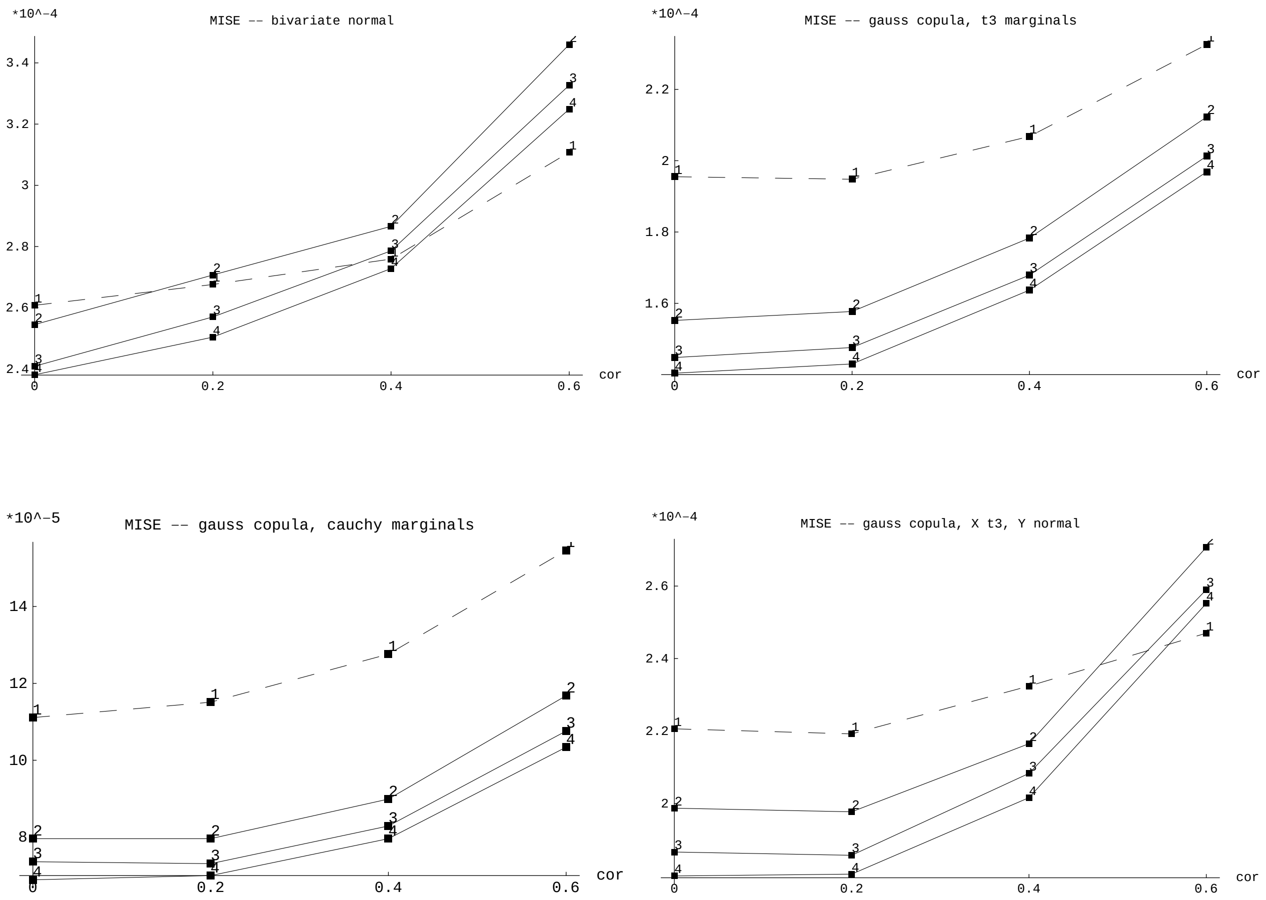

Figure 1: *MISE as a function of ϱ, in the case of the Gaussian copula.* MISE and ϱ are represented on the vertical and horizontal axes, respectively. In each panel the dashed curve, curve 1, corresponds to the bivariate kernel density estimator, and curves 2, 3 and 4 are for the copula based estimator with, respectively, $q = 20$, 50 and 100 extra observations in the Y sample. Throughout, $p = 0$ and and $n = 20$. In the first row of panels, both marginals are standard normal in the left panel and both are t_3 in the right. In the second row, both marginals are Cauchy in the left panel; in the right panel, X is t_3 and Y standard normal.

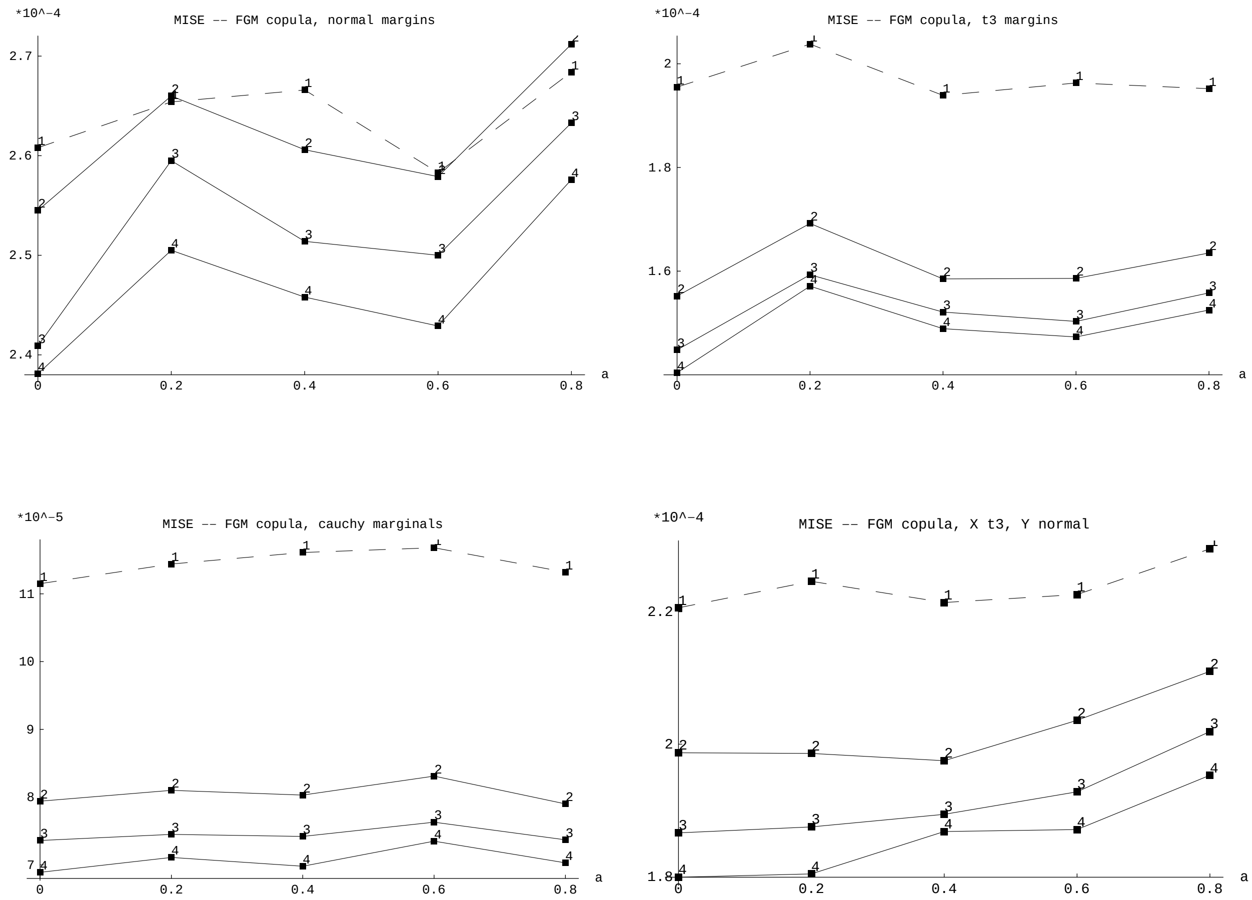

Figure 2: *MISE as a function of* a*, in the case of the Farlie-Gumbel-Morgenstern copula.* With the exception that a here replaces ϱ, all details are as for Figure 1.

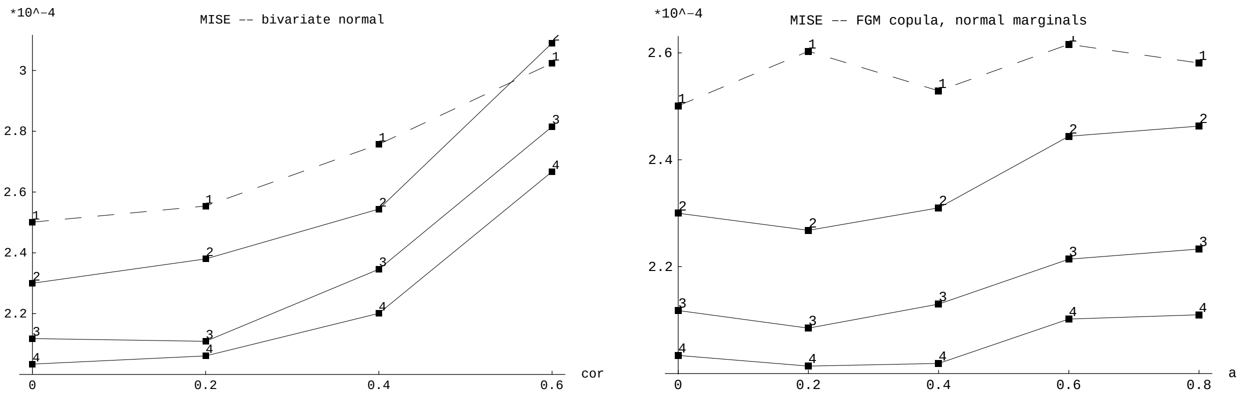

Figure 3: *MISE as a function of ϱ or a for different values of q, in the case of the Gaussian or Farlie-Gumbel-Morgenstern copula, in the left and right panels, respectively.* With the exception of copula type, and the fact that $p = q$ for the present figure, all details are as for Figure 1.

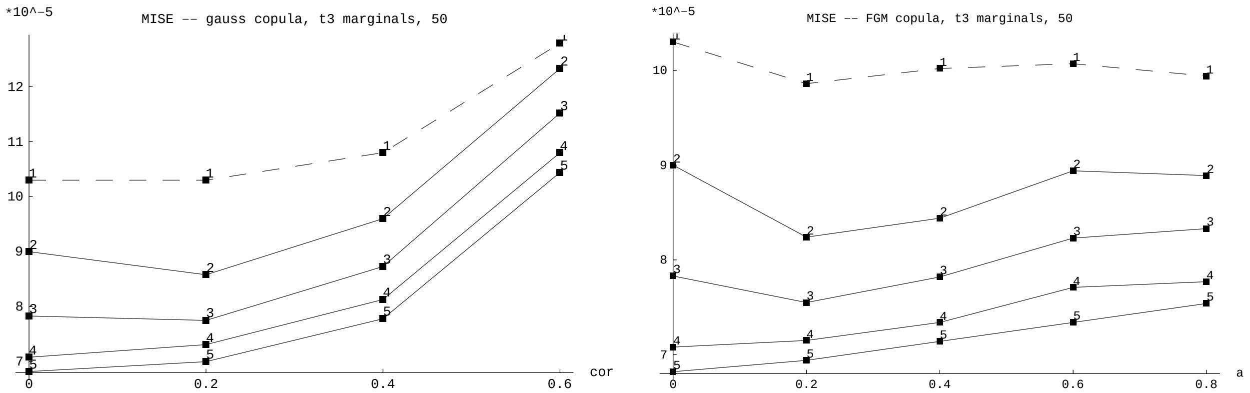

Figure 4: *MISE as a function of ϱ or a, in the case of the Gaussian or Farlie-Gumbel-Morgenstern copula, in the left and right panels, respectively.* Curve 1 corresponds to the bivariate kernel density estimator, and curves 2, 3, 4 and 5 are for the copula based estimator with $p = q = 20$, 50, 100 and 150 extra observations in the both samples, respectively. Both marginal distributions are t_3, and $n = 50$.

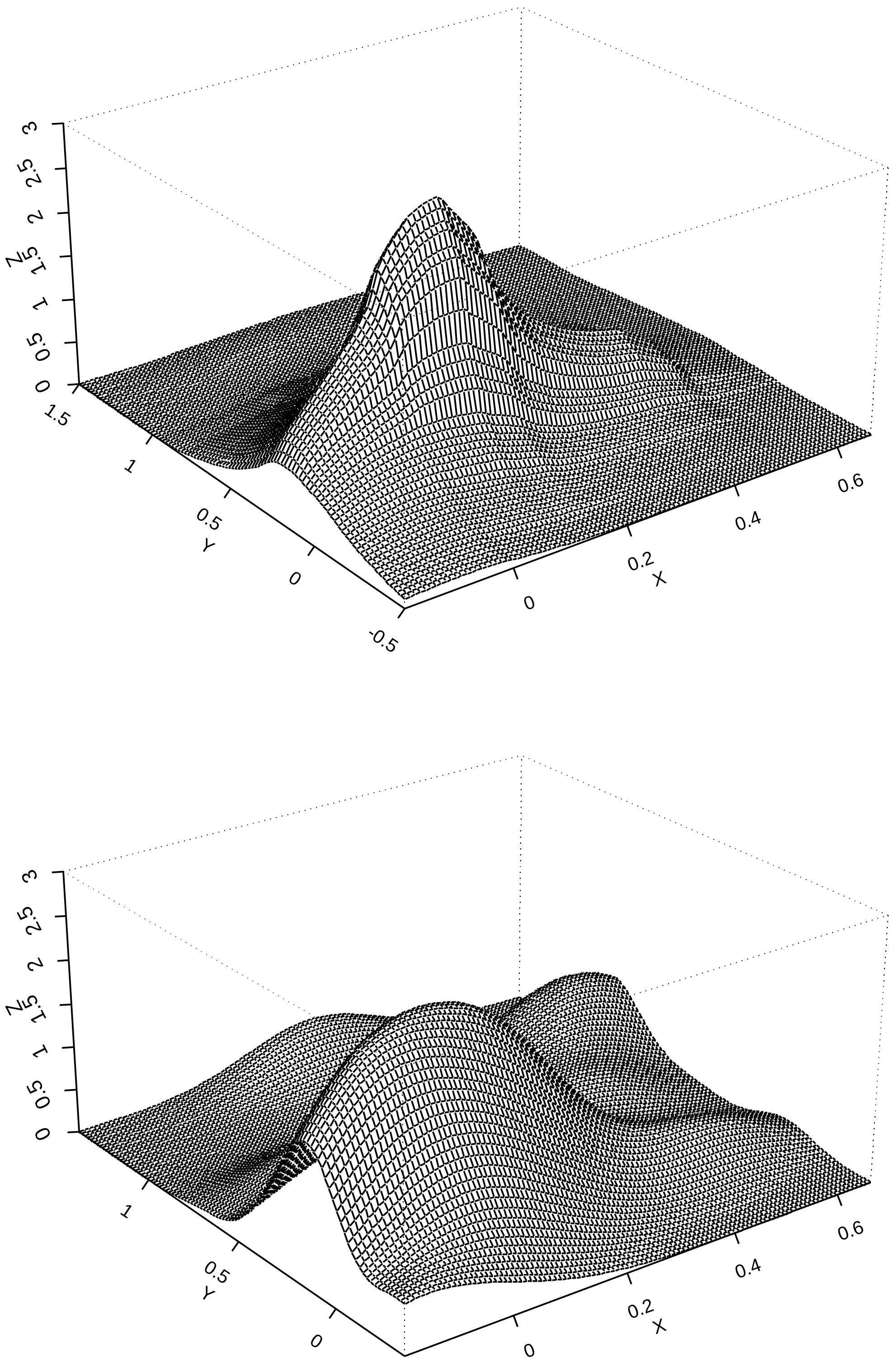

Figure 5: *Copula based and kernel estimators, in the upper and lower panels respectively, for the real dataset.*