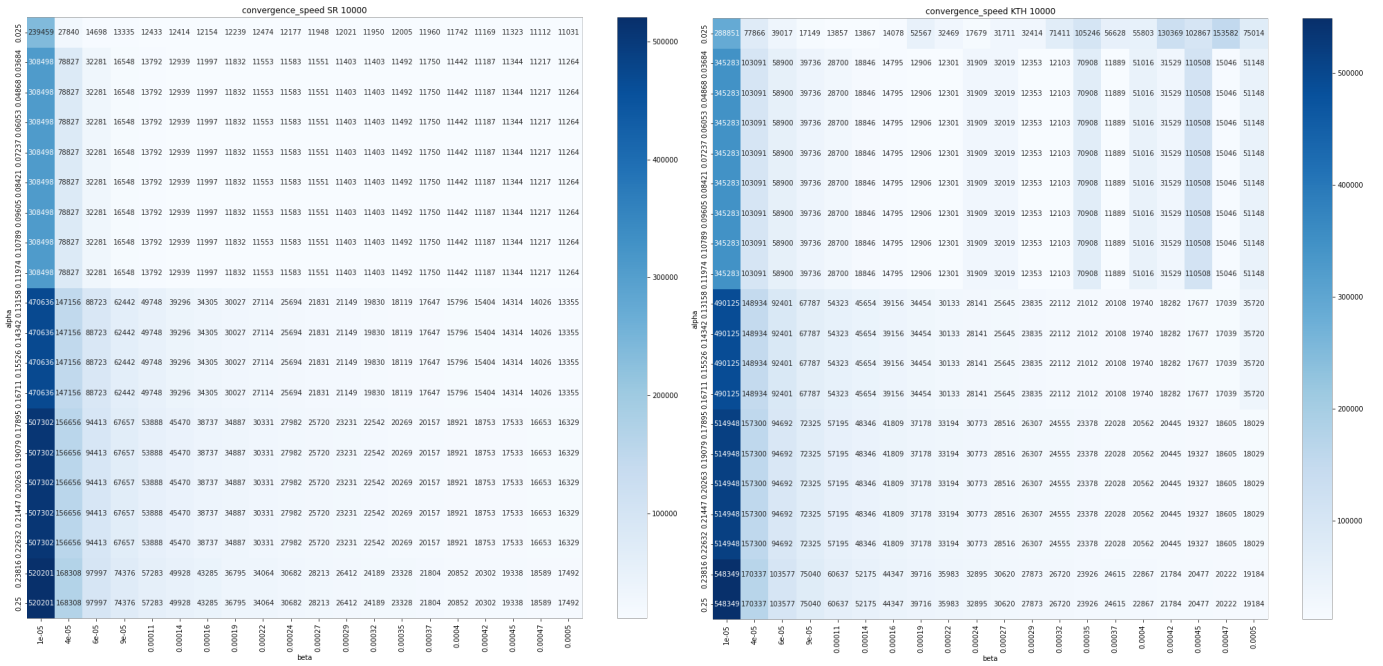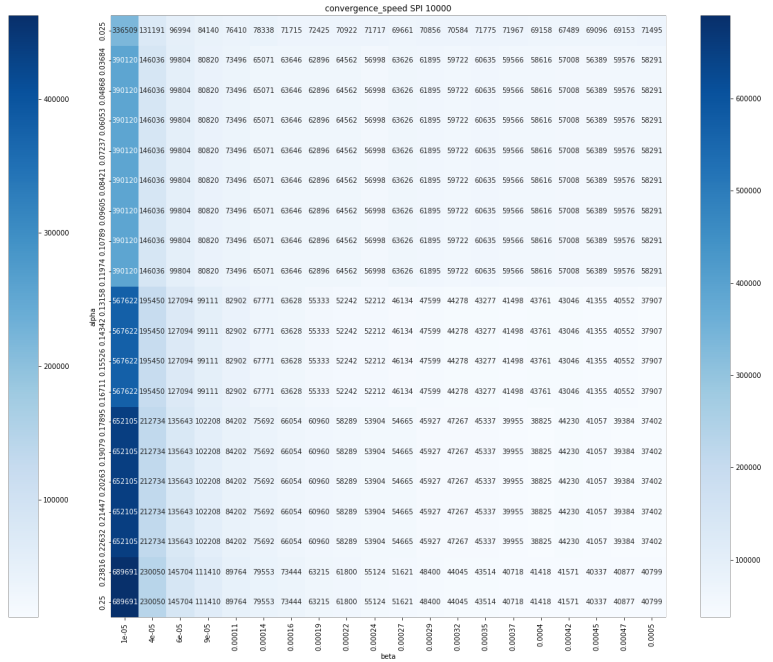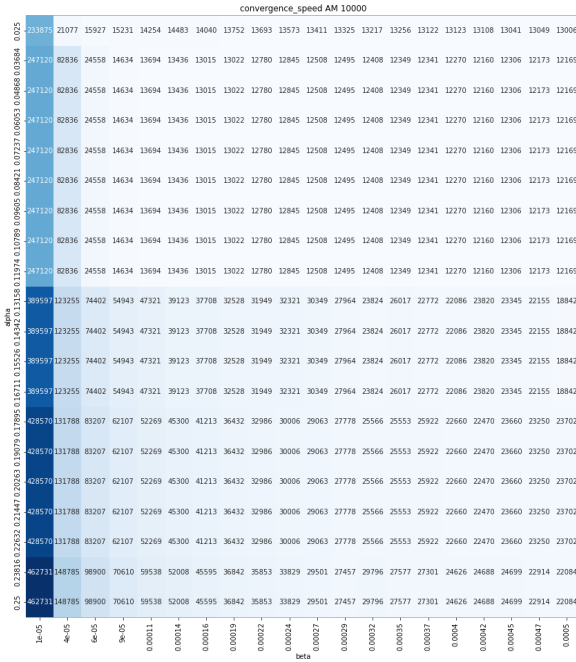*1. Convergence Rate:*

In all mechanisms (SR, AM, KTH and SPI), the model will eventually converge under any convergence criterion. And the definition of convergence criterion is that the buyer and seller give the same strategy for N consecutive times (N can be 500, 1000, 5000, 10000). Thus, the convergence rate is always equal to "1".

2. Convergence Speed:

The convergence speed is defined as the number of iterations in the case of convergence criterion N. And the average convergence speed is the average of 100 convergence sessions under the same parameters.

Figure 1: Average Convergence Speed of different mechanisms

(N=10000)

convergence_speed AM 10000

convergence_speed SPI 10000

3. *Convergence True Rate:*

Under the SR and AM mechanisms, the convergence true rate is defined as the proportion of models in which both buyer and seller report true value and cost in report stage and the trade occurs, among 100 convergence sessions under the same parameters.

Under the SPI mechanism, the convergence true rate is defined as the proportion of models in which both buyer and seller report true value and cost in report stage and the trade occurs, among 100 convergence sessions under the same parameters.

Under the KTH and SPI mechanisms, the convergence true rate is defined as the proportion of models in which both buyer and seller report true value and cost in report stage among 100 convergence sessions under the same parameters.

Figure 2: Average Convergence True Rate of different mechanisms

(N=10000)
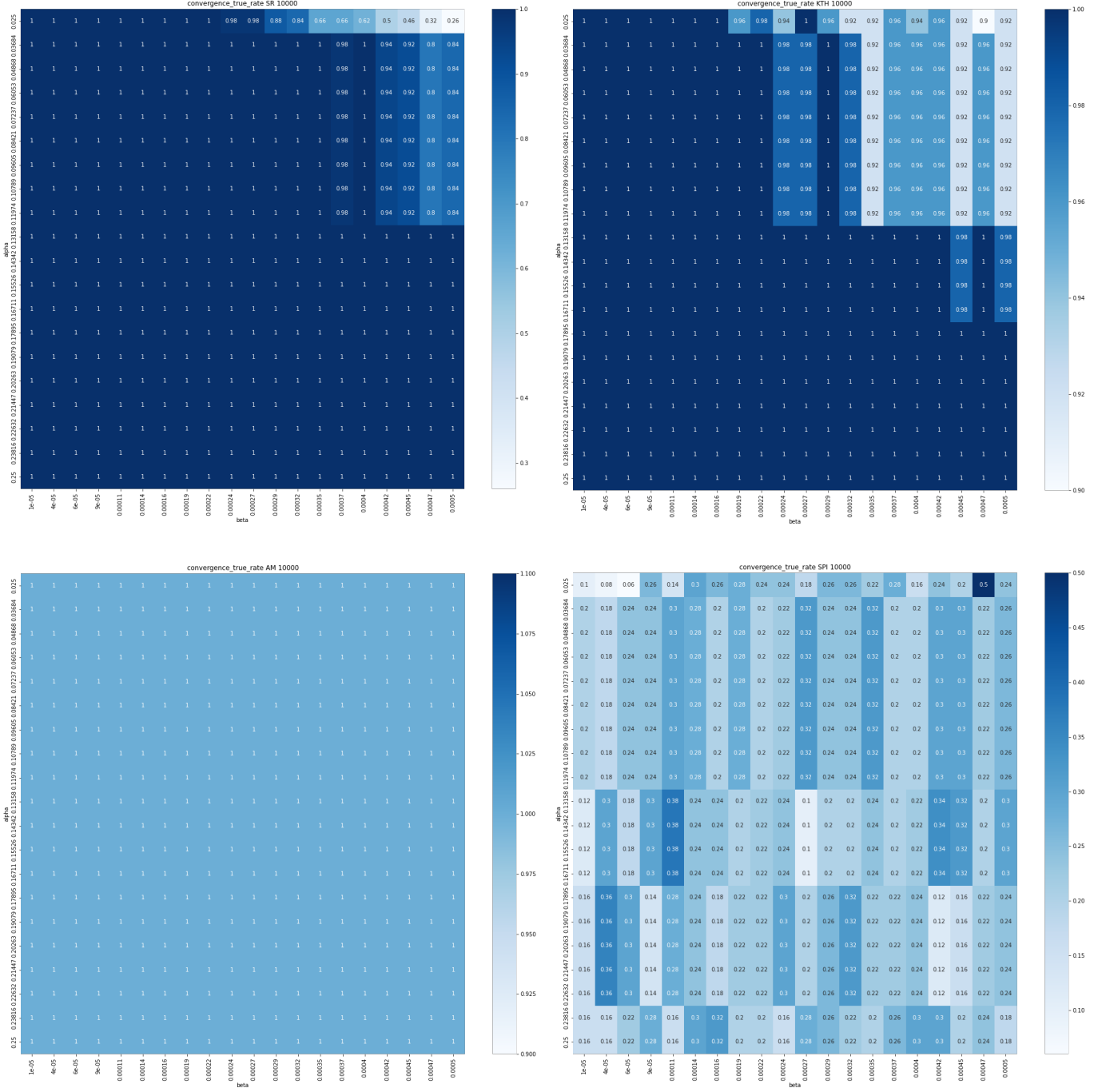
All results under the set of *Buyer Investment = 75, Seller Investment = 25.*