

The thesis, through a simulation study, examines the behaviour of asymptotic tests for testing hypotheses that several coefficients in logistic models are zero. Likelihood ratio, Wald's, and Rao's tests are considered. The necessary theory is formulated to derive the form of the statistics of asymptotic tests for testing composite hypotheses in logistic regression. Based on the numerical treatment of simulated data, the levels of significance of these tests are investigated, with critical values of the chi-squared distribution. The powers of the tests are then compared, modified empirically so that all tests reject the null hypothesis at the 5% level. The main focus is on the dependence of these values on the sample size and parameter settings.