

The thesis: 129 p., 33 fig., 7 tabl., 2 appendixes, 23 sources.

We study the problem of corruption suppression using mathematical modeling and optimization, ie using Pontryagin maximum principle and game theory.

Completed review and build models for the two preferred methods. The study of corruption suppression using optimal control was set veracity assumption that corruption has a dominant overall strategy. It is proved that there are two local stable equilibrium, namely one where everyone is corrupt and it takes corruption and another where all people are honest and corruption uniformly condemned.

The study using game theory found so-called effect chain reaction that occurs in a heterogeneous case lies in the fact that agents of the increasing corruption opportunities consistently refused to participate in corruption as far as how they are becoming less and unit costs means to check their actions spontaneously grow.

The system is implemented with usage of the programming language C#, there are examples of programs for the expected population of corruption. This system allows you to upload and enter data reflects the description of the model and calculates the desired value. The ways possible to further improve the system.

CORRUPTION, PONTRYAGIN'S MAXIMUM PRINCIPLE, CORRUPTION STORAGE FUNCTION (UTILITY FUNCTION), MODEL "HEAD-SUBORDINATE", OPTIMAL STRATEGIES, EQUILIBRIUM PER NASH