

Effect of Corruption A Mathematical Study Using Difference Equations

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Dedicated to Prof. Hari M. Srivastava on his 75th birth anniversary

Abstract: Corruption has been prevalent since ages. Government of all countries are affected by corruption. The purpose of this paper is to analyse effect of corruption in government through expenditure and revenue. Mathematical study is done by using difference equations. There is a consensus that real magnitude of corruption can not be measured. In this paper, the corruption is being estimated by a parameter corruption index of the country under consideration.

The aim of this article is to create awareness on the effect of corruption on economic growth and development of any country. The paper is concluded by considering some numerical example and discussing the effect of corruption.

Keywords: Corruption Precision Index, Magnitude of corruption, Government expenditure and revenue.

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1. Introduction

Corruption scandals affect the economy of all countries. Corruption continues to pose a significant challenge throughout the globe. Transparency International (a major anti-corruption organization) defines corruption as Corruption is the abuse of entrusted power for private gain. Increasing corruption can act as a speed-breaker in the Indian growth story. The 2012 Transparency International Corruption Perceptions Index ranks India 94 out of 176 countries (100 very clean - 0 most corrupt) [3] indicating the severity of the issue.

We analyse the effect of corruption on government expenditure and revenue. The purpose of this paper is to show that output and growth are influenced by the level of corruption. We present a model that will be used to measure the effect of corruption on economic growth in India. The growth of economy has been considered as growth rate of GDP (gross domestic product) [11].The corruption