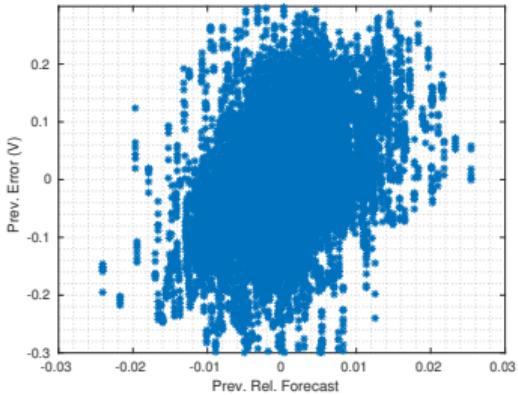
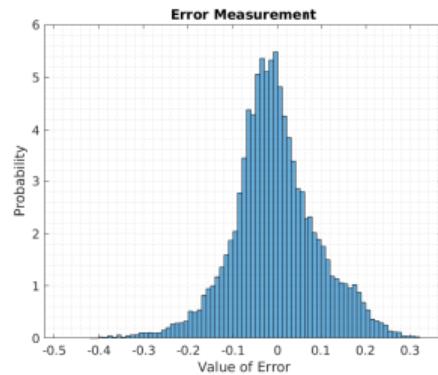
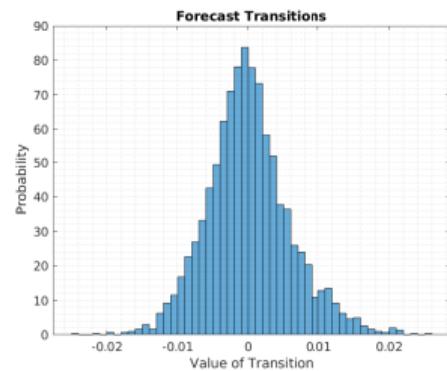


Error SDE (Z_t) moments

Renzo Miguel Caballero Rosas

April 3, 2020

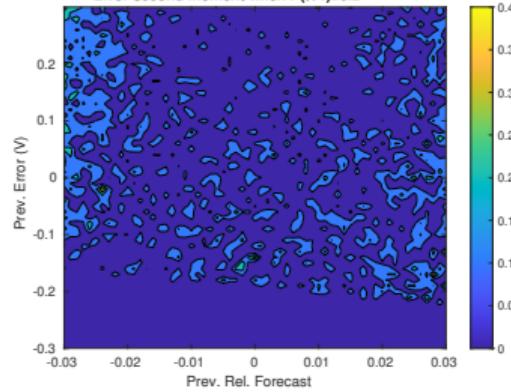
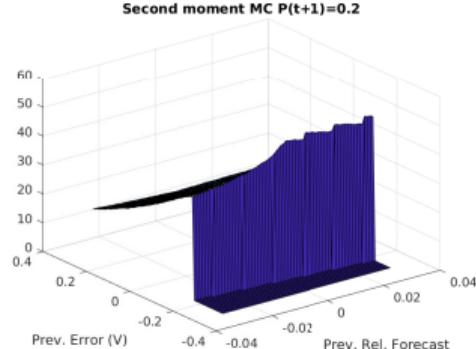
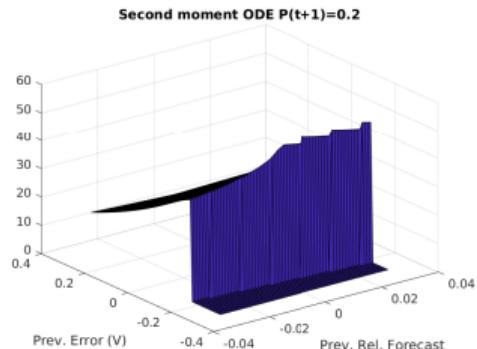
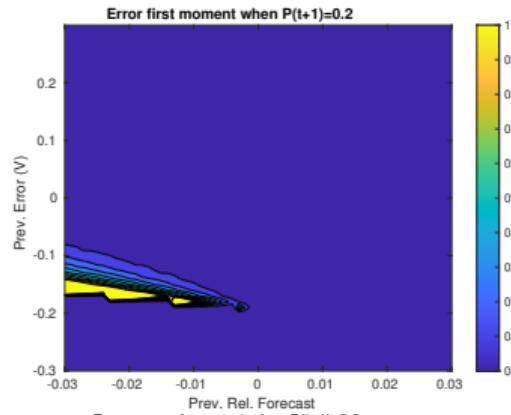
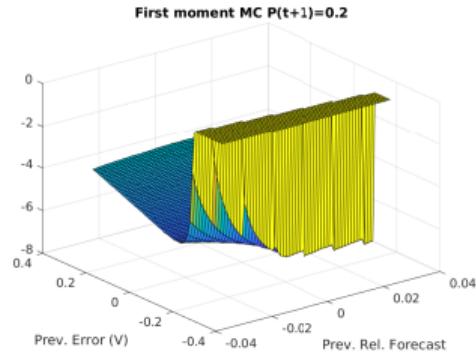
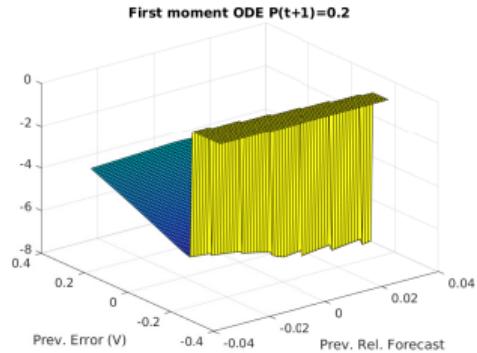
Data histograms:



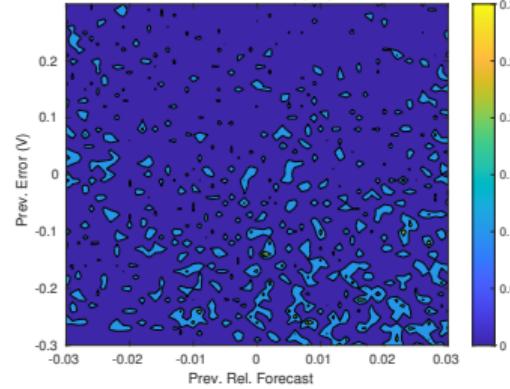
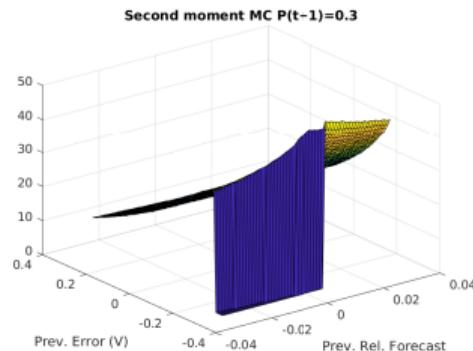
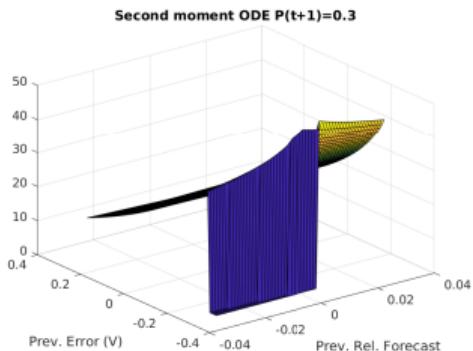
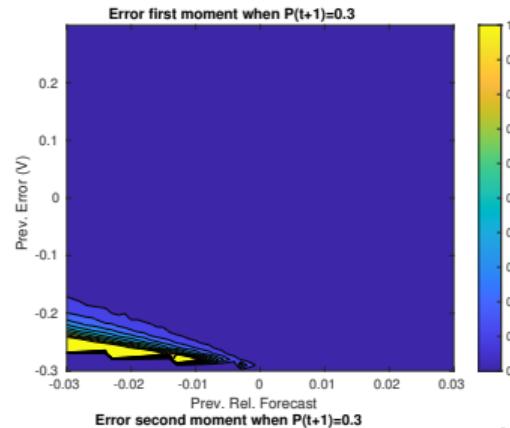
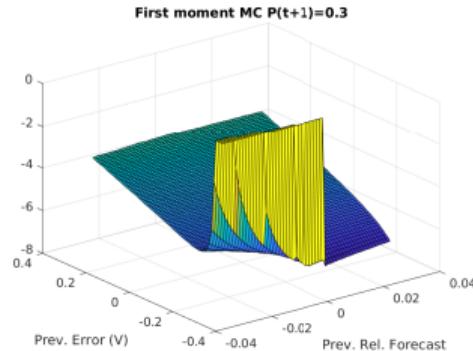
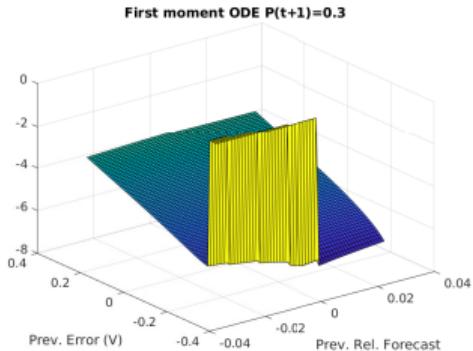
From here we can see that the errors are approximately in the interval $[-0.3, 0.3]$, and the forecast transitions in the interval $[-0.03, 0.03]$.

Then, we want to ensure that the moments are well approximated in the rectangle $[-0.3, 0.3] \times [-0.03, 0.03]$ (for $V \times \Delta p$).

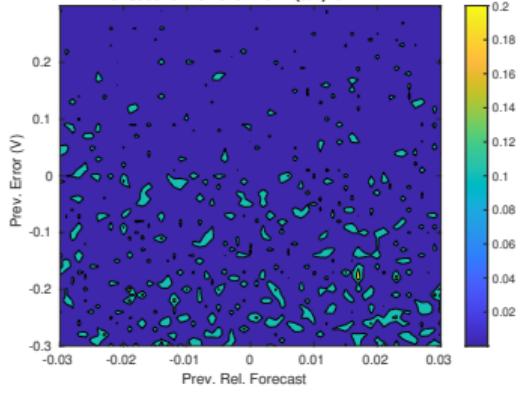
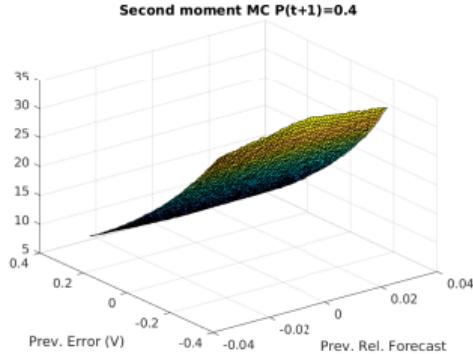
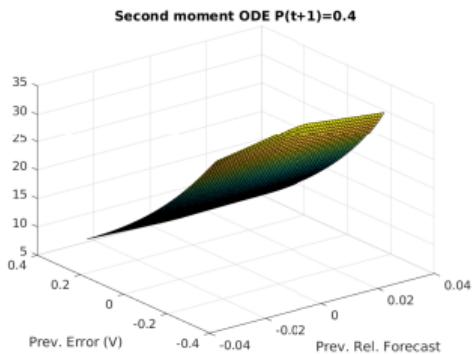
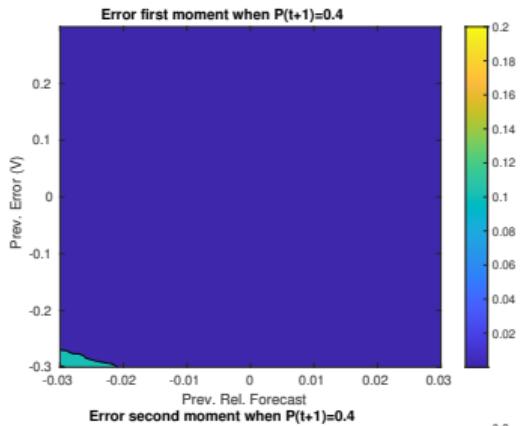
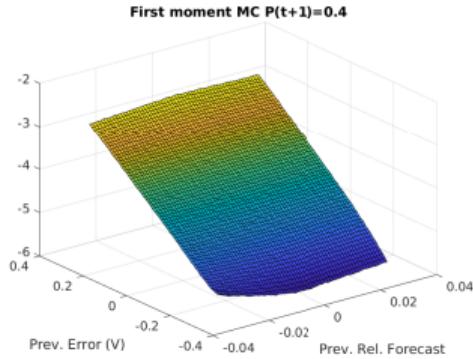
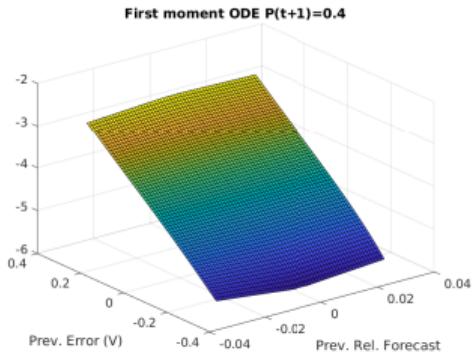
Approximated moments for Z_t :



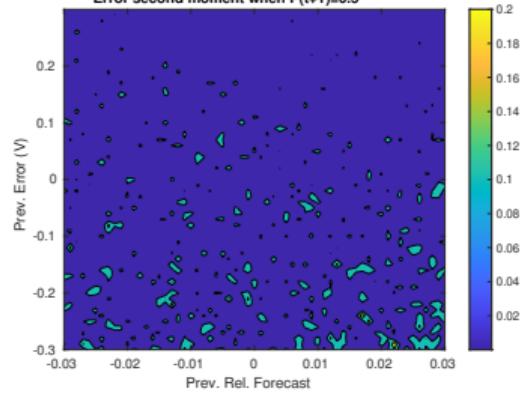
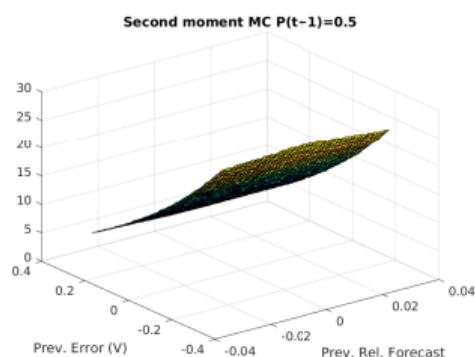
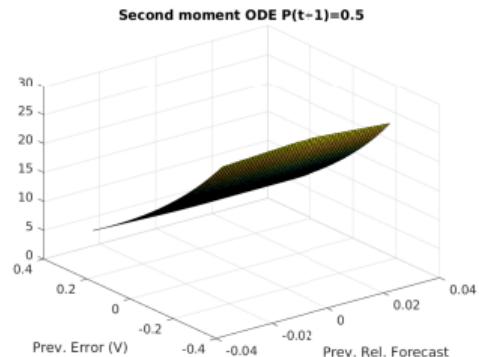
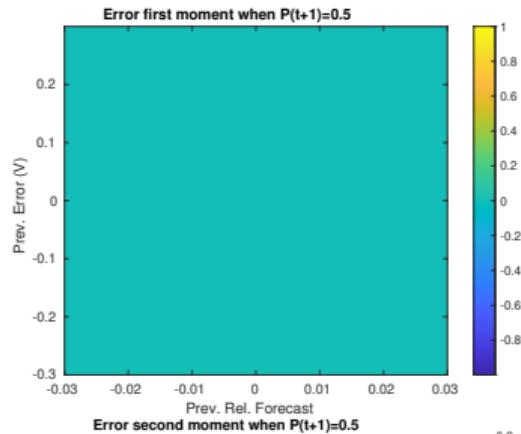
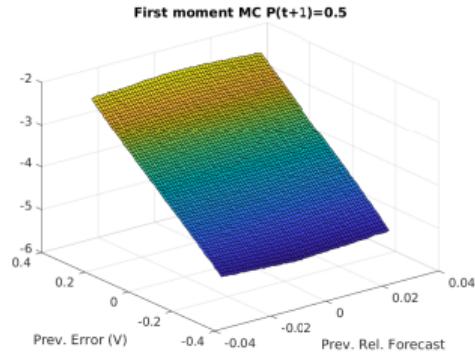
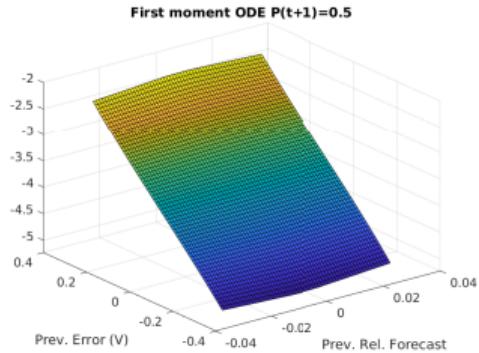
Approximated moments for Z_t :



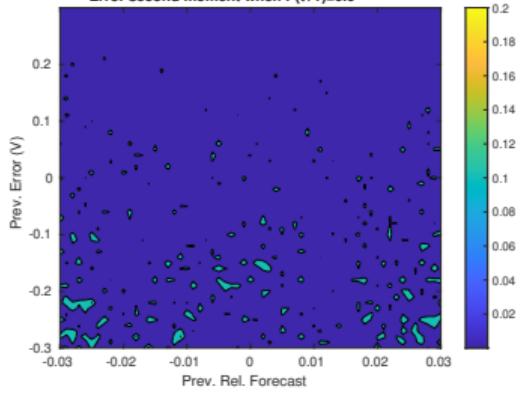
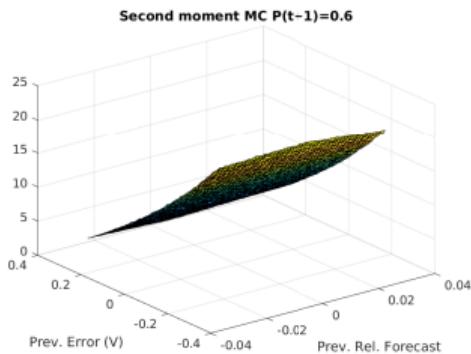
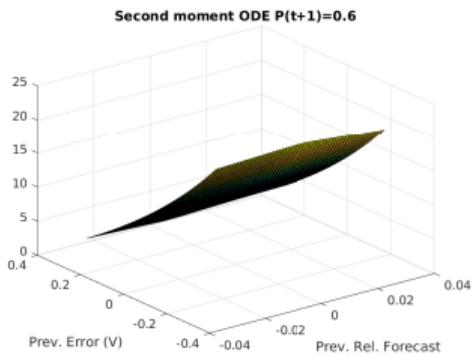
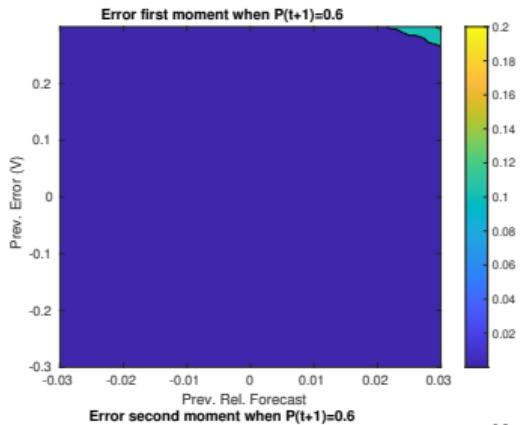
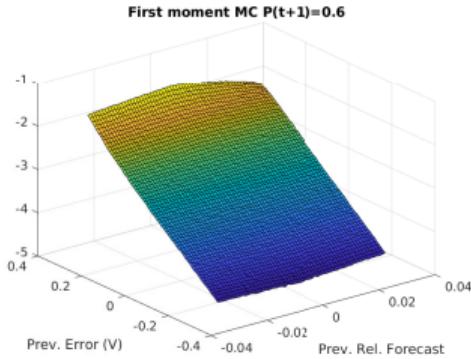
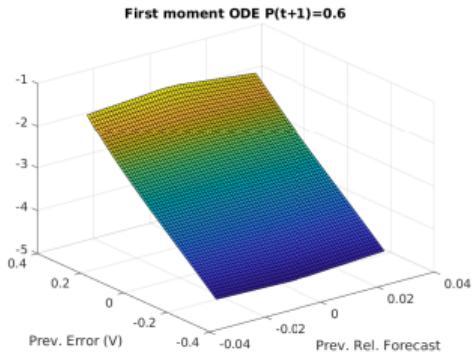
Approximated moments for Z_t :



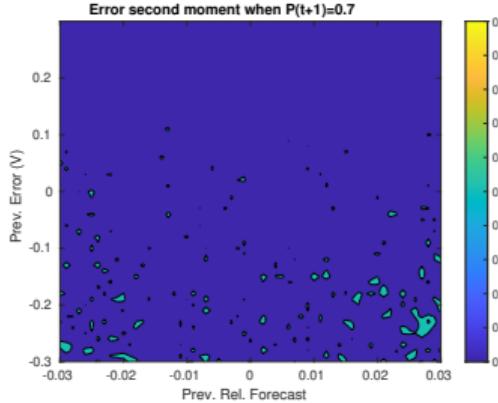
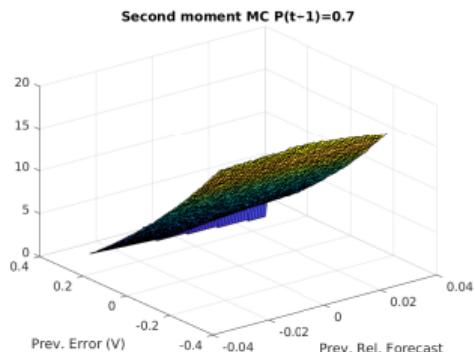
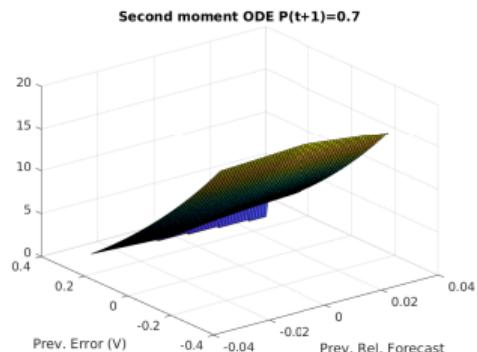
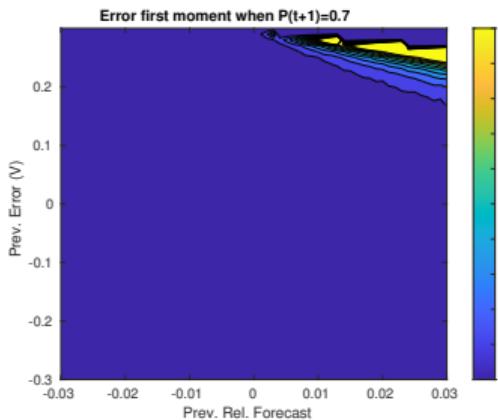
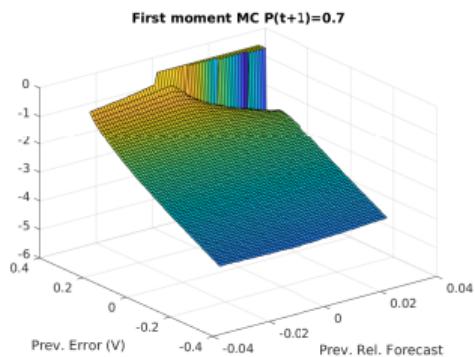
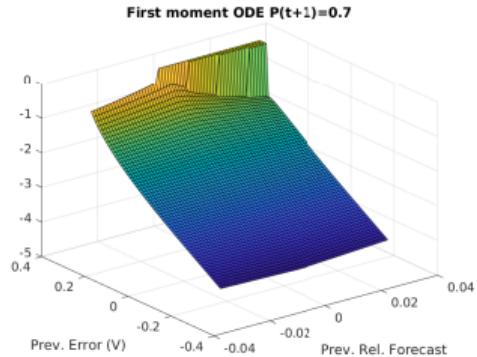
Approximated moments for Z_t :



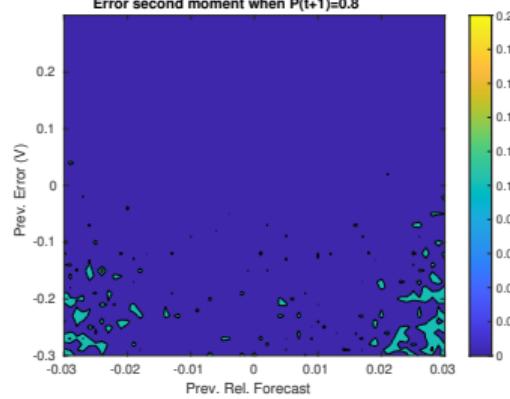
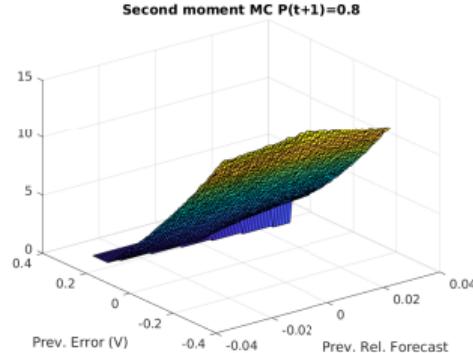
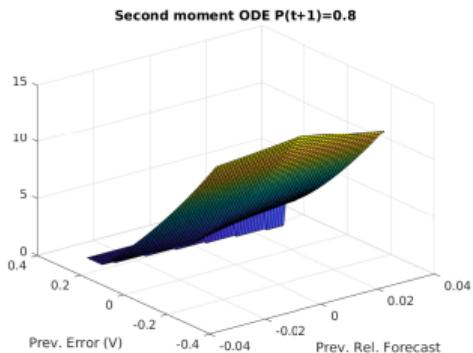
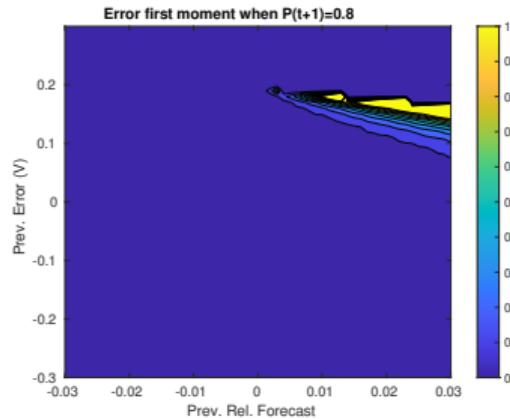
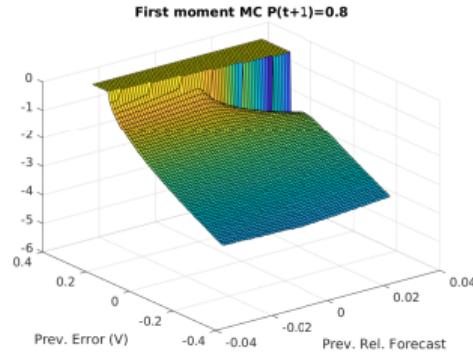
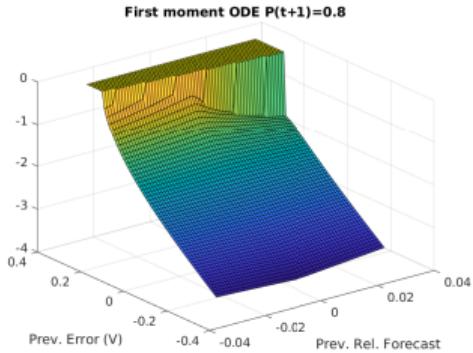
Approximated moments for Z_t :



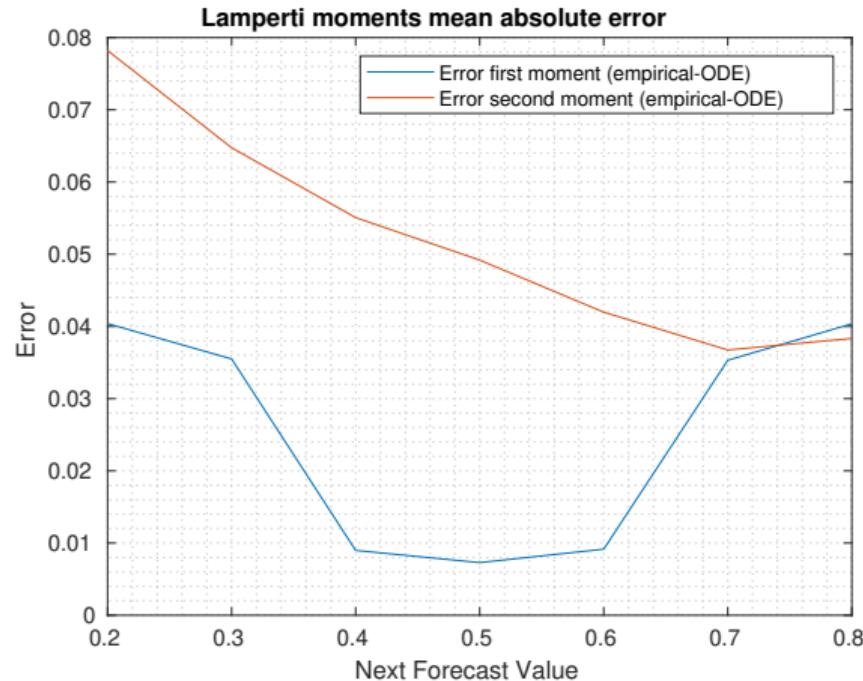
Approximated moments for Z_t :



Approximated moments for Z_t :



Approximated moments for Z_t :



$$V=x-p, \Delta p = p_{t+1} - p_t$$