

## **The Role of Group Size, Public Employees' Wages and Control Corruption Institutions in a Game-Theoretical Model of Public Corruption**

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**Abstract :** This paper shows under which conditions public corruption can emerge. The theoretical model includes variables such as the public employee wage ( $w$ ), a control corruption parameter ( $c$ ), and the group size of interactions (GS) between clusters of public officers and contractors. The system behavior is analyzed using phase diagrams based on combinations of such parameters ( $c$ ,  $w$ , GS). Numerical simulations are implemented in order to contrast analytic results based on Nash equilibria of the theoretical model. Major findings include the functional relationship between wages and network topology, which attempts to reduce the emergence of corrupt behavior.

**Keywords :** public corruption, game theory, complex systems, Nash equilibrium.

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