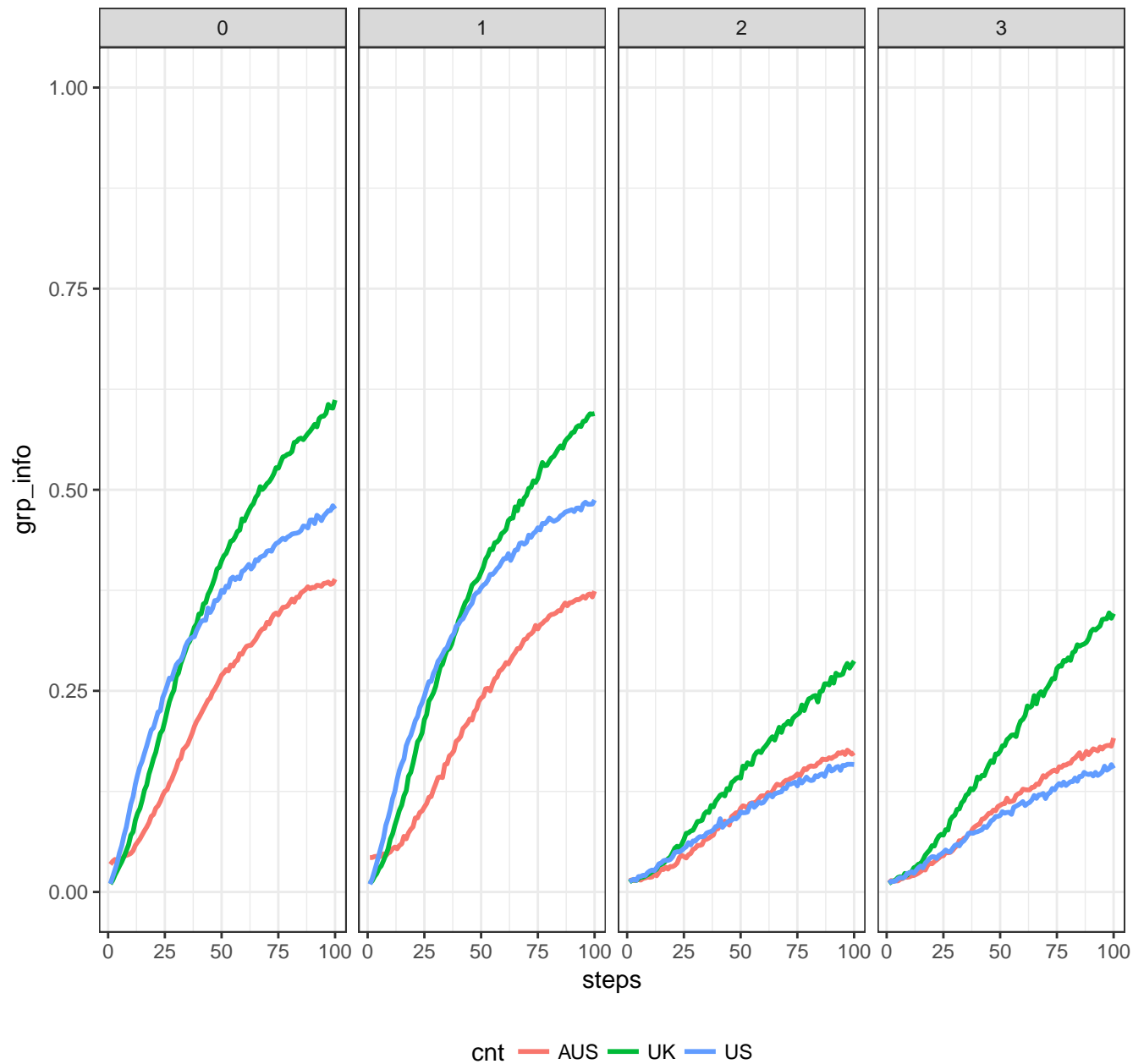Ratios over simulation