	3.25	2.11
	Nestle	0.1381	0.2473	0.2898	0.4647	2.10	1.88
	Glaxo	0.2648	0.3085	0.4432	0.5504	1.67	1.78
	Cipla	0.2749	0.2566	0.3815	0.4088	1.39	1.59
	Satyam	0.0667	0.2786	0.3997	0.5547	5.99	1.99
	BHEL	0.2093	0.2879	0.3705	0.5295	1.77	1.84
	BSES	0.0617	0.2724	0.3327	0.4606	5.39	1.69
	Guj.Ambuja	0.1766	0.2889	0.3347	0.4814	1.90	1.67
	Grasim	0.0346	0.2958	0.2695	0.3836	7.79	1.30
	Hero Honda	0.1031	0.2408	0.2002	0.4300	1.94	1.79
	Hindalco	0.0869	0.2582	0.2535	0.4625	2.92	1.79
	HPCL	0.1063	0.1937	0.2340	0.4336	2.20	2.24
	RPL	0.0769	0.2606	0.3678	0.4127	4.78	1.58
RPL	HLL	0.0401	0.2576	0.3339	0.4953	8.32	1.92
	Reliance	0.2693	0.3680	0.5827	0.5869	2.16	1.59

Stocks		Low-Volatility		High-Volatility		$\rho_{o,h}/\rho_{o,l}$	$\rho_{e,h}/\rho_{e,l}$
		Open ($\rho_{o,l}$)	Overnight ($\rho_{e,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{e,h}$)		
RPL	Infosys	0.0653	0.2546	0.3613	0.3992	5.54	1.57
	L&T	0.1380	0.3941	0.4727	0.5553	3.43	1.41
	Telco	0.0853	0.2209	0.4456	0.4850	5.22	2.20
	Tisco	0.1503	0.4099	0.5522	0.5621	3.67	1.37
	ACC	0.1902	0.3871	0.4847	0.4783	2.55	1.24
	Bajaj Auto	0.0837	0.2853	0.3159	0.4254	3.77	1.49
	ITC	0.0522	0.2423	0.3874	0.4838	7.42	2.00
	Zee Tele	-0.0017	0.3338	0.3195	0.4222	-188.53	1.26
	SBI	0.1504	0.3685	0.4693	0.5451	3.12	1.48
	MTNL	0.0886	0.3214	0.4493	0.5298	5.07	1.65
	Ranbaxy	-0.0022	0.2480	0.3396	0.4485	-156.07	1.81
	Colgate	0.0640	0.2545	0.3402	0.5344	5.32	2.10
	Nestle	0.0835	0.2172	0.2845	0.4171	3.41	1.92
	Glaxo	0.0933	0.2670	0.3825	0.4751	4.10	1.78
	Cipla	0.0717	0.2180	0.3191	0.4387	4.45	2.01
	Satyam	0.1171	0.2928	0.3801	0.4909	3.25	1.68
	BHEL	0.1324	0.2149	0.3789	0.5502	2.86	2.56
	BSES	0.1677	0.3424	0.4090	0.5245	2.44	1.53
	Guj.Ambuja	0.0747	0.2846	0.3624	0.4695	4.85	1.65
	Grasim	0.1699	0.3022	0.3155	0.4768	1.86	1.58
	Hero Honda	0.0727	0.2257	0.2165	0.3862	2.98	1.71
	Hindalco	0.0075	0.2740	0.3073	0.4126	41.14	1.51
	HPCL	0.1282	0.2557	0.3172	0.4627	2.47	1.81
HPCL	HLL	0.1471	0.2469	0.2361	0.4719	1.60	1.91
	Reliance	0.1000	0.2824	0.3675	0.5696	3.68	2.02
	Infosys	-0.0954	0.2491	0.2475	0.3914	-2.59	1.57
	L&T	0.1447	0.3411	0.4021	0.5719	2.78	1.68
	Telco	0.1069	0.2302	0.3128	0.4869	2.93	2.12
	Tisco	0.2039	0.3413	0.3895	0.5860	1.91	1.72
	ACC	0.1554	0.4007	0.3755	0.5133	2.42	1.28
	Bajaj Auto	0.1336	0.3025	0.2624	0.4463	1.96	1.48
	ITC	0.0638	0.2946	0.3062	0.4500	4.80	1.53
	Zee Tele	0.0385	0.3459	0.2150	0.4534	5.58	1.31
	SBI	0.0364	0.3410	0.3793	0.5559	10.43	1.63
	MTNL	0.1970	0.3532	0.3992	0.5414	2.03	1.53
	Ranbaxy	0.0617	0.3125	0.3039	0.5197	4.92	1.66
	Colgate	0.1758	0.3093	0.3497	0.5953	1.99	1.92
	Nestle	0.1120	0.2179	0.2533	0.4711	2.26	2.16
	Glaxo	0.1017	0.2837	0.2562	0.5331	2.52	1.88
	Cipla	0.0860	0.1860	0.1905	0.4692	2.22	2.52
	Satyam	-0.0314	0.3294	0.2741	0.4385	-8.73	1.33
	BHEL	0.2213	0.3603	0.3739	0.5820	1.69	1.62
	BSES	0.1470	0.3383	0.3095	0.5220	2.11	1.54
	Guj.Ambuja	0.1347	0.3190	0.3125	0.5102	2.32	1.60
	Grasim	0.1187	0.3168	0.3146	0.4865	2.65	1.54
	Hero Honda	0.0413	0.2906	0.1534	0.3357	3.72	1.16
	Hindalco	0.0706	0.2217	0.3323	0.4941	4.71	2.23
Hindalco	HLL	0.1198	0.2567	0.2695	0.4617	2.25	1.80
	Reliance	0.0725	0.3013	0.3726	0.5039	5.14	1.67
	Infosys	-0.0029	0.2988	0.2327	0.3296	-78.95	1.10
	L&T	0.0815	0.2501	0.3817	0.4492	4.69	1.80
	Telco	0.0434	0.0859	0.3219	0.4344	7.42	5.06
	Tisco	0.0854	0.3323	0.3666	0.4666	4.29	1.40
	ACC	0.0651	0.3338	0.3302	0.4541	5.08	1.36
	Bajaj Auto	0.0366	0.3319	0.3099	0.4176	8.46	1.26
	ITC	0.1578	0.2879	0.3151	0.3981	2.00	1.38
	Zee Tele	0.0468	0.2977	0.1927	0.4319	4.12	1.45
	SBI	0.0001	0.2609	0.3473	0.4720	4153.25	1.81
	MTNL	0.0504	0.2108	0.3621	0.4441	7.19	2.11

Stocks		Low-Volatility		High-Volatility			
		Open ($\rho_{o,l}$)	Overnight ($\rho_{c,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{c,h}$)	$\rho_{o,h}/\rho_{o,l}$	$\rho_{c,h}/\rho_{c,l}$
Hindalco	Ranbaxy	0.1146	0.3192	0.2125	0.4492	1.85	1.41
	Colgate	0.1324	0.3373	0.3479	0.4718	2.63	1.40
	Nestle	0.1144	0.3460	0.3156	0.4290	2.76	1.24
	Glaxo	0.0707	0.3018	0.2862	0.4712	4.05	1.56
	Cipla	0.1107	0.2808	0.2102	0.4311	1.90	1.54
	Satyam	0.0000	0.2469	0.2460	0.3987	5808.47	1.61
	BHEL	0.0015	0.2442	0.3301	0.4897	217.43	2.00
	BSES	0.0397	0.2870	0.3191	0.4570	8.04	1.59
	Guj.Ambuja	0.0787	0.3059	0.3357	0.4888	4.27	1.60
	Grasim	0.1073	0.3066	0.2657	0.3994	2.48	1.30
	Hero Honda	0.0475	0.2706	0.1566	0.3609	3.30	1.33
	HLL	0.1311	0.2927	0.2001	0.3044	1.53	1.04
	Reliance	0.1400	0.3548	0.2350	0.4027	1.68	1.13
	Infosys	-0.0045	0.2167	0.1915	0.3449	-42.46	1.59
	L&T	0.1871	0.2857	0.2722	0.3132	1.45	1.10
	Telco	0.1398	0.1958	0.2925	0.3778	2.09	1.93
Tisco	0.1354	0.2719	0.2368	0.3466	1.75	1.27	
ACC	0.1137	0.3288	0.2342	0.3840	2.06	1.17	
Bajaj Auto	0.1201	0.1886	0.2275	0.3052	1.89	1.62	
ITC	0.1358	0.2998	0.2674	0.3047	1.97	1.02	
Zee Tele	0.0434	0.2581	0.1481	0.4092	3.41	1.59	
SBI	0.1267	0.3411	0.2950	0.3760	2.33	1.10	
MTNL	0.1310	0.3319	0.2183	0.3785	1.67	1.14	
Ranbaxy	0.0462	0.2769	0.2079	0.3532	4.50	1.28	
Colgate	0.1196	0.2941	0.2544	0.4120	2.13	1.40	
Nestle	0.1804	0.2698	0.2589	0.3281	1.44	1.22	
Glaxo	0.1114	0.2520	0.2678	0.4039	2.40	1.60	
Cipla	0.1777	0.2425	0.1511	0.2698	0.85	1.11	
Satyam	0.0325	0.3429	0.2252	0.3871	6.94	1.13	
BHEL	0.1081	0.2385	0.2992	0.4071	2.77	1.71	
BSES	0.0581	0.3025	0.1822	0.4134	3.14	1.37	
Guj.Ambuja	0.1338	0.2768	0.2857	0.4267	2.13	1.54	
Grasim	0.1195	0.2703	0.1680	0.3414	1.41	1.26	
Grasim	HLL	0.0174	0.2443	0.2081	0.3539	11.95	1.45
Reliance	0.1563	0.3107	0.3255	0.4507	2.08	1.45	
Infosys	0.0647	0.1939	0.2158	0.3859	3.34	1.99	
L&T	0.3844	0.3856	0.4377	0.4765	1.14	1.24	
Telco	0.1889	0.2268	0.3385	0.4190	1.79	1.85	
Tisco	0.2167	0.3288	0.3819	0.5111	1.76	1.55	
ACC	0.3279	0.3879	0.4431	0.4637	1.35	1.20	
Bajaj Auto	0.0796	0.2494	0.2118	0.4436	2.66	1.78	
ITC	0.0955	0.2681	0.2744	0.4268	2.87	1.59	
Zee Tele	0.0709	0.3168	0.2588	0.4289	3.65	1.35	
SBI	0.1823	0.4120	0.3588	0.5283	1.97	1.28	
MTNL	0.1260	0.4148	0.3296	0.5009	2.62	1.21	
Ranbaxy	0.0192	0.2398	0.2829	0.4037	14.73	1.68	
Colgate	0.1569	0.3024	0.2882	0.4891	1.84	1.62	
Nestle	0.0752	0.3024	0.2453	0.3482	3.26	1.15	
Glaxo	0.1060	0.3315	0.2749	0.4252	2.59	1.28	
Cipla	0.1311	0.2213	0.2171	0.3512	1.66	1.59	
Satyam	0.0627	0.3353	0.2540	0.4027	4.05	1.20	
BHEL	0.2230	0.3546	0.3603	0.5210	1.62	1.47	
BSES	0.1409	0.3629	0.3263	0.5098	2.32	1.40	
Guj.Ambuja	0.3057	0.3458	0.4260	0.4846	1.39	1.40	
Guj.Ambuja	HLL	0.0769	0.4203	0.4019	0.4300	5.22	1.02
Reliance	0.0984	0.2789	0.4056	0.5444	4.12	1.95	
Infosys	0.0338	0.1984	0.3031	0.3473	8.95	1.75	
L&T	0.4106	0.3947	0.5076	0.5090	1.24	1.29	
Telco	0.1179	0.1647	0.4643	0.5034	3.94	3.06	

Stocks		Low-Volatility		High-Volatility			
		Open ($\rho_{o,l}$)	Overnight ($\rho_{c,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{c,h}$)	$\rho_{o,h}/\rho_{o,l}$	$\rho_{c,h}/\rho_{c,l}$
Hindalco	Ranbaxy	0.1146	0.3192	0.2125	0.4492	1.85	1.41
	Colgate	0.1324	0.3373	0.3479	0.4718	2.63	1.40
	Nestle	0.1144	0.3460	0.3156	0.4290	2.76	1.24
	Glaxo	0.0707	0.3018	0.2862	0.4712	4.05	1.56
	Cipla	0.1107	0.2808	0.2102	0.4311	1.90	1.54
	Satyam	0.0000	0.2469	0.2460	0.3987	5808.47	1.61
	BHEL	0.0015	0.2442	0.3301	0.4897	217.43	2.00
	BSES	0.0397	0.2870	0.3191	0.4570	8.04	1.59
	Guj.Ambuja	0.0787	0.3059	0.3357	0.4888	4.27	1.60
	Grasim	0.1073	0.3066	0.2657	0.3994	2.48	1.30
	Hero Honda	0.0475	0.2706	0.1566	0.3609	3.30	1.33
Hero Honda	HLL	0.1311	0.2927	0.2001	0.3044	1.53	1.04
	Reliance	0.1400	0.3548	0.2350	0.4027	1.68	1.13
	Infosys	-0.0045	0.2167	0.1915	0.3449	-42.46	1.59
	L&T	0.1871	0.2857	0.2722	0.3132	1.45	1.10
	Telco	0.1398	0.1958	0.2925	0.3778	2.09	1.93
	Tisco	0.1354	0.2719	0.2368	0.3466	1.75	1.27
	ACC	0.1137	0.3288	0.2342	0.3840	2.06	1.17
	Bajaj Auto	0.1201	0.1886	0.2275	0.3052	1.89	1.62
	ITC	0.1358	0.2998	0.2674	0.3047	1.97	1.02
	Zee Tele	0.0434	0.2581	0.1481	0.4092	3.41	1.59
	SBI	0.1267	0.3411	0.2950	0.3760	2.33	1.10
	MTNL	0.1310	0.3319	0.2183	0.3785	1.67	1.14
	Ranbaxy	0.0462	0.2769	0.2079	0.3532	4.50	1.28
	Colgate	0.1196	0.2941	0.2544	0.4120	2.13	1.40
	Nestle	0.1804	0.2698	0.2589	0.3281	1.44	1.22
	Glaxo	0.1114	0.2520	0.2678	0.4039	2.40	1.60
	Cipla	0.1777	0.2425	0.1511	0.2698	0.85	1.11
	Satyam	0.0325	0.3429	0.2252	0.3871	6.94	1.13
	BHEL	0.1081	0.2385	0.2992	0.4071	2.77	1.71
	BSES	0.0581	0.3025	0.1822	0.4134	3.14	1.37
	Guj.Ambuja	0.1338	0.2768	0.2857	0.4267	2.13	1.54
	Grasim	0.1195	0.2703	0.1680	0.3414	1.41	1.26
Grasim	HLL	0.0174	0.2443	0.2081	0.3539	11.95	1.45
	Reliance	0.1563	0.3107	0.3255	0.4507	2.08	1.45
	Infosys	0.0647	0.1939	0.2158	0.3859	3.34	1.99
	L&T	0.3844	0.3856	0.4377	0.4765	1.14	1.24
	Telco	0.1889	0.2268	0.3385	0.4190	1.79	1.85
	Tisco	0.2167	0.3288	0.3819	0.5111	1.76	1.55
	ACC	0.3279	0.3879	0.4431	0.4637	1.35	1.20
	Bajaj Auto	0.0796	0.2494	0.2118	0.4436	2.66	1.78
	ITC	0.0955	0.2681	0.2744	0.4268	2.87	1.59
	Zee Tele	0.0709	0.3168	0.2588	0.4289	3.65	1.35
	SBI	0.1823	0.4120	0.3588	0.5283	1.97	1.28
	MTNL	0.1260	0.4148	0.3296	0.5009	2.62	1.21
	Ranbaxy	0.0192	0.2398	0.2829	0.4037	14.73	1.68
	Colgate	0.1569	0.3024	0.2882	0.4891	1.84	1.62
	Nestle	0.0752	0.3024	0.2453	0.3482	3.26	1.15
	Glaxo	0.1060	0.3315	0.2749	0.4252	2.59	1.28
	Cipla	0.1311	0.2213	0.2171	0.3512	1.66	1.59
	Satyam	0.0627	0.3353	0.2540	0.4027	4.05	1.20
	BHEL	0.2230	0.3546	0.3603	0.5210	1.62	1.47
	BSES	0.1409	0.3629	0.3263	0.5098	2.32	1.40
	Guj.Ambuja	0.3057	0.3458	0.4260	0.4846	1.39	1.40
Guj.Ambuja	HLL	0.0769	0.4203	0.4019	0.4300	5.22	1.02
	Reliance	0.0984	0.2789	0.4056	0.5444	4.12	1.95
	Infosys	0.0338	0.1984	0.3031	0.3473	8.95	1.75
	L&T	0.4106	0.3947	0.5076	0.5090	1.24	1.29
	Telco	0.1179	0.1647	0.4643	0.5034	3.94	3.06

Stocks		Low-Volatility		High-Volatility			
		Open ($\rho_{o,l}$)	Overnight ($\rho_{c,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{c,h}$)	$\rho_{o,h}/\rho_{o,l}$	$\rho_{c,h}/\rho_{c,l}$
Guj.Amb uja	Tisco	0.2451	0.3691	0.4811	0.5385	1.96	1.46
	ACC	0.3646	0.4915	0.5359	0.5332	1.47	1.08
	Bajaj Auto	0.1162	0.2738	0.3739	0.4164	3.22	1.52
	ITC	0.0859	0.3730	0.4193	0.4377	4.88	1.17
	Zee Tele	0.0996	0.2282	0.2395	0.4555	2.40	2.00
	SBI	0.1608	0.4119	0.4304	0.5384	2.68	1.31
	MTNL	0.1259	0.4128	0.4564	0.5552	3.62	1.34
	Ranbaxy	0.1261	0.3446	0.3114	0.4896	2.47	1.42
	Colgate	0.2099	0.2883	0.3960	0.5733	1.89	1.99
	Nestle	0.0774	0.2980	0.3577	0.4559	4.62	1.53
	Glaxo	0.1440	0.3800	0.3208	0.4735	2.23	1.25
	Cipla	0.1132	0.2913	0.2898	0.4006	2.56	1.38
	Satyam	0.1221	0.3271	0.3145	0.4396	2.58	1.34
	BHEL	0.1844	0.2777	0.4465	0.5648	2.42	2.03
	BSES	0.1038	0.3717	0.4093	0.5354	3.94	1.44
	HLL	0.0702	0.3238	0.2984	0.5149	4.25	1.59
	Reliance	0.1973	0.3275	0.4669	0.5466	2.37	1.67
	Infosys	-0.0242	0.1870	0.3497	0.4614	-14.45	2.47
	L&T	0.1232	0.4310	0.4962	0.5255	4.03	1.22
	Telco	0.1762	0.2635	0.4464	0.4416	2.53	1.68
	Tisco	0.1722	0.3756	0.4914	0.5328	2.85	1.42
	ACC	0.1655	0.4194	0.4592	0.5225	2.77	1.25
	Bajaj Auto	0.0734	0.3137	0.3716	0.4222	5.06	1.35
	ITC	-0.0555	0.3603	0.4109	0.4909	-7.40	1.36
	Zee Tele	0.0897	0.2826	0.3355	0.4853	3.74	1.72
	SBI	0.0690	0.4020	0.4685	0.5648	6.79	1.41
	MTNL	0.1636	0.4317	0.4595	0.5719	2.81	1.32
	Ranbaxy	0.0481	0.3175	0.2643	0.4559	5.49	1.44
	Colgate	0.0842	0.2937	0.4463	0.5245	5.30	1.79
	Nestle	0.0578	0.2727	0.3527	0.5055	6.10	1.85
	Glaxo	0.0978	0.4137	0.3190	0.5429	3.26	1.31
	Cipla	0.0432	0.2018	0.2378	0.4316	5.51	2.14
	Satyam	0.0699	0.2741	0.3880	0.4892	5.55	1.78
	BHEL	0.0666	0.3050	0.4302	0.5521	6.46	1.81
	HLL	-0.0153	0.2819	0.3741	0.5476	-24.42	1.94
	Reliance	0.1217	0.3447	0.4415	0.6238	3.63	1.81
	Infosys	0.0177	0.2609	0.3523	0.4315	19.91	1.65
	L&T	0.2334	0.3526	0.5117	0.6013	2.19	1.71
	Telco	0.1652	0.3249	0.4731	0.5565	2.86	1.71
	Tisco	0.1794	0.3657	0.4885	0.6425	2.72	1.76
	ACC	0.2389	0.4092	0.5056	0.5725	2.12	1.40
	Bajaj Auto	0.2633	0.2935	0.3827	0.4938	1.45	1.68
	ITC	0.1059	0.3676	0.4464	0.4790	4.21	1.30
	Zee Tele	0.0610	0.3195	0.3194	0.4882	5.23	1.53
	SBI	0.1758	0.3866	0.4660	0.6195	2.65	1.60
	MTNL	0.1718	0.3775	0.5226	0.6115	3.04	1.62
	Ranbaxy	0.0464	0.2357	0.4396	0.6032	9.48	2.56
	Colgate	0.2072	0.2493	0.4226	0.6025	2.04	2.42
	Nestle	0.0693	0.1839	0.3992	0.4754	5.76	2.59
	Glaxo	0.1730	0.2941	0.4125	0.5689	2.38	1.93
	Cipla	0.1328	0.2099	0.3549	0.4433	2.67	2.11
	Satyam	0.0219	0.3226	0.3711	0.4919	16.97	1.52
Satyam	HLL	-0.0862	0.3341	0.3297	0.4652	-3.82	1.39
	Reliance	0.0658	0.3797	0.4603	0.5576	6.99	1.47
	Infosys	0.3654	0.2803	0.6951	0.6239	1.90	2.23
	L&T	0.0579	0.3867	0.4735	0.5215	8.18	1.35
	Telco	0.0207	0.2859	0.4255	0.4487	20.57	1.57
	Tisco	0.0544	0.3777	0.4832	0.5048	8.89	1.34
	ACC	0.0383	0.4276	0.4300	0.4132	11.22	0.97

Stocks		Low-Volatility		High-Volatility		$\rho_{o,h}/\rho_{o,l}$	$\rho_{e,h}/\rho_{e,l}$
		Open ($\rho_{o,l}$)	Overnight ($\rho_{e,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{e,h}$)		
Satyam	Bajaj Auto	-0.0242	0.3079	0.2683	0.3906	-11.08	1.27
	ITC	0.0143	0.3955	0.4436	0.4583	31.11	1.16
	Zee Tele	0.2605	0.4752	0.5735	0.6217	2.20	1.31
	SBI	0.0678	0.3980	0.4700	0.5291	6.93	1.33
	MTNL	0.1051	0.2909	0.4275	0.5265	4.07	1.81
	Ranbaxy	0.0552	0.2851	0.3682	0.4572	6.68	1.60
	Colgate	0.0626	0.2233	0.3360	0.4814	5.36	2.16
	Nestle	0.0392	0.3856	0.2628	0.4220	6.70	1.09
	Glaxo	0.0604	0.3403	0.3344	0.5009	5.53	1.47
	Cipla	0.0504	0.3564	0.3071	0.3758	6.09	1.05
Cipla	HLL	0.1097	0.2820	0.2700	0.4514	2.46	1.60
	Reliance	0.0727	0.2492	0.2932	0.4932	4.03	1.98
	Infosys	0.0453	0.1016	0.2880	0.3507	6.36	3.45
	L&T	0.1146	0.2322	0.3716	0.4727	3.24	2.04
	Telco	0.0922	0.1287	0.3353	0.4129	3.64	3.21
	Tisco	0.0755	0.2604	0.3573	0.4580	4.73	1.76
	ACC	0.1552	0.2490	0.3135	0.3557	2.02	1.43
	Bajaj Auto	0.0050	0.1573	0.2303	0.3748	45.91	2.38
	ITC	0.0903	0.2785	0.3760	0.3709	4.16	1.33
	Zee Tele	0.1249	0.3021	0.2725	0.4327	2.18	1.43
	SBI	0.0756	0.2611	0.3269	0.4291	4.33	1.64
	MTNL	0.1308	0.2890	0.3487	0.4269	2.67	1.48
	Ranbaxy	0.1851	0.3579	0.3794	0.4691	2.05	1.31
	Colgate	0.1021	0.1751	0.2747	0.4483	2.69	2.56
	Nestle	0.1656	0.2898	0.1642	0.3971	0.99	1.37
	Glaxo	0.2258	0.2793	0.3693	0.4356	1.64	1.56
Glaxo	HLL	0.0950	0.3086	0.3497	0.5744	3.68	1.86
	Reliance	0.1337	0.3131	0.3539	0.6115	2.65	1.95
	Infosys	0.0426	0.1724	0.2873	0.4238	6.74	2.46
	L&T	0.1950	0.3669	0.4751	0.5790	2.44	1.58
	Telco	0.1629	0.2591	0.3403	0.4627	2.09	1.79
	Tisco	0.1926	0.3732	0.4101	0.5780	2.13	1.55
	ACC	0.1113	0.3761	0.4193	0.5077	3.77	1.35
	Bajaj Auto	0.1740	0.2912	0.3238	0.4913	1.86	1.69
	ITC	0.1914	0.3374	0.4226	0.5018	2.21	1.49
	Zee Tele	0.0317	0.3024	0.3346	0.5188	10.56	1.72
	SBI	0.0796	0.3986	0.3859	0.5625	4.85	1.41
	MTNL	0.0488	0.4126	0.4043	0.5933	8.29	1.44
	Ranbaxy	0.2406	0.3334	0.3886	0.5246	1.61	1.57
	Colgate	0.2245	0.3249	0.4077	0.5897	1.82	1.82
	Nestle	0.2735	0.2920	0.3893	0.5429	1.42	1.86
Nestle	HLL	0.2366	0.2754	0.3724	0.4932	1.57	1.79
	Reliance	0.1115	0.2621	0.3535	0.5252	3.17	2.00
	Infosys	0.0711	0.2197	0.2382	0.3375	3.35	1.54
	L&T	0.0922	0.2583	0.3387	0.5144	3.67	1.99
	Telco	0.0754	0.0824	0.3164	0.4463	4.20	5.42
	Tisco	0.1758	0.2573	0.3366	0.5261	1.91	2.04
	ACC	0.1001	0.3563	0.3799	0.4712	3.79	1.32
	Bajaj Auto	0.0865	0.2096	0.3377	0.4618	3.90	2.20
	ITC	0.2746	0.2501	0.3593	0.4643	1.31	1.86
	Zee Tele	0.0766	0.3103	0.2480	0.4420	3.24	1.42
	SBI	0.1087	0.2664	0.3570	0.4813	3.28	1.81
	MTNL	0.0911	0.2306	0.3952	0.4909	4.34	2.13
	Ranbaxy	0.0479	0.2254	0.2921	0.4786	6.10	2.12
	Colgate	0.2952	0.3456	0.4273	0.5729	1.45	1.66
Colgate	HLL	0.0853	0.2810	0.3774	0.5658	4.43	2.01
	Reliance	0.1967	0.3221	0.4474	0.6692	2.27	2.08
	Infosys	0.0571	0.1532	0.3011	0.4408	5.27	2.88
	L&T	0.1876	0.3097	0.4429	0.5865	2.36	1.89

Stocks		Low-Volatility		High-Volatility		$\rho_{o,h}/\rho_{o,l}$	$\rho_{e,h}/\rho_{e,l}$
		Open ($\rho_{o,l}$)	Overnight ($\rho_{e,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{e,h}$)		
Colgate	Telco	0.1800	0.1790	0.4956	0.5507	2.75	3.08
	Tisco	0.3100	0.2954	0.5121	0.6283	1.65	2.13
	ACC	0.1882	0.3235	0.4372	0.5093	2.32	1.57
	Bajaj Auto	0.2034	0.2676	0.3866	0.5129	1.90	1.92
	ITC	0.1086	0.2441	0.4268	0.5025	3.93	2.06
	Zee Tele	0.0787	0.1951	0.2503	0.4581	3.18	2.35
	SBI	0.1681	0.3188	0.5162	0.6173	3.07	1.94
	MTNL	0.0708	0.2779	0.4643	0.6144	6.56	2.21
	Ranbaxy	0.0431	0.2562	0.3219	0.5511	7.46	2.15
Ranbaxy	HLL	0.0253	0.3410	0.3176	0.4552	12.56	1.33
	Reliance	0.0804	0.3499	0.3707	0.5722	4.61	1.64
	Infosys	-0.0386	0.2751	0.3617	0.3922	-9.36	1.43
	I&T	0.0616	0.3532	0.3886	0.5552	6.31	1.57
	Telco	0.0445	0.1730	0.3364	0.4971	7.55	2.87
	Tisco	0.0725	0.3642	0.3731	0.5258	5.15	1.44
	ACC	0.1689	0.3339	0.3436	0.4861	2.03	1.46
	Bajaj Auto	0.0712	0.2150	0.2559	0.4491	3.60	2.09
	ITC	0.0806	0.3415	0.3615	0.4202	4.48	1.23
	Zee Tele	0.0440	0.3197	0.3796	0.4654	8.63	1.46
	SBI	0.0403	0.3332	0.3334	0.5203	8.27	1.56
	MTNL	0.0645	0.3575	0.4047	0.5113	6.27	1.43
MTNL	HLL	0.0765	0.3692	0.3859	0.5659	5.04	1.53
	Reliance	0.0582	0.3463	0.5076	0.6262	8.72	1.81
	Infosys	0.0362	0.1843	0.3666	0.5007	10.13	2.72
	I&T	0.1456	0.4386	0.5356	0.6393	3.68	1.46
	Telco	0.1350	0.2615	0.4853	0.5562	3.59	2.13
	Tisco	0.1341	0.4019	0.5413	0.5372	4.04	1.34
	ACC	0.1591	0.4037	0.5478	0.5707	3.44	1.41
	Bajaj Auto	0.0291	0.2584	0.3545	0.5068	12.20	1.96
	ITC	0.0884	0.4045	0.5011	0.6173	5.67	1.53
	Zee Tele	0.0789	0.3320	0.3392	0.5077	4.30	1.53
	SBI	0.0421	0.4882	0.5243	0.6242	12.46	1.28
SBI	HLL	0.0525	0.3987	0.4400	0.5656	8.39	1.42
	Reliance	0.3162	0.5023	0.6705	0.6908	2.12	1.38
	Infosys	0.0579	0.2976	0.4095	0.4799	7.08	1.61
	I&T	0.2832	0.4811	0.6118	0.6388	2.16	1.33
	Telco	0.1947	0.1658	0.4974	0.5415	2.55	3.27
	Tisco	0.3055	0.5248	0.6025	0.6924	1.97	1.32
	ACC	0.2809	0.4793	0.5730	0.5951	2.04	1.24
	Bajaj Auto	0.2009	0.3179	0.4071	0.5276	2.03	1.66
	ITC	0.1499	0.4345	0.5153	0.5924	3.44	1.36
	Zee Tele	0.0701	0.3420	0.3639	0.5052	5.19	1.48
Zee Tele	HLL	-0.0165	0.3764	0.2947	0.4256	-17.84	1.13
	Reliance	0.0926	0.3188	0.3704	0.5086	4.00	1.60
	Infosys	0.1206	0.3066	0.5198	0.5692	4.31	1.86
	I&T	0.0760	0.3720	0.3788	0.4902	4.98	1.32
	Telco	0.0470	0.1803	0.3312	0.4117	7.05	2.28
	Tisco	0.0194	0.2854	0.3845	0.4974	19.78	1.74
	ACC	0.0531	0.3802	0.3547	0.3952	6.69	1.04
	Bajaj Auto	-0.0745	0.3173	0.1913	0.3630	-2.57	1.14
	ITC	0.0542	0.3292	0.3227	0.4140	5.95	1.26
ITC	HLL	0.1242	0.4085	0.4119	0.5336	3.32	1.31
	Reliance	0.1467	0.2926	0.5378	0.5333	3.67	1.82
	Infosys	0.0805	0.3083	0.3819	0.4080	4.75	1.32
	I&T	0.1104	0.3566	0.5310	0.5428	4.81	1.52
	Telco	0.0901	0.1767	0.4510	0.5036	5.01	2.85
	Tisco	0.1125	0.4065	0.4922	0.5428	4.38	1.34
	ACC	0.0339	0.4448	0.4903	0.5148	14.44	1.16
	Bajaj Auto	0.0641	0.3234	0.3867	0.4546	6.03	1.41

Stocks		Low-Volatility		High-Volatility		$\rho_{o,h}/\rho_{o,l}$	$\rho_{e,h}/\rho_{e,l}$
		Open ($\rho_{o,l}$)	Overnight ($\rho_{e,l}$)	Open ($\rho_{o,h}$)	Overnight ($\rho_{e,h}$)		
Bajaj Auto	HLL	0.0081	0.2600	0.3347	0.4622	41.55	1.78
	Reliance	0.1247	0.3657	0.3513	0.5074	2.82	1.39
	Infosys	0.0218	0.2389	0.2697	0.3910	12.36	1.64
	I&T	0.2234	0.3765	0.3950	0.5203	1.77	1.38
	Telco	0.1680	0.2181	0.3875	0.5108	2.31	2.34
	Tisco	0.1324	0.3406	0.3681	0.5182	2.78	1.52
	ACC	0.1526	0.3273	0.3793	0.4727	2.49	1.44
ACC	HLL	0.1034	0.3412	0.3584	0.5296	3.47	1.55
	Reliance	0.1641	0.4404	0.4949	0.6110	3.02	1.39
	Infosys	-0.0175	0.3820	0.4108	0.4289	-23.46	1.12
	I&T	0.5174	0.5158	0.6686	0.5912	1.29	1.15
	Telco	0.2271	0.3011	0.5250	0.5110	2.31	1.70
	Tisco	0.3424	0.4856	0.6039	0.5595	1.76	1.15
Tisco	HLL	0.0282	0.3062	0.3761	0.5459	13.36	1.78
	Reliance	0.2754	0.5914	0.6134	0.7069	2.23	1.20
	Infosys	0.0209	0.3035	0.4026	0.4469	19.29	1.47
	I&T	0.3058	0.5272	0.5835	0.6428	1.91	1.22
	Telco	0.3480	0.3921	0.6128	0.5945	1.76	1.52
Telco	HLL	0.0624	0.1910	0.3640	0.4878	5.84	2.55
	Reliance	0.2223	0.2917	0.5133	0.5994	2.31	2.05
	Infosys	0.0076	0.1259	0.3567	0.3967	46.74	3.15
	I&T	0.2914	0.3287	0.5433	0.5885	1.86	1.79
I&T	HLL	0.1130	0.4074	0.3643	0.5841	3.22	1.43
	Reliance	0.2462	0.5086	0.5642	0.6405	2.29	1.26
	Infosys	0.0419	0.2935	0.4405	0.4816	10.51	1.64
Infosys	HLL	-0.0604	0.3051	0.2932	0.4039	-4.85	1.32
	Reliance	0.0559	0.2462	0.4288	0.4835	7.67	1.96
Reliance	HLL	0.0784	0.2667	0.4027	0.6055	5.14	2.27
Average						26.82	1.67

Table 4: GARCH (1,1) Results (Variance Equation) for Stock Returns

Stock		Constant (ω)	Alpha (α)	Beta (β)	Gamma (γ)
HLL		0.0003	0.0369	0.8107	-0.0006
	z-statistic	11.7449	1.7166	9.6798	-9.9683
Reliance		0.0005	0.0218	0.9166	-0.0010
	z-statistic	15.1094	3.8242	48.4508	-15.2230
Infosys		0.0007	0.1519	0.6299	-0.0012
	z-statistic	12.2738	6.2002	12.9343	-10.7554
L&T		0.0007	0.0251	0.8699	-0.0013
	z-statistic	16.0128	2.3133	14.6006	-14.5139
Telco		0.0010	0.0413	0.2658	-0.0010
	z-statistic	6.8928	0.6807	0.5392	-1.8456
Tisco		0.0006	0.0374	0.8571	-0.0011
	z-statistic	16.1944	4.1415	24.0951	-15.9419
ACC		0.0010	0.0636	0.5491	-0.0015
	z-statistic	18.4531	4.0287	5.2719	-11.4641
Bajaj Auto		0.0004	0.0181	0.8419	-0.0007
	z-statistic	12.0744	1.7442	9.3499	-9.7437
ITC		0.0006	0.0203	0.9313	-0.0011
	z-statistic	978.5781	3.9672	48.6921	-89.5291
SBI		0.0006	0.0644	0.6632	-0.0009
	z-statistic	16.6212	3.4531	6.8486	-12.1847
MTNL		0.0008	0.0441	0.7756	-0.0014
	z-statistic	16.2607	3.4976	10.1641	-13.4122
Ranbaxy		0.0005	0.0577	0.8243	-0.0008
	z-statistic	13.2551	4.8378	22.6129	-12.9000
Colgate		0.0004	0.0836	0.3762	-0.0005
	z-statistic	12.1532	2.5038	1.9325	-6.2258
Nestle		0.0004	0.0158	0.9370	-0.0007
	z-statistic	10.7143	2.1590	35.0344	-10.9115
Glaxo		0.0005	0.0638	0.5233	-0.0007
	z-statistic	13.1202	3.9977	3.6748	-7.5421
Cipla		0.0004	0.0922	0.8071	-0.0007
	z-statistic	9.9553	3.8798	14.5836	-9.0000
Satyam		0.0015	0.0615	0.7395	-0.0025
	z-statistic	17.5141	5.2484	10.8450	-14.2472
BHEL		0.0009	0.0363	0.7920	-0.0016
	z-statistic	17.1053	2.3309	7.6301	-11.4243
BSES		0.0006	0.0846	0.6911	-0.0009
	z-statistic	15.0053	4.0091	9.3740	-12.9396
Guj.Ambuja		0.0006	0.0852	0.7152	-0.0009
	z-statistic	14.3200	4.4302	12.0199	-12.6949
Grasim		0.0008	0.0948	0.5260	-0.0011
	z-statistic	15.3415	5.4727	7.4472	-12.0608
Hindalco		0.0004	0.0545	0.8205	-0.0007
	z-statistic	10.7128	3.4696	12.7502	-11.0593
HPCL		0.0006	0.0872	0.7153	-0.0010
	z-statistic	14.5665	5.2835	11.7695	-12.2095
RPL		0.0004	0.0692	0.7919	-0.0007
	z-statistic	9.7802	4.3963	14.3236	-8.0589
Dr Reddy		0.0006	0.0973	0.7389	-0.0010
	z-statistic	14.3805	4.2039	13.4226	-12.2627
Castrol		0.0003	0.0107	0.9801	-0.0006
	z-statistic	2183.1967	3.8210	227.7433	-631.2896
ICICI		0.0009	0.0663	0.7641	-0.0015
	z-statistic	14.7710	4.7517	11.7505	-12.4011

Table 5: Bivariate GARCH-BEKK Results on Open-market and Closed-market Correlations

Pair of Stocks		Open-market Correlation	Closed-market Correlation
MTNL-Ranbaxy	Mean	0.2448	0.5176
	Std. Dev.	0.1609	0.1233
MTNL-Dr.Reddy	Mean	0.2861	0.4635
	Std. Dev.	0.1311	0.1536
MTNL-Castrol	Mean	0.2613	0.3025
	Std. Dev.	0.1205	0.1111
SBI-Colgate	Mean	0.3841	0.5600
	Std. Dev.	0.1231	0.1218
SBI-Glaxo	Mean	0.2446	0.4388
	Std. Dev.	0.1308	0.0812
SBI-Satyam	Mean	0.3567	0.5236
	Std. Dev.	0.1742	0.1238
SBI-RPL	Mean	0.3083	0.5093
	Std. Dev.	0.1658	0.0695
HLL-REL	Mean	0.2787	0.5367
	Std. Dev.	0.1607	0.1048
HLL-Infy	Mean	0.1873	0.4429
	Std. Dev.	0.1821	0.1273
HLL-L&T	Mean	0.2674	0.5538
	Std. Dev.	0.1530	0.0878
HLL-Tisco	Mean	0.2249	0.5141
	Std. Dev.	0.1765	0.0905
HLL-ACC	Mean	0.2133	0.4917
	Std. Dev.	0.1659	0.0836
HLL-Bajaj Auto	Mean	0.2286	0.4574
	Std. Dev.	0.1627	0.1235
HLL-ITC	Mean	0.3170	0.5562
	Std. Dev.	0.1465	0.1078
HLL-SBI	Mean	0.2916	0.5814
	Std. Dev.	0.1641	0.1113
Bajaj-ITC	Mean	0.2719	0.4205
	Std. Dev.	0.1404	0.1193
Bajaj-SBI	Mean	0.2986	0.5214
	Std. Dev.	0.1410	0.1355
Bajaj-Ranbaxy	Mean	0.1520	0.3739
	Std. Dev.	0.1474	0.1266
Bajaj-Nestle	Mean	0.2209	0.4135
	Std. Dev.	0.1340	0.1168
Bajaj-Satyam	Mean	0.1649	0.4027
	Std. Dev.	0.1481	0.1245
Bajaj-Hindalco	Mean	0.2240	0.4364
	Std. Dev.	0.1284	0.0750
Bajaj-HPCL	Mean	0.1794	0.3984
	Std. Dev.	0.1351	0.0774
Bajaj-RPL	Mean	0.2055	0.4069
	Std. Dev.	0.1156	0.0962
ITC-SBI	Mean	0.4278	0.5557
	Std. Dev.	0.1709	0.1064
ITC-MTNL	Mean	0.3526	0.5200
	Std. Dev.	0.1428	0.1142
ITC-Colgate	Mean	0.2996	0.4091
	Std. Dev.	0.1236	0.1149
ITC-BHEL	Mean	0.3142	0.4608
	Std. Dev.	0.1074	0.0784

Pair of Stocks		Open-market Correlation	Closed-market Correlation
ITC-BSES	Mean	0.2971	0.4530
	Std. Dev.	0.1615	0.1040
ITC-Guj.Ambuja	Mean	0.2780	0.4087
	Std. Dev.	0.1160	0.0942
ITC-Hindalco	Mean	0.2362	0.4076
	Std. Dev.	0.1279	0.0904
ITC-ICICI	Mean	0.2424	0.3991
	Std. Dev.	0.1282	0.1251
ACC-Bajaj Auto	Mean	0.2983	0.4602
	Std. Dev.	0.1371	0.1253
ACC-SBI	Mean	0.4644	0.6002
	Std. Dev.	0.1393	0.0911
ACC-MTNL	Mean	0.3810	0.5649
	Std. Dev.	0.1400	0.1043
ACC-Colgate	Mean	0.3537	0.4702
	Std. Dev.	0.1285	0.1115
ACC-Glaxo	Mean	0.2565	0.4949
	Std. Dev.	0.1298	0.0860
ACC-Cipla	Mean	0.1976	0.3428
	Std. Dev.	0.1525	0.0979
ACC-BHEL	Mean	0.4031	0.5244
	Std. Dev.	0.0767	0.0584
ACC-ICICI	Mean	0.3505	0.4747
	Std. Dev.	0.1108	0.0961
Tisco-ITC	Mean	0.3204	0.4951
	Std. Dev.	0.1787	0.1133
Tisco-SBI	Mean	0.4796	0.6389
	Std. Dev.	0.1806	0.0918
Tisco-Ranbaxy	Mean	0.2138	0.4800
	Std. Dev.	0.2080	0.1042
Tisco-Colgate	Mean	0.4503	0.5491
	Std. Dev.	0.1343	0.0995
Tisco-Satyam	Mean	0.3303	0.4952
	Std. Dev.	0.1862	0.1145
Tisco-BSES	Mean	0.3560	0.5227
	Std. Dev.	0.1724	0.1043
Tisco-Hindalco	Mean	0.2559	0.4564
	Std. Dev.	0.1304	0.0915
Tisco-HPCL	Mean	0.2610	0.4880
	Std. Dev.	0.1510	0.0761
L&T-ACC	Mean	0.5985	0.5909
	Std. Dev.	0.0943	0.1018
L&T-SBI	Mean	0.5103	0.6393
	Std. Dev.	0.1730	0.1164
L&T-Ranbaxy	Mean	0.2122	0.4628
	Std. Dev.	0.1729	0.1070
L&T-Glaxo	Mean	0.3222	0.4163
	Std. Dev.	0.1160	0.0810
L&T-BHEL	Mean	0.3947	0.5067
	Std. Dev.	0.1199	0.0619
L&T-RPL	Mean	0.3285	0.5413
	Std. Dev.	0.1335	0.0818
L&T-ICICI	Mean	0.3690	0.5072
	Std. Dev.	0.1374	0.1343
L&T-Guj. Ambuja	Mean	0.4328	0.4826
	Std. Dev.	0.1073	0.1009

Pair of Stocks		Open-market Correlation	Closed-market Correlation
Infosys-Reliance	Mean	0.3037	0.4622
	Std. Dev.	0.1457	0.1446
Infosys-L&T	Mean	0.3246	0.4456
	Std. Dev.	0.1347	0.1226
Infosys-Bajaj Auto	Mean	0.1827	0.3835
	Std. Dev.	0.1513	0.1213
Infosys-Nestle	Mean	0.1909	0.3489
	Std. Dev.	0.1806	0.1270
Infosys-MTNL	Mean	0.2389	0.4744
	Std. Dev.	0.1612	0.1518
Infosys-Satyam	Mean	0.5570	0.5613
	Std. Dev.	0.1561	0.1958
Infosys-Grasim	Mean	0.1627	0.3634
	Std. Dev.	0.1584	0.1163
Infosys-Hindalco	Mean	0.1992	0.3793
	Std. Dev.	0.1411	0.0911
Reliance-L&T	Mean	0.4639	0.6098
	Std. Dev.	0.1385	0.1009
Reliance-Tisco	Mean	0.4850	0.6783
	Std. Dev.	0.1499	0.0778
Reliance-ACC	Mean	0.3701	0.5778
	Std. Dev.	0.1605	0.1060
Reliance-SBI	Mean	0.5474	0.6418
	Std. Dev.	0.1712	0.0996
Reliance-HPCL	Mean	0.2518	0.4384
	Std. Dev.	0.1438	0.0947
Reliance-Nestle	Mean	0.2404	0.4428
	Std. Dev.	0.1643	0.1109
Reliance-Dr.Reddy	Mean	0.2476	0.4690
	Std. Dev.	0.1428	0.1214
Reliance-Castrol	Mean	0.2608	0.4589
	Std. Dev.	0.1608	0.1335