The thesis extends the univariate Poisson $INGARCH$ model to the bivariate $BINGARCH(1,1)$ framework. Three constructions of the bivariate Poisson distribution are presented, two of which admit negative covariance, and a necessary and sufficient condition is derived to ensure that the probability mass function is properly defined. Closed-form expressions for the moments of the $BINGARCH(1,1)$ model are obtained. Parameters are estimated with the help of (quasi-)maximum likelihood method, and their properties are assessed through a simulation study implemented in the R programming language.