Impact of Information Shocks on Net Trading - Reverse Ordering

This table presents aggregated coefficients of HFT and non-HFT net trading after an

information shock under the assumption that non-HFT trade before HFT. The VARX

model is implemented with the respective trading variables as the dependent variables. The independent variables are lagged and contemporaneous HFT and nonHFT order flow and returns. All variables are aggregated into ten second intervals

and standardized using mean and standard deviation for each stock and each trading

day. Panel A reports aggregated impact on initiating and passive net trading for HFT

(HFTinit, HFTpass) and non-HFT (NHFTinit, NHFTpass) as well as their respective difference (Dif f). Panel B reports result for VIX shocks and Panel C for news events.

SR denotes the contemporaneous impact in the short run, LR denotes the aggregated

impact for the following 12 ten second intervals, i.e. 2 minutes after the information

shock, LR − SR denotes the long-run impact minus the short-run impact. Variables

are aggregated per stock-day and tested using double clustered standard errors on

stock and trading day. T-statistics are in parentheses.

For the analysis of the different treatments, I use a fixed effects model as well as  
a moderator-mediator analysis in order to analyze direct, moderated and mediated  
effects on the individual trader level as well as on a market-period level.

The *Intercept* represents the average for the *HH* treatment in period 6 for a buyer in  
the symmetric market. As *Control*, I include the risk aversion (proxied by the number  
of safe choices) and emotion regulation score of every participant. Trading behavior  
variables comprise emotional arousal as well as trading and pricing aggressiveness.  
I apply the fixed effects model above to analyze the direct treatment effects on trading behavior and emotional arousal which are depicted as red arrows in Figure 4.4,  
Model 1a below. In order to assess the conditional indirect effect of arousal on aggressiveness, i.e. the orange arrow, I conduct a mediator analysis and a bootstrapping  
analysis based on 500 bootstrapped samples using 95% confidence intervals.

This table presents the results on moderated effects of heart rate (HR) on price aggressiveness according to Model 1b in Figure 4.4. The HH treatment (representing  
human vs. human competition) and emotion regulation (ER) serve as moderators for  
the arousal effect on price aggressiveness. Control variables risk aversion (Riskav)  
and emotion regulation (ER) are further applied. Panel B presents bootstrapping results for moderating effects of HH and ER.