Feature name	Feature Explanation	Impact on timer of an increase of the feature
1-trading-days-lookback_NBBO-hist-trades_50%-quantile-shares-per-trade_shares	50th quantile of tradevolume over the last 1 day	tends to significantly accelerate timer
1-trading-days-lookback_NBBO-hist-trades_75%-quantile-shares-per-trade_shares	75th quantile of tradevolume over the last 1 day	tends to significantly accelerate timer
5-trading-days-lookback_NBBO-hist-trades_100%-quantile-shares-per-trade_shares	100th quantile of tradevolume over the last 5 days	tends to significantly accelerate timer
timer	Current prevailing timer as determined by the AI system	tends to significantly accelerate timer
1-trading-days-lookback_MELO-hist-orders_buy-over-total-orders_proportion	(Sum of BUY orders for M-ELO over the last 1 day) / (Total sum of ALL orders for M-ELO over the last 1 day)	tends to accelerate timer
1-trading-days-lookback_MELO-hist-orders_buy-shares-over-total-shares-orders_proportion	(Sum of shares in BUY orders for M-ELO over the last 1 day)/ (Total sum of shares in ALL orders for M-ELO over the last 1 day)	tends to accelerate timer
5-trading-days-lookback_MELO-hist-orders_buy-over-total-orders_proportion	(Sum of BUY orders for M-ELO over the last 5 day) / (Total sum of ALL orders for M-ELO over the last 5 day)	tends to accelerate timer
5-trading-days-lookback_MELO-hist-orders_buy-shares-over-total-shares-orders_proportion	(Sum of shares in BUY orders for M-ELO over the last 5 day)/ (Total sum of shares in ALL orders for M-ELO over the last 5 day)	tends to accelerate timer
5-trading-days-lookback_MELO-hist-orders_unique-firms-buy-orders_count	Number of unique firms that placed BUY SIDE orders on M-ELO for the last 5 days	tends to accelerate timer
1-trading-days-lookback_NBBO-hist-price_average-bam_price	Average bam (midpoint of NBBO) value over the last 1 day	tends to accelerate timer
1-trading-days-lookback_NBBO-hist-price_skewness-bam_price	skew of the bam (midpoint of NBBO) over the last 1 day	tends to accelerate timer
5-trading-days-lookback_NBBO-hist-price_average-bam_price	Average bam (midpoint of NBBO) value over the last 5 days	tends to accelerate timer
1-trading-days-lookback_NBBO-hist-trades_average-shares-per-trade_shares	Mean of tradevolume over the last 1 day	tends to accelerate timer
5-trading-days-lookback_NBBO-hist-trades_75%-quantile-shares-per-trade_shares	75th quantile of tradevolume over the last 5 days	tends to accelerate timer
5-trading-days-lookback_NBBO-hist-trades_average-shares-per-trade_shares	Mean of tradevolume over the last 5 days	tends to accelerate timer
last_step_incl_lookback_SELL_trade_qty_sum	sum(sell # of shares per trade executed in the last 30 seconds)	tends to accelerate timer
last_step_incl_lookback_SELL_trade_qty_skew	skew(sell # of shares per trade executed in the last 30 seconds)	tends to accelerate timer
last_3step_incl_lookback_SELL_trade_qty_skew	skew(sell # of shares per trade executed in the last 90 seconds)	tends to accelerate timer
last_10_min_incl_lookback_BUY_trade_qty_kurtosis	kurtosis(buy # of shares per trade executed in the last 10 minutes)	tends to accelerate timer
last_10_min_incl_lookback_BUY_trade_qty_skew	skew(buy # of shares per trade executed in the last 10 minutes)	tends to accelerate timer
last_10_min_incl_lookback_SELL_trade_qty_min	min(sell # of shares per trade executed in the last 10 minutes)	tends to accelerate timer
last_10_min_incl_lookback_SELL_trade_qty_skew	skew(sell # of shares per trade executed in the last 10 minutes)	tends to accelerate timer
last_30_min_incl_lookback_BUY_trade_qty_kurtosis	kurtosis(buy # of shares per trade executed in the last 30 minutes)	tends to accelerate timer
last_30_min_incl_lookback_BUY_trade_qty_skew	skew(buy # of shares per trade executed in the last 30 minutes)	tends to accelerate timer
bids_left_in_book	sum(eligible bid # shares per price level remaining in melo order book)	tends to accelerate timer
1-trading-days-lookback_MELO-hist-orders_unique-firms-total-orders_count	Number of unique firms that placed BUY OR SELL orders on M-ELO for the last 1 day	context dependent / no definitive correlation found
5-trading-days-lookback_NBBO-hist-price_max-bam-minus-min-bam_price	(Max bam (midpoint of NBBO) value over the last 5 days) - (min bam (midpoint of NBBO) value over the last 5 days)	context dependent / no definitive correlation found
1-trading-days-lookback_NBBO-hist-trades_25%-quantile-shares-per-trade_shares	25th quantile of tradevolume over the last 1 day	context dependent / no definitive correlation found
1-trading-days-lookback_NBBO-hist-trades_100%-quantile-shares-per-trade_shares	100th quantile of tradevolume over the last 1 day	context dependent / no definitive correlation found
5-trading-days-lookback_NBBO-hist-trades_50%-quantile-shares-per-trade_shares	50th quantile of tradevolume over the last 5 days	context dependent / no definitive correlation found
FR	Sum of simulated trades action trade quantity / total sum of shares for all orders	context dependent / no definitive correlation found
step_MO_baseline_A	Average of baseline simulated trades signed markout for 1000ms, weighted by trade quantity	context dependent / no definitive correlation found
step_MO_baseline_AT	Average of baseline simulated trades signed markout (for adder only) for 1000ms, weighted by trade quantity	context dependent / no definitive correlation found
step_MO_action_AT	Average of action simulated trades signed markout for 1000ms, weighted by trade quantity	context dependent / no definitive correlation found
step_MO_synthetic_AT	Average of action simulated trades signed synthetic markout for 1000ms, weighted by trade quantity	context dependent / no definitive correlation found
step_MO_action_minus_synthetic_AT	Average of (action simulated trades signed markout - action simulated trades signed synthetic markout) , weighted by trade quantity	context dependent / no definitive correlation found
step_MO_action_A	Average of action simulated trades signed markout (for adder only) for 1000ms, weighted by trade quantity	context dependent / no definitive correlation found
step_MO_synthetic_A	Average of action simulated trades signed synthetic markout (for adder only) for 1000ms, weighted by trade quantity	context dependent / no definitive correlation found
step_MO_action_minus_synthetic_A	Average of (action simulated trades signed markout (adder only) - action simulated trades signed synthetic markout (adder only)) , weighted by trade quantity	context dependent / no definitive correlation found
BUY_trade_qty_std	Standard deviation of buyside trades quantities	context dependent / no definitive correlation found
BUY_trade_qty_min	Minimum buyside trade quantity	context dependent / no definitive correlation found
BUY_trade_qty_max	Maximum buyside trade quantity	context dependent / no definitive correlation found
BUY_bam_time_of_trade_mean	Simple average of buyside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
BUY_bam_time_of_trade_std	Standard deviation of buyside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
BUY_bam_time_of_trade_min	Minimum buyside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
BUY_bam_time_of_trade_max	Maximum buyside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
BUY_signed_markout_1000ms_bps_mean	Simple average of buyside signed markout for 1000 ms	context dependent / no definitive correlation found
BUY_signed_markout_1000ms_bps_min	Minimum of buyside signed markout for 1000 ms	context dependent / no definitive correlation found
SELL_trade_qty_mean	Simple average of sellside trades quantities	context dependent / no definitive correlation found
SELL_trade_qty_min	Minimum sellside trade quantity	context dependent / no definitive correlation found
SELL_trade_qty_max	Maximum sellside trade quantity	context dependent / no definitive correlation found
SELL_bam_time_of_trade_mean	Simple average of sellside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
SELL_bam_time_of_trade_std	Standard deviation of sellside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
SELL_bam_time_of_trade_min	Minimum sellside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
SELL_bam_time_of_trade_max	Maximum sellside bam (midpoint of NBBO) time of trade	context dependent / no definitive correlation found
SELL_signed_markout_1000ms_bps_mean	Simple average of sellside signed markout for 1000 ms	context dependent / no definitive correlation found
SELL_signed_markout_1000ms_bps_min	Minimum of sellside signed markout for 1000 ms	context dependent / no definitive correlation found
SELL_signed_markout_1000ms_bps_max	Maximum of sellside signed markout for 1000 ms	context dependent / no definitive correlation found
last_step_incl_lookback_BUY_trade_qty_sum	sum(buy # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_BUY_trade_qty_min	min(buy # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_BUY_trade_qty_max	max(buy # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_BUY_trade_qty_mean	mean(buy # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_BUY_trade_qty_stdev	stdev(buy # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_BUY_trade_qty_skew	skew(buy # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_SELL_trade_qty_min	min(sell # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_SELL_trade_qty_max	max(sell # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_SELL_trade_qty_mean	mean(sell # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_SELL_trade_qty_stdev	stdev(sell # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_step_incl_lookback_SELL_trade_qty_kurtosis	kurtosis(sell # of shares per trade executed in the last 30 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_BUY_trade_qty_sum	sum(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_BUY_trade_qty_min	min(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_BUY_trade_qty_max	max(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found

last_3step_incl_lookback_BUY_trade_qty_mean	mean(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_BUY_trade_qty_stdev	stdev(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_BUY_trade_qty_kurtosis	kurtosis(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_BUY_trade_qty_skew	skew(buy # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_SELL_trade_qty_sum	sum(sell # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_SELL_trade_qty_min	min(sell # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_SELL_trade_qty_max	max(sell # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_SELL_trade_qty_mean	mean(sell # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_SELL_trade_qty_stdev	stdev(sell # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_3step_incl_lookback_SELL_trade_qty_kurtosis	kurtosis(sell # of shares per trade executed in the last 90 seconds)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_sum	sum(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_min	min(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_max	max(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_mean	mean(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_stdev	stdev(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_kurtosis	kurtosis(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_BUY_trade_qty_skew	skew(buy # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_sum	sum(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_min	min(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_max	max(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_mean	mean(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_stdev	stdev(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_kurtosis	kurtosis(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_5_min_incl_lookback_SELL_trade_qty_skew	skew(sell # of shares per trade executed in the last 5 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_BUY_trade_qty_sum	sum(buy # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_BUY_trade_qty_min	min(buy # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_BUY_trade_qty_mean	mean(buy # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_BUY_trade_qty_stdev	stdev(buy # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_SELL_trade_qty_sum	sum(sell # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_SELL_trade_qty_max	max(sell # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_SELL_trade_qty_mean	mean(sell # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_10_min_incl_lookback_SELL_trade_qty_kurtosis	kurtosis(sell # of shares per trade executed in the last 10 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_BUY_trade_qty_sum	sum(buy # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_BUY_trade_qty_min	min(buy # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_BUY_trade_qty_max	max(buy # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_BUY_trade_qty_stdev	stdev(buy # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_sum	sum(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_min	min(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_max	max(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_mean	mean(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_stdev	stdev(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_kurtosis	kurtosis(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
last_30_min_incl_lookback_SELL_trade_qty_skew	skew(sell # of shares per trade executed in the last 30 minutes)	context dependent / no definitive correlation found
1-trading-days-lookback_MELO-hist-orders_unique-firms-buy-orders_count	Number of unique firms that placed BUY SIDE orders on M-ELO for the last 1 day	tends to slow timer
1-trading-days-lookback_MELO-hist-orders_unique-firms-sell-orders_count	Number of unique firms that placed SELL SIDE orders on M-ELO for the last 1 day	tends to slow timer
5-trading-days-lookback_MELO-hist-orders_unique-firms-total-orders_count	Number of unique firms that placed BUY OR SELL orders on M-ELO for the last 5 days	tends to slow timer
1-trading-days-lookback_NBBO-hist-price_kurtosis-bam_price	Kurtosis of the bam (midpoint of NBBO) over the last 1 day	tends to slow timer
1-trading-days-lookback_NBBO-hist-price_max-spread-bam_price	Max (bid price - ask price) over the last 1 day	tends to slow timer
5-trading-days-lookback_NBBO-hist-price_kurtosis-bam_price	Kurtosis of the bam (midpoint of NBBO) over the last 5 days	tends to slow timer
5-trading-days-lookback_NBBO-hist-price_max-spread-bam_price	Max (bid price - ask price) over the last 5 days	tends to slow timer
5-trading-days-lookback_NBBO-hist-price_skewness-bam_price	skew of the bam (midpoint of NBBO) over the last 5 days	tends to slow timer
1-trading-days-lookback_NBBO-hist-trades_sum-all-shares-traded_shares	(Sum of tradevolume over the last 1 day) // 2	tends to slow timer
1-trading-days-lookback_NBBO-hist-trades_0%-quantile-shares-per-trade_shares	0th quantile of tradevolume over the last 1 day	tends to slow timer
5-trading-days-lookback_NBBO-hist-trades_sum-all-shares-traded_shares	(Sum of tradevolume over the last 5 days) // 2	tends to slow timer
5-trading-days-lookback_NBBO-hist-trades_25%-quantile-shares-per-trade_shares	25th quantile of tradevolume over the last 5 days	tends to slow timer
BUY_trade_qty_mean	Simple average of buyside trades quantities	tends to slow timer
BUY_signed_markout_1000ms_bps_std	Standard deviation of buyside signed markout for 1000 ms	tends to slow timer
BUY_signed_markout_1000ms_bps_max	Maximum of buyside signed markout for 1000 ms	tends to slow timer
SELL_trade_qty_std	Standard deviation of sellside trades quantities	tends to slow timer
SELL_signed_markout_1000ms_bps_std	Standard deviation of sellside signed markout for 1000 ms	tends to slow timer
last_step_incl_lookback_BUY_trade_qty_kurtosis	kurtosis(buy # of shares per trade executed in the last 30 seconds)	tends to slow timer
last_10_min_incl_lookback_BUY_trade_qty_max	max(buy # of shares per trade executed in the last 10 minutes)	tends to slow timer
last_10_min_incl_lookback_SELL_trade_qty_stdev	stdev(sell # of shares per trade executed in the last 10 minutes)	tends to slow timer
last_30_min_incl_lookback_BUY_trade_qty_mean	mean(buy # of shares per trade executed in the last 30 minutes)	tends to slow timer
asks_left_in_book	sum(eligible ask # shares per price level remaining in melo order book)	tends to slow timer
5-trading-days-lookback_MELO-hist-orders_unique-firms-sell-orders_count	Number of unique firms that placed SELL SIDE orders on M-ELO for the last 5 days	tends to significantly slow timer
1-trading-days-lookback_NBBO-hist-price_max-bam-minus-min-bam_price	(Max bam (midpoint of NBBO) value over the last 1 day) - (min bam (midpoint of NBBO) value over the last 1 day)	tends to significantly slow timer
1-trading-days-lookback_NBBO-hist-price_standard-deviation-bam_price	standard deviation of the bam (midpoint of NBBO) over the last 1 day	tends to significantly slow timer
5-trading-days-lookback_NBBO-hist-price_standard-deviation-bam_price	standard deviation of the bam (midpoint of NBBO) over the last 5 days	tends to significantly slow timer
5-trading-days-lookback_NBBO-hist-trades_0%-quantile-shares-per-trade_shares	0th quantile (min) of tradevolume over the last 5 days	tends to significantly slow timer