

Effects of R&D, innovation and investments on development in Türkiye: An empirical investigation for the 1990-2019 period¹

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Abstract

This study aims to examine the effects of research and development expenditures, innovation, and investments on development between 1990-2019 in Turkey. In the examination, the Auto-Regressive Distributed Lag (ARDL) model was used as a method. The reason for the use of this method in the analysis is that the variables are static at different levels. As a result of the analysis performed in this direction, it was found that there was a cointegration relationship between the variables. Then the error correction model was established and the long-term coefficients of the series were estimated. In the forecasts, a positive and statistically significant relationship was found between research and development expenditures and development in the long term. Between innovation and development, there was a positive but statistically meaningless relationship. In the analysis, it was concluded that there was a negative and statistically meaningless relationship between development and investments.

1. Introduction

Development is an important indicator of whether a country has developed economic, social, cultural, political, educational, health, and many similar issues. Therefore, they aim to develop by improving indicators that improve the quality of life of their citizens such as increasing prosperity in each state country, developing health and education system, making innovations, and providing security and peace (Aytekin, 2021).

Investment is one of the basic dynamics necessary to achieve economic growth which is accepted as the locomotive of development. Therefore, while a country can grow economically by increasing its investments, the continuity of investments brings stability to economic growth in that country. This stability is an important driving force for development. Other important ways of capturing stability in economic growth, technology, human capital, specialization in certain areas, and many similar innovative policies, especially research & development (R&D) and innovation, are to apply. Such policies to be implemented are the driving force for development as in investments (Aytekin, 2021).

Some of the studies dealing with innovation, R&D, investment, and development in the literature Crosby (2000), Lederman & Maloney (2003), Bilbao-Osorio & Rodríguez-Pose (2004), Sharma & Gani (2004), Ünlükaplan (2009), Samini & Alerasoul (2009), Wu (2011), Akbey (2014), Bujari & Martinez (2016), Firat et al. (2016), Gökmenoğlu et al. (2018), Jimenez & Zheng (2018), Nurpeisova et al. (2020), Özer & Ünlü (2020) and Aytekin (2021).

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