

Title : "Asymmetric Information, Turnover Anomaly, No Trade and the Short Sale Constraint : Theory and Evidence"

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### ***Abstract***

At the outset, this dissertation theoretically considers an observed turnover anomaly (in the Thailand stock market) and attributes the findings to a combination of informed trading on asymmetric information with a short sale prohibition. The firm-specific sequential trade model is an extension of Easley and O'Hara's [1992a] microstructure model for price formation in a competitive world with informed insiders, market makers, and liquidity traders all being risk neutral. The decision tree shows the trade process with the *prior* probabilities of observing a given outcome of the trading process (buy, sell, or no trade). Trades are processed in standard units using basic trading intervals for any given trading day. The market maker sets his 'regret free' price by using Bayesian analysis. The results are consistent with the observation of a positive and intertemporal relationship between turnover and stock returns for an immature market characterized by insider trading. Specifically, high (low) turnover stocks are associated with positive (negative) return in good (bad) news case. A no trade event is informative and is found to be somewhat bad news in a market with a short sale prohibition. Using the theory of probabilistic information measures (relative entropy), the model further predicts that the speed with which

stocks adjust to lower equilibrium prices will be *faster* than to higher prices on given conditions. The overall results conclusively suggest that a short sale prohibition increases market informational efficiency, particularly in a bad news case given asymmetric ownership between informed and uninformed traders.

The last part of this dissertation empirically tests the above security price formation model in an asymmetric information market with short sales prohibited. The methodology is mainly a modification of Easley et al [1995, 1996]. *Transaction* based data from the Stock Exchange of Thailand (SET) from January 3, 1996 to July 13, 1996, are used to form volume deciles and high/low SET-50 portfolios. From the observed numbers of buys, sells and no trades during a day based on a sample of 30 selected days, I have computed the *ex post* probability densities for the parameters of the trading process. I then estimated these parameters using the maximum likelihood method for the selected stocks. Next I performed several non-parametric tests to check the consistency of the results with the theoretical model, and to verify the predictions derived in the theoretical part. The evidence provides five insights in a market without short sales. First, high (low) volume stock has high (low) information intensity as in Easley et al [1996]'s finding. Second, high (low) volume stock has the prior probability that an information event is good (bad) news as conjectured by the theoretical model. Third, the uninformed trader is found to face a greater (less) risk of informed trading in active (inactive) and large (small) capitalized stocks contrary to Easley et al [1996]'s conclusion. Fourth, uninformed traders are much more likely to sell than to buy stocks. This contradicts conjectures in earlier studies, such as in Easley et al [1995, 1996]. Fifth, when non-parametric statistics, derived p-values and the Bonferroni methods are applied, the data suggest that the model herein cannot be rejected. Overall estimated results imply that given asymmetric ownership between informed and uninformed investors, a short sale restriction in Thai market *improves* market informational efficiency, especially in bad news case and prevents informed traders from over exploiting their private idiosyncratic information.