

Supplementary material for the article  
“On community structure validation in real networks”

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## **Supplementary Figures**

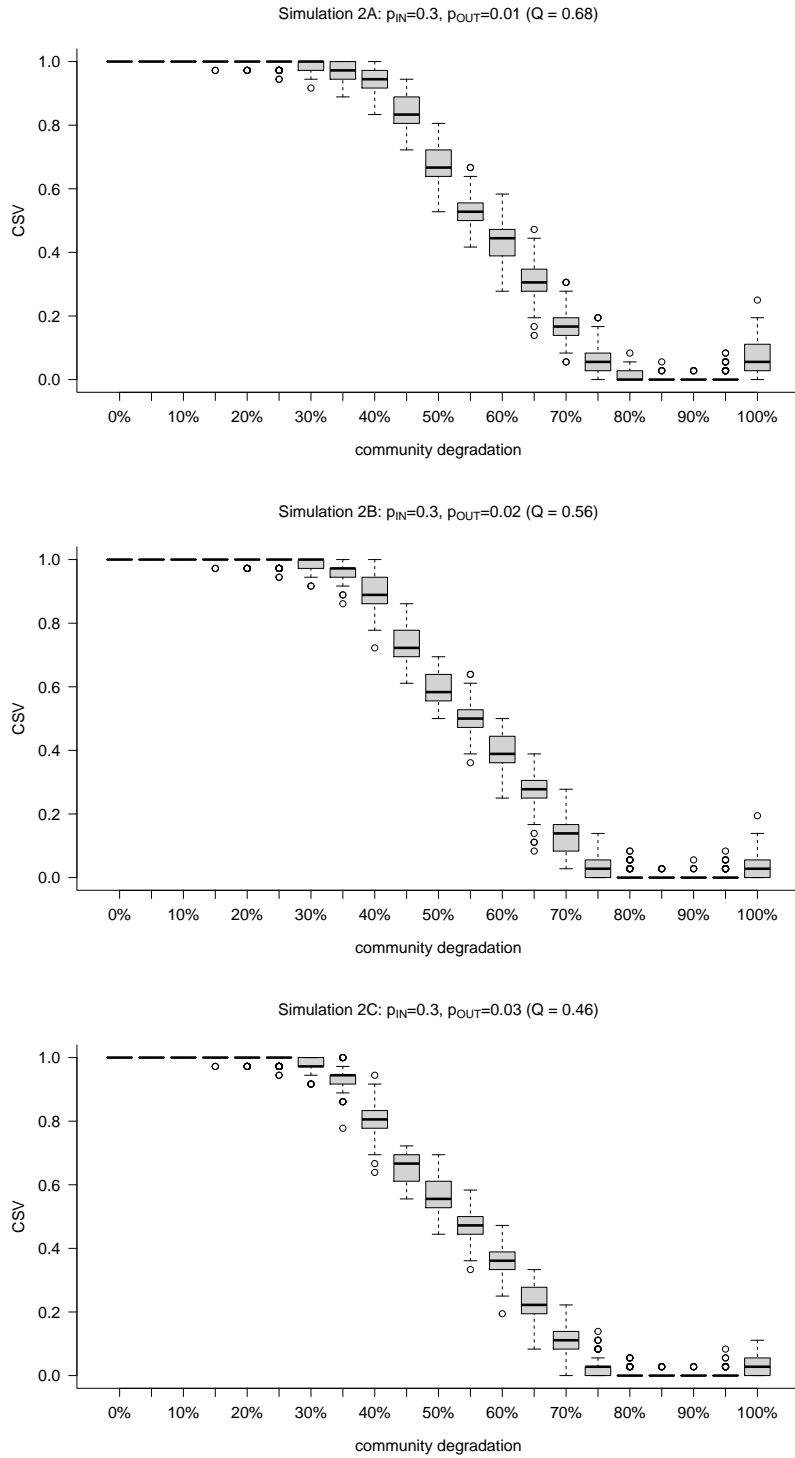


Figure 1: Distribution of CSV for different values of community degradation in Simulations 2A-2C.  $p_{IN}$  denotes the interaction probabilities within blocks ( $\theta_{rr}$ ),  $p_{OUT}$  those between blocks ( $\theta_{rr}, r \neq s$ ) and  $Q$  the modularity of the graph.

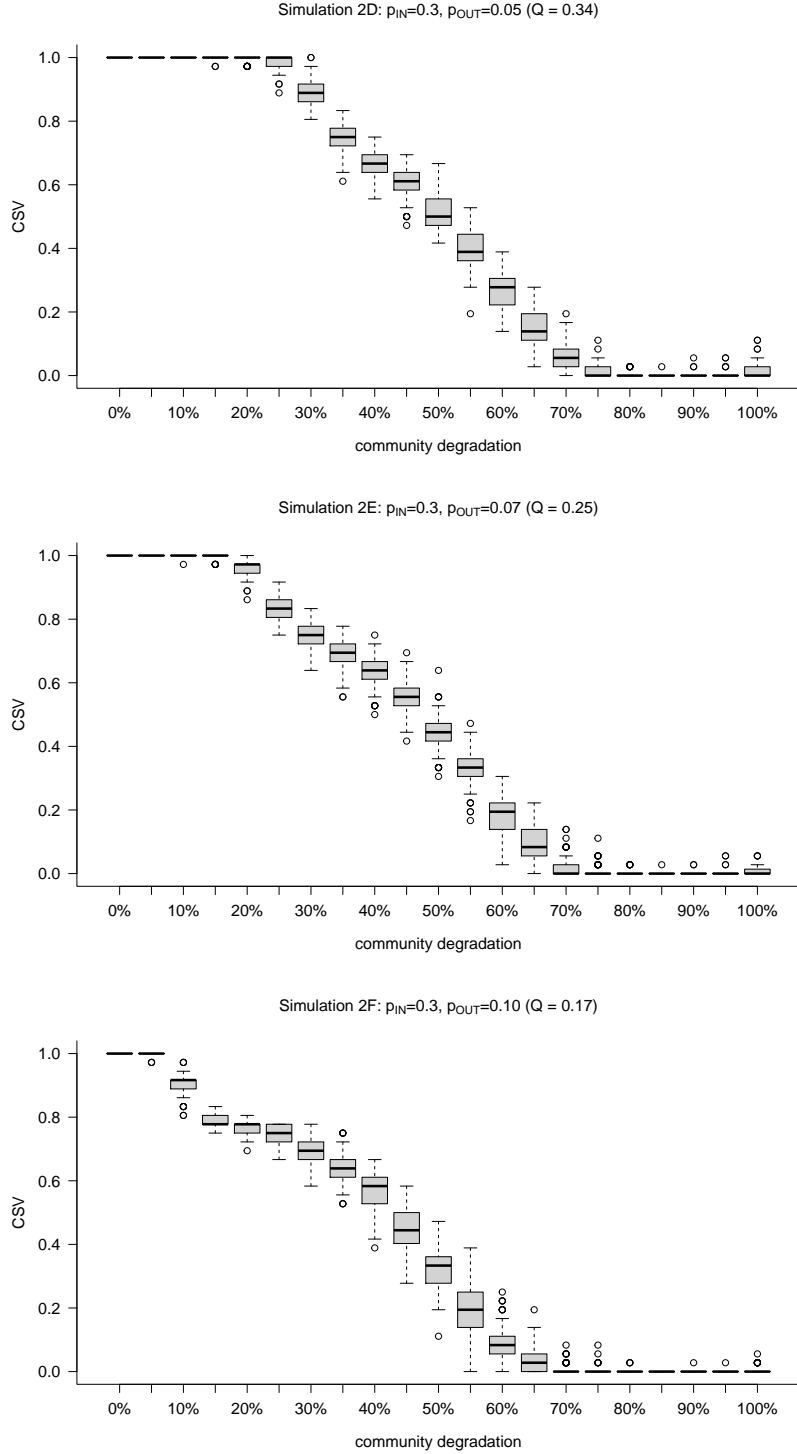


Figure 2: Distribution of CSV for different values of community degradation in Simulations 2D-2F.  $p_{IN}$  denotes the interaction probabilities within blocks ( $\theta_{rr}$ ),  $p_{OUT}$  those between blocks ( $\theta_{rr}, r \neq s$ ) and  $Q$  the modularity of the graph.

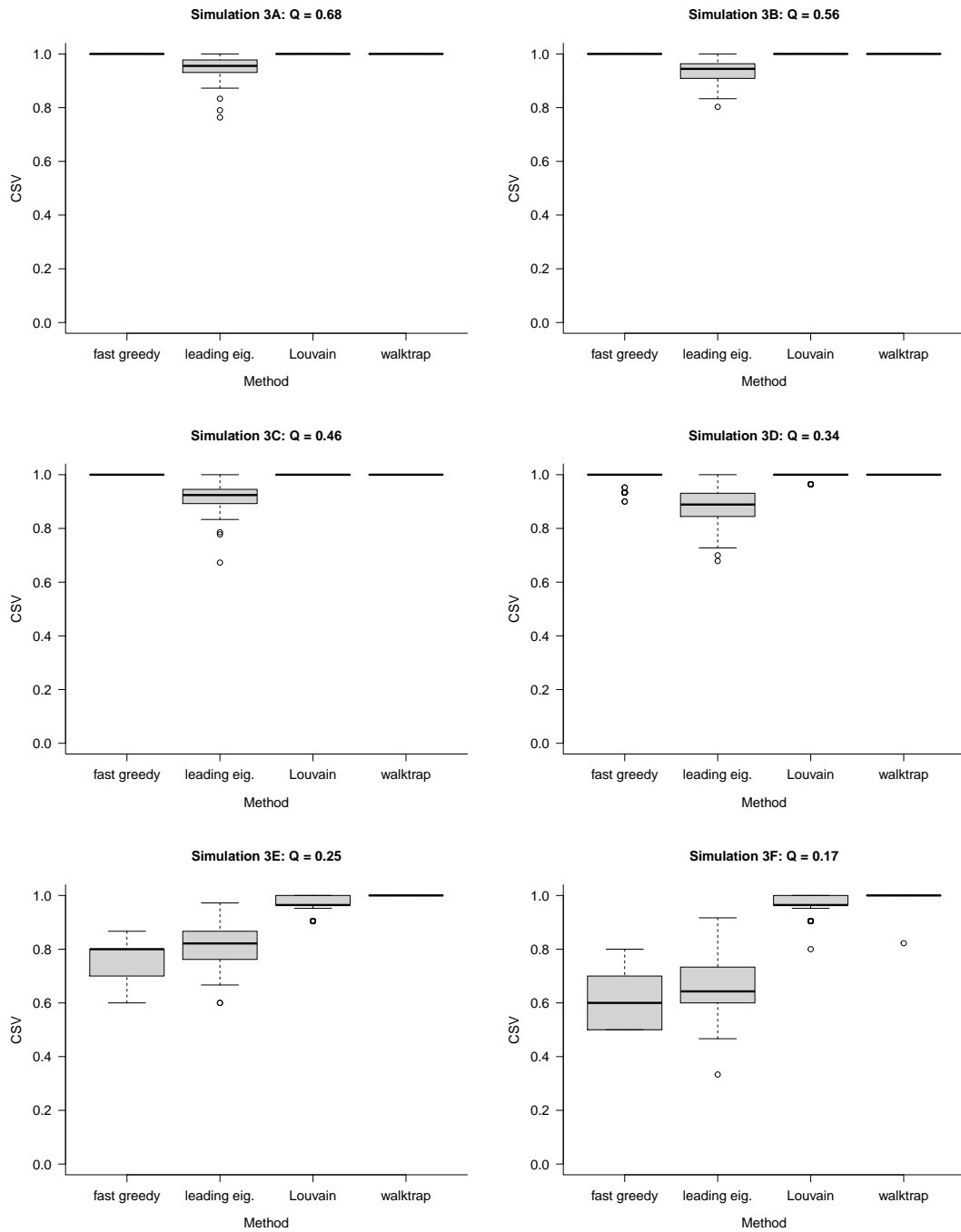


Figure 3: Comparison of four network clustering algorithms at different levels of modularity ( $Q$ ).

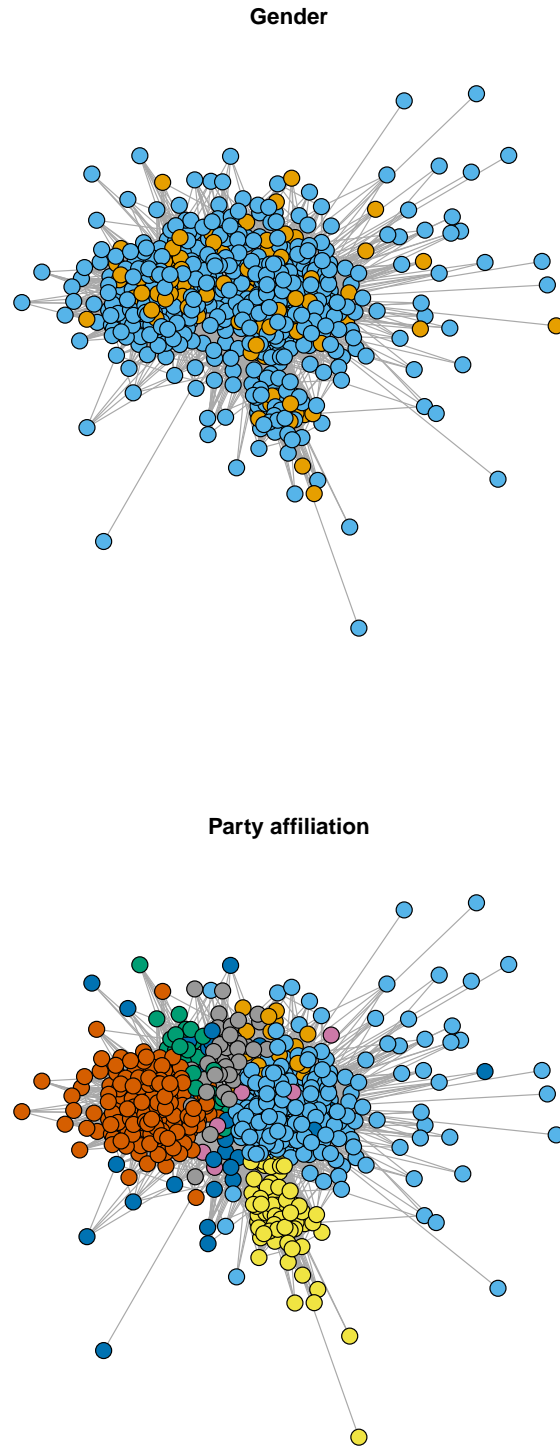


Figure 4: Bill cosponsorship network between Deputies in Italian Parliament during the XVI legislature (2008-2013) and metadata: gender (orange = female, lightblue = male) and party membership (colors correspond to the 8 parliamentary groups represented in the Chamber).