

Supplemental Online Appendix for “Instrumental Variable Quantile Regression with Misclassification” by Takuya Ura

Additional simulation results

This supplemental online appendix provides additional simulation results in the simulation designs in Section 6.2. The proposed inference method uses the Bonferroni size correction for the parameters (π_0, π_1) . To evaluate the conservatism of the Bonferroni correction, the proposed inference method is compared with the infeasible method with knowing $(p_0, p_1) = (\pi_0, \pi_1)$. The infeasible inference method is based on the true parameter (π_0, π_1) , and uses $T(\alpha; \pi_0, \pi_1)$ and cv in Section 5 with $size_2 = 5\%$.

For all the simulation designs, the proposed method rejects the alternatives less often than the infeasible method. The power comparisons are different between the alternatives larger and smaller than α_0 . On one hand, the power of the proposed method for the alternative smaller than α_0 is comparable to that of the infeasible method. On the other hand, the powers are significantly different for the alternative larger α_0 . I conjecture that the value of (p_0, p_1) might not be relevant to reject the alternative smaller than α_0 , because, as in Section 3, it is possible to get a lower bound for α_0 without using the variable D .

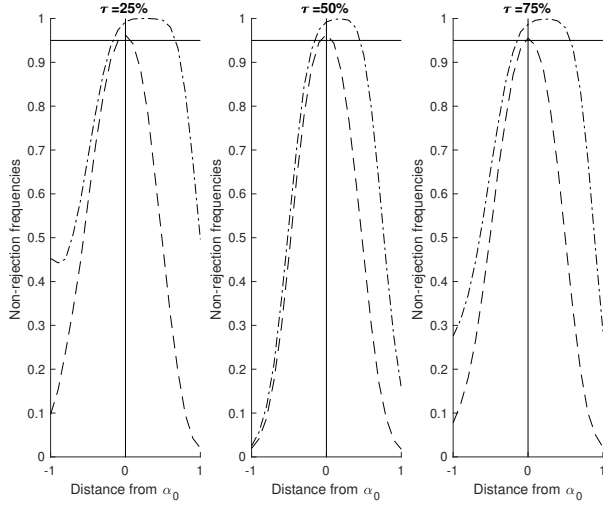


Figure 3.a: $\pi_0 = \pi_1 = 0$.

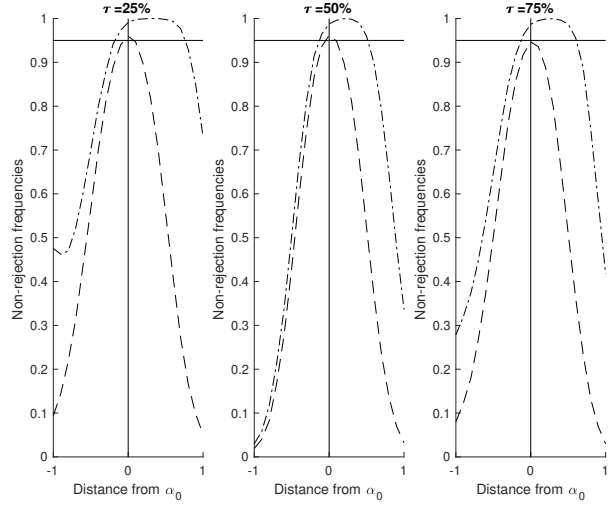


Figure 3.b: $\pi_0 = 0.1$ and $\pi_1 = 0$.

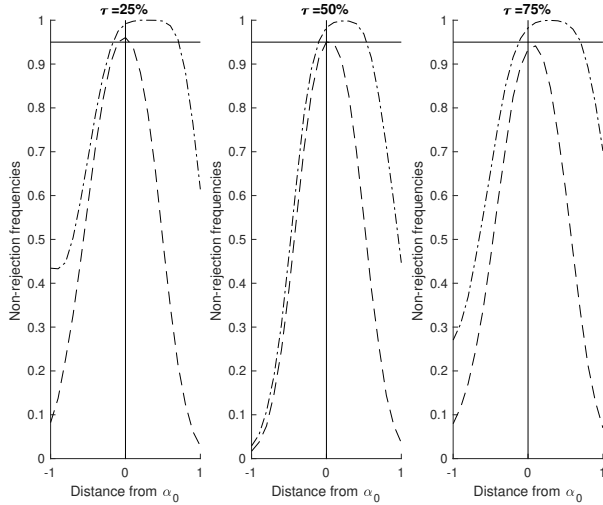


Figure 3.c: $\pi_0 = 0$ and $\pi_1 = 0.1$.

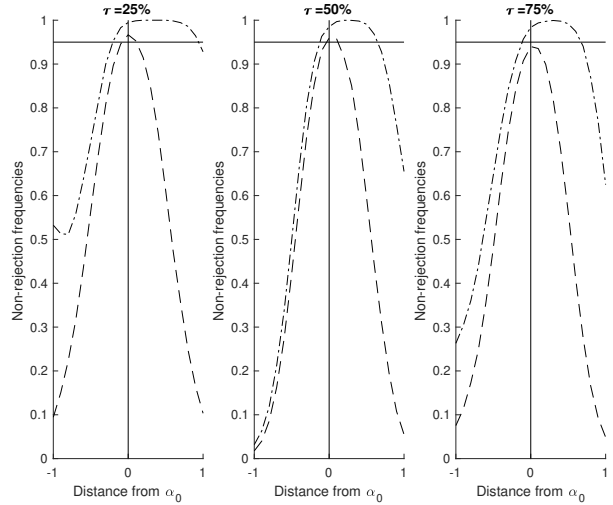


Figure 3.d: $\pi_0 = 0.2$ and $\pi_1 = 0$.

Figure 3: Coverage frequencies. The dash-dot (—.) curve represents the proposed inference method, and the dashed (--) curve represents the infeasible inference method with knowing $(p_0, p_1) = (\pi_0, \pi_1)$.

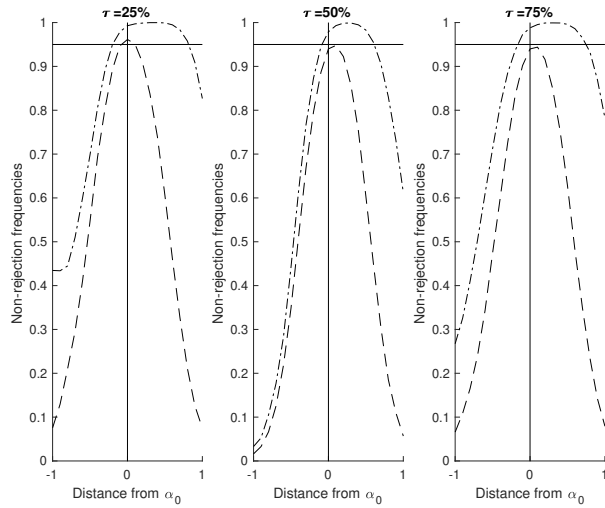


Figure 3.e: $\pi_0 = \pi_1 = 0.1$.

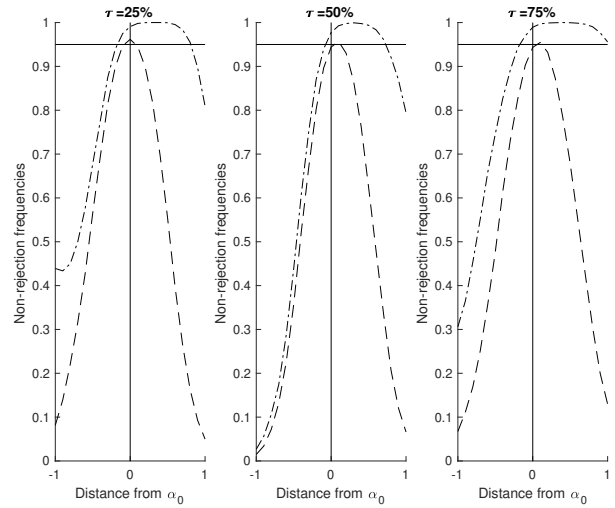


Figure 3.f: $\pi_0 = 0$ and $\pi_1 = 0.2$.

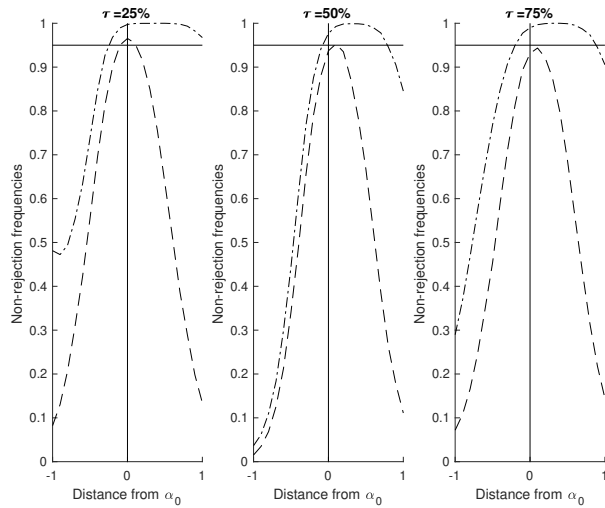


Figure 3.g: $\pi_0 = 0.2$ and $\pi_1 = 0.1$.

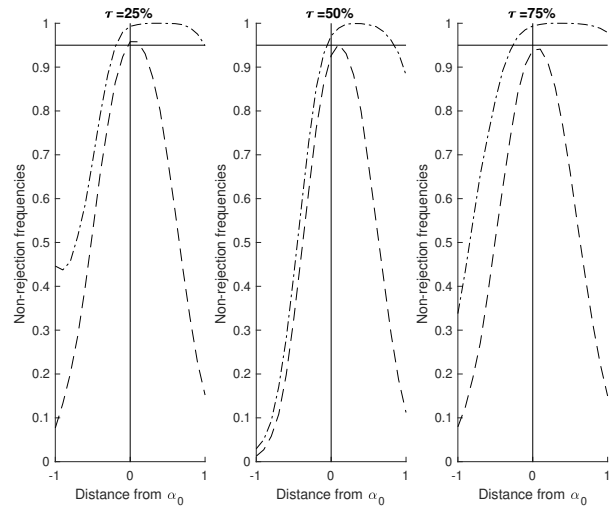


Figure 3.h: $\pi_0 = 0.1$ and $\pi_1 = 0.2$.

Figure 3 (continued): Coverage frequencies. The dash-dot (— · —) curve represents the proposed inference method, and the dashed (— —) curve represents the infeasible inference method with knowing $(p_0, p_1) = (\pi_0, \pi_1)$.