Journal of Asian Economics 50 (2017) 46–61

Contents lists available at ScienceDirect

Journal of Asian Economics

# The internal dynamic of Indian economic growth[☆]

Pulapre Balakrishnan[a,b], Mausumi Das[c,*], M. Parameswaran[d]

[a] Ashoka University, New Delhi, India
[b] Indian Institute of Management, Kozhikode, India
[c] Delhi School of Economics, New Delhi, India
[d] Centre for Development Studies, Thiruvananthapuram, India

ARTICLE INFO

*Article history:*
Received 17 July 2016
Received in revised form 2 March 2017
Accepted 30 March 2017
Available online 11 April 2017

*JEL classification:*
O11
O41
O47

*Keywords:*
Economic growth
India
Cumulative causation
Increasing returns
Producer services

ABSTRACT

A stylised fact of India's economic history since 1950 is that the rate of growth of the economy has accelerated periodically and across policy regimes. In this paper we present a theoretical framework that can generate such a pattern due to cumulative causation through positive feedback. The growth process is then investigated using cointegration analysis. We are able to establish the existence of positive feedback which is at the centre of cumulative causation. We are also able to date the onset of this mechanism which has driven growth in India for close to half a century by now. This leads us to conclude that the internal dynamics are at least as important as the policy regimes to understand growth over the long term in this country.



## 1. Introduction

A stylised fact of India's economic history since 1950 is that the rate of growth of the economy has accelerated, by which we mean it has increased periodically. During this period there have been two distinct policy regimes in place. The mid-50s had witnessed the launch of what has been referred to as the Nehru-Mahalanobis Strategy[1] which aimed at industrialisation within a regime characterised by investment licensing and restrictions on international trade and capital movements. This had lasted more or less unchanged till 1991 when a substantial liberalisation of the policy regime took place. The main aspects of this change were the ending of the licensing of private investment and the rescinding of many of the controls on international trade and payments. In the interim there had been policy changes, some even significant, but in our view these did not amount to what may be considered a regime change. While there has certainly been an acceleration of growth since

☆ We thank two anonymous referees and the editor of this journal for useful comments and suggestions. We would also like to thank seminar audiences at the Indian Statistical Institute, Delhi School of Economics and the Centre for Development Studies for discussion, and E. Somanathan, Lokendra Kumawat and Bharat Ramaswami for suggestions. Responsibility is ours.
* Corresponding author.
*E-mail address:* mausumi@econdse.org (M. Das).
[1] See Chakravarty (1987).

http://dx.doi.org/10.1016/j.asieco.2017.03.002
1049-0078/

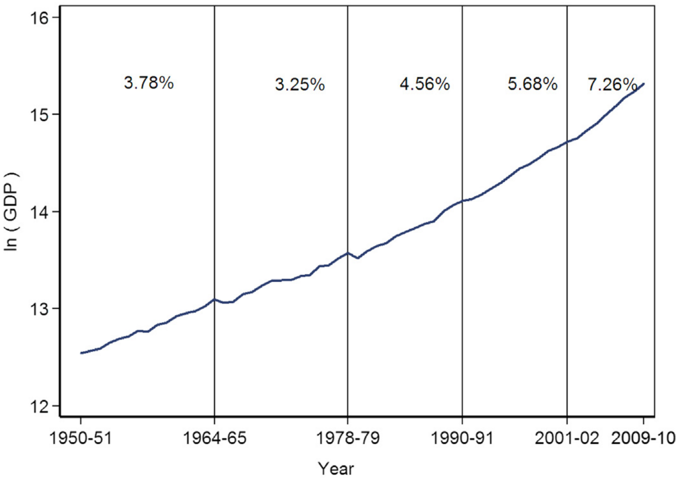


**Fig. 1.** Growth transitions in India 1950–2010

the liberalisation of the policy regime in 1991 the growth rate of the economy had actually accelerated at least once before that date. This feature has been remarked upon as requiring explanation.[2] Actually, economists have not only pointed out that the accelerations have taken place while the policy regime had remained more or less unchanged but that they have taken place without an upward shift in the variables usually identified as likely to matter for growth transitions, such as the savings rate, foreign direct investment or exports.[3] In a comment that has a bearing on the issue of growth accelerating without any significant change in the policy regime the authors have observed that the acceleration that they date to the seventies occurred at a time when "... India had acquired a reputation as one of the most protected and heavily regulated economies in the world." In this paper we propose a model of growth based on cumulative causation that generates accelerating growth in the economy once it crosses a threshold size. Next, we test for the presence of such a mechanism in the data. We are able to detect its presence and date its initiation.

## 2. History of growth in India

The history of growth in the Indian economy since 1950 is that the growth rate has increased over time. This pattern of acceleration may be seen in Fig. 1 below which depicts the different growth phases of the economy. These have been identified using the Bai and Perron (1998) procedure.[4] From Fig. 1 it may be noted that, except for one phase, the rate of growth of the economy has accelerated periodically. Two observations are in order here. First, the slight decline in the rate of growth after 1964–65 is arguably related to two consecutive years of exceptional drought, with a direct impact on agricultural production, and a severely reduced growth of public capital formation which lasted for a whole decade. Both are in the nature of exogenous shocks and may reasonably be assumed to be unrelated to the internal dynamic of the growth process.[5] When the Bai-Perron procedure is repeated with the outliers, namely the level of GDP in the years 1965–66 and 1979–80, excluded we find a continuous acceleration of the economy.[6] The repeated acceleration of the Indian economy is therefore established as a stylised fact. Secondly, Fig. 1 does not reveal an acceleration that had occurred in the first half of the nineteen fifties. The Bai-Perron exercise requires a trimming of the data at both ends of the sample as a regime switch is required to last a certain length of time to be counted as one. In the underlying exercise we have followed the established convention of allowing for a 15 percent trimming, implying a data stretch of approximately eight years given our sample size. Thus an acceleration in the first half of the 1950s could not have been identified, as sample begins with 1950. On the other hand, when data for the entire twentieth century is considered, an acceleration is evident in the first half of the nineteen fifties. So the acceleration of growth in India had actually commenced even earlier than reflected in Fig. 1. Note that these accelerations occurred even before any overhauling of the policy regime which had remained more or less unchanged since the 1950s till 1991 when significant trade and industrial policy reforms were initiated. These reforms assigned a larger role to the market and took the Indian economy in the direction of greater integration with the rest of the world. We take the observed behaviour to imply that the internal dynamics of the growth process, which may be understood as the mechanism

[2] The economist who first proposed that growth acceleration in India happened before 1991, and therefore did not coincide with a change in the policy regime, was DeLong (2003).

[3] See Kotwal, Ramaswami, and Wadhwa (2011)

[4] All details relevant to this estimation may be found in Balakrishnan and Parameswaran (2007).

[5] These events and their impact on the economy have been documented in Balakrishnan (2010). How exogenous shocks can affect the internal dynamics is discussed in Section 3.

[6] The breakpoints however alter. The estimates may be had from the authors upon request.