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# Growth Transitions in India: Myth and Reality

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# Growth transitions in India: myth and reality

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*Abstract: Growth has for long remained a central topic in economic policy considerations of the government in India. However, there has also been a scholarly interest in it among social scientists. As a part of the latter tradition, this paper addresses the proper delineation of the phases of growth in India, a matter of some discussion in the literature. Using state-of-the art statistical methodology it first establishes the trajectory of growth and then provides a theoretical explanation for that history. With data spanning the period 1950-2020, the procedure adopted is also able to assess the impact on economic growth of the policies of the present government. The results are conclusive. First, it is established that growth in India has accelerated continuously since the fifties, implying that dynamism in the economy did not have to wait for the liberalising reforms launched in 1991. Next, the performance of India's economy is compared to growth that has taken place in the rest of the world. It is seen that while India's economy has in recent years shown a dynamism relative to the rest of the world, it has consistently fallen behind its most dynamic regions, notably in East Asia.*

*JEL Codes: N1, O2, O4, O5*

*Keywords: Growth, Indian Economic History, Developmental State*

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## I. Introduction

It took a statistician to point to the role of narratives in shaping perception about reality: “You need a story to displace a story. Metaphors and stories are more potent than ideas; they are also easier to remember and more fun to read. Ideas come and go, stories stay.” (Nissim Nicholas Taleb: ‘The Black Swan’) Though we appreciate this insight into the formation of knowledge, we yet believe that statistical methods, by helping us discriminate between narratives, do have a role. In this paper we employ one such method to discriminate between narratives on economic growth in India.

The recent economic history of India has been the subject of some creative storytelling. The American economist Bradford Delong has provided a perceptive characterisation of this exercise: “The conventional narrative of India’s post-World War II economic history begins with a disastrous wrong turn by India’s first prime minister, Jawaharlal Nehru, towards Fabian Socialism, central planning and an unbelievable quantity of bureaucratic red tape. ….. As a result, India stagnated until bold neoliberal economic reforms triggered by the currency crisis of 1991 unleashed its current wave of rapid economic growth.” The vantage point of the author makes this a valuable view on perceptions regarding the growth transition in India. Interestingly, the narrative identified, but not subscribed to, by Delong continues to be deployed over a decade after his observation. Thus, we find the following statement in Sen, Kar, and Sahu (2017, p. 250): "After a prolonged period of low economic growth since independence (famously known as the `Hindu rate of growth'), India has transitioned to a high growth trajectory since the early 1990s". This despite the fact that several authors, including Hatekar and Dongre (2005), Wallack (2003), Rodrik and Subramanian (2005), and Balakrishnan and Parameswaran (2007), have by now established that more than one growth transition had taken place in India prior to the launching of the economic reforms of 1991. The recent publication by the CSO of a GDP series at 2011-12 prices that extends back to 1950 is a ripe moment to revisit the issue of the growth transition in India. While doing so, we would naturally be interested in the issue of whether such a transition had had to await the liberalisation of the economic policy regime in 1991. However, in addition, the availability of a continuous GDP series extending upto 2019-20 also allows us to study the impact of the Narendra Modi government which having been elected on a 'development' ("vikas") platform was expected to be path-breaking in its economic impact.

In this article we first establish the actual, as opposed to the imaginary, trajectory of growth in India since 1950 and then provide an explanation of it in terms of modern theories of economic growth. In the process we bring perspective to the role of the policies pursued in early independent India, which ae part of the narrative described by Delong.

## II. Methodology

To establish the trajectory of growth in India, we estimate the break points in the time series of GDP. The methodology used is the one due to Bai and Perron (1998). This may be seen as an empiricist approach in that the statistical procedure underlying it leaves no room for intrusion of any prior views held by the researcher. We describe it briefly below.

It is assumed that GDP follows an exponential growth path and the exponential function containing *m+1* growth regimes, and hence *m* break dates, ($T_1$,..., $T_m$) can be written as follows:

$$
\begin{aligned}
lnY_t &= a_1 + g_1 t + u_t, && t = 1,\ldots,T_1 \\
lnY_t &= a_2 + g_2 t + u_t, && t = T_1 + 1,\ldots,T_2 \\
&\vdots \\
lnY_t &= a_{m+1} + g_{m+1} t + u_t, && t = T_m + 1,\ldots,T.
\end{aligned}
\tag{1}
$$

where $lnY_t$ is the natural log of GDP in year t, *t* is the time trend, and $u_t$ is the random disturbance term. In the specification of time subscript, we use the convention that $T_0$ = 0 and $T_{m+1}$ = T, the total number of observations. The number of break points *m* and the break dates ($T_1$,...,$T_m$) are treated as unknown and estimated from the data using the Bai and Perron (1998, 2003) methodology. In this procedure, break dates are estimated using the least squares principle common to regression analysis. The break dates estimated are the global minimisers of the sum of squared residuals (SSR) from an OLS regression of (1) using a dynamic programming algorithm (see Bai and Perron 2003). The procedure is as follows. For each *m* partition ($T_1$, ...,$T_m$) denoted {$T_P$}, the associated least squares estimates $\beta_p = (a, g)_p$ are obtained by minimising the sum of squared residuals $\sum_{j=1}^{m+1} \sum_{t=T_{j-1}+1}^{T_j} [lnY_t - a_j - g_j t]^2$. Let $\hat{\beta}_p(T_p)$ denote the resulting estimates. Substituting them into the above objective function and denoting the resulting sum of squared residuals as $S_T(T_1,...,T_m)$, the estimated break points $(\hat{T}_1,...,\hat{T}_m)$ are such that $(\hat{T}_1,...,\hat{T}_m) = argmin_{(T_1,...,T_m)} S_T(T_1,...,T_m)$,

where the minimisation is over all possible partitions ($T_1$, …, $T_m$) such that $T_i - T_{i-1} \geq h$, where *h* is the minimum length assigned to a segment and $T_i$ is the $i^{th}$ break point. Thus the estimated breakpoints are those that result in the minimisation of the residual sum of squares of regression (1) across all possible partitions having length greater than or equal to *h*. In Bai and Perron (1998), if the number of break points is unknown, a test based on the *supF* statistic is proposed to choose the number of significant breakpoints. This testing procedure assumes non-trending regressors and hence is inapplicable in the present context. An alternative approach (Bai and Perron, 2003 and Uctum et al, 2006) which accommodates trending regressors is to use the Bayesian Information Criteria (BIC). Here the number of breaks selected is that for which BIC is at a minimum. We adopt this procedure to choose the number of breaks. This criterion is particularly appropriate when multiple breaks are considered because it introduces a penalty factor for additional break points which necessarily reduces the sum of squared residuals[2], as is apparent from below:

$$BIC(m) = \ln \hat{\sigma}^2(m) + p^* \ln(T)/T$$

$$p^* = (m+1)q + m + p$$

$$\hat{\sigma}^2 = T^{-1} \sum_{t=1}^{T} \hat{u}_t^2$$

[2] See Bai and Perron (2003) for a comparison of the performance of BIC and supF statistic.

where $m$ is the number of breaks, $q$ is the number of explanatory variables whose coefficients are subject to shift, $p$ is the number of explanatory variables whose coefficients are constant and p* is the penalty factor.

Finally, for the estimation the researcher is required to specify $h$ - the minimum length of a segment - which in turn determines the maximum number of possible breaks to be estimated in the time series. From this set of maximum number of possible breaks, significant breaks are selected on the basis of the BIC. The choice of $h$ matters. Too high a value could result in failing to pick some actual breakpoint(s) in the series. On the other hand, a very low value for $h$ may lead to the capture of what are only business cycle fluctuations and the designation of them as trend breaks.

**III. Results/Findings:**

In the estimation we fixed $h$ at 5. This was motivated by an interest in whether the current political dispensation, which came into power in 2014, has had a significant impact on the growth rate of Indian economy. (It may be stated that we also experimented with $h$=8 but found that the results did not vary greatly.) The estimated break-dates, with the sign in parentheses indicating the direction of change in the growth rate, are recorded in Table 1. In the brackets below each estimated break-date is the 95 percent confidence interval. (This practice continues in Table 2.)

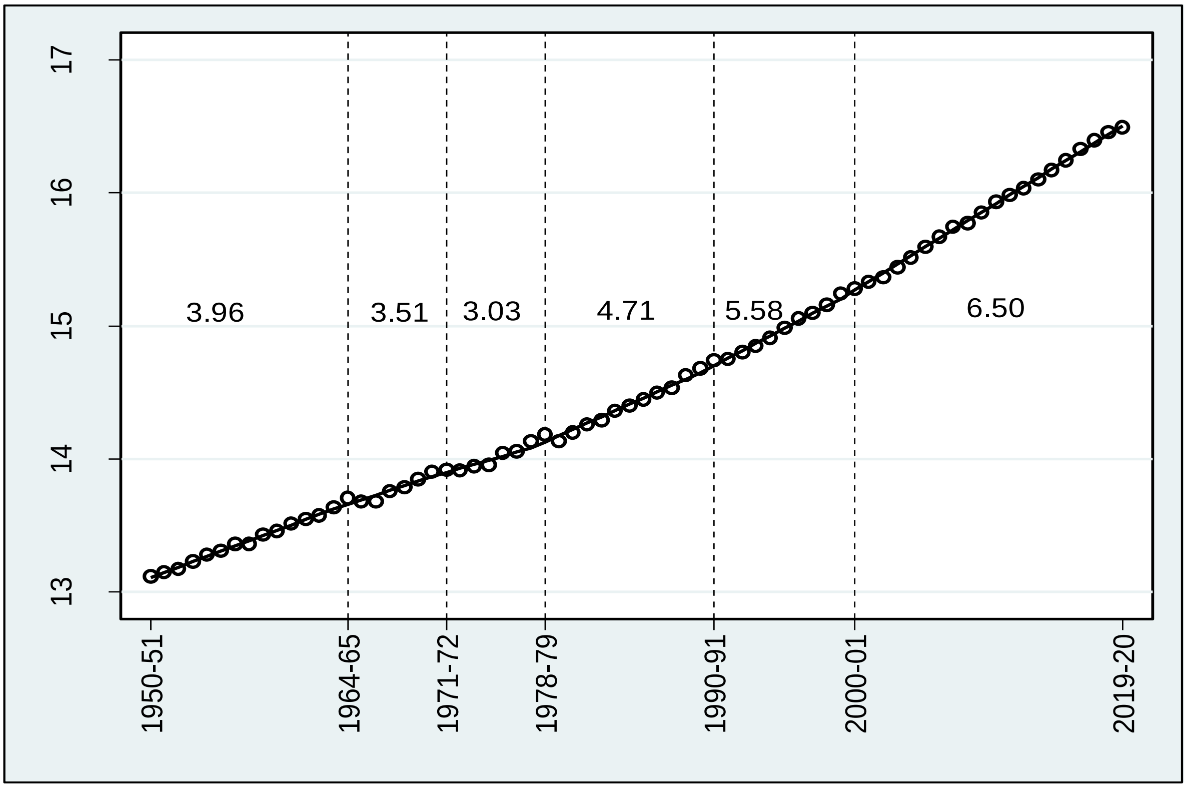
Table 1: Growth breaks 1950-2020

| | |
|---|---|
| 1 | 1964-65 (-)<br>[1962-63, 1965-66] |
| 2 | 1971-72 (-)<br>[1970-71, 1972-73] |
| 3 | 1978-79 (+)<br>[1977-78, 1979-80] |

| | |
|---|---|
| 4 | 1990-91 ) (+)<br>[1987-88, 1991-92] |
| 5 | 2000-01 (+)<br>[1998-99, 2001-02] |

Note that we are working with annual data here, and an estimated break-date denotes the final year of a growth phase. For example, the first estimated break date after 1950-51 is 1964-65, with growth decelerating for a while from 1965-66 onwards. (This finding gives us some confidence in the methodology being as we have independent knowledge that 1965 was the first of two consecutive years of drought when annual agricultural production declined by approximately one fifth. With agriculture a large part of the economy at that time it is bound to have impacted the economy significantly.) Figure 1 presents a graphical view of growth in India, with the growth rates for each phase having been inserted[3].

*Figure 1*
*Break dates and growth rates 1950-2020*




[3] The growth rates have been estimated by imposing continuity at the breakpoints. For the rationale for this procedure see Boyce (1986).

## IV. Discussion:

The information contained in Table 1 and Figure 1 have a clear implication for our understanding of economic growth in India. We discuss very briefly the most obvious among them. And that is, contrary to what is often asserted, it did not require the reforms of 1991 for growth to accelerate. That is, though we find growth accelerating from 1991, it had already accelerated before the date, from 1979, and again after, from 2002.

So we can see that the growth process is not so closely tied to the policy regime, in particular liberalising reforms. Though the reforms of 1991 did have an impact growth accelerated even in periods that have not witnessed major reforms in the sense of a change in the policy regime. Moreover, as may be seen in Figure 1, the acceleration of growth in the late seventies exceeded that attained in 1991-92**.** To the critical observer, the acceleration of the late 70s stands out. In the words of Kotwal, Ramaswami and Wadhwa (2011) it had taken place at a time when "… India had acquired a reputation as one of the most protected and heavily regulated economies in the world." Not only had the policy regime remained more or less unchanged but there had not taken place an upward shift in the variables usually identified as likely to matter for growth transitions, such as the savings rate, foreign direct investment of exports.

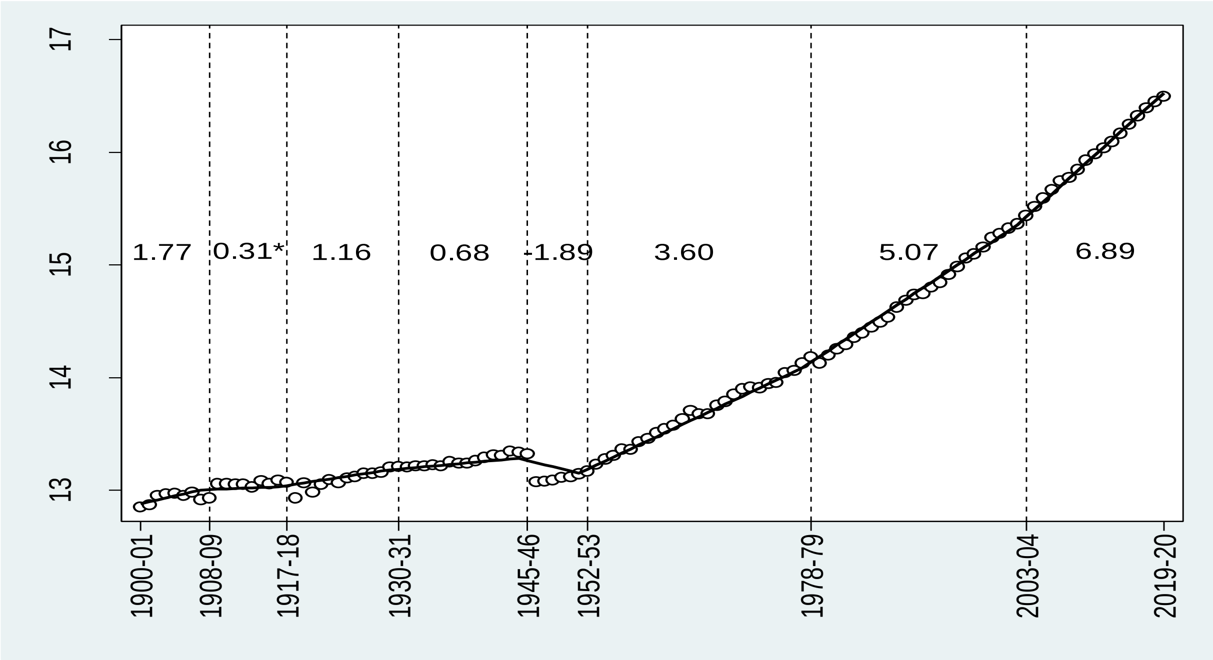
In this article our concern is not so much any particular acceleration, though this is certainly a matter of interest, as much as the continued acceleration of the economy over time. This particular feature led us to surmise that there is an internal dynamic to growth which changes in the policy regime can either speed up or slow down. The history of India since 1950 suggests that both these possibilities have actually occurred at different stages. Addressing this feature of growth in India Balakrishnan, Das and Parameswaran (2017) provided a theoretical model which generates a rising rate of growth once the economy has been shocked into motion. This is discussed in Section V. Before we move onto this, however, we note some other aspects of growth in India since 1950 as revealed by the Bai-Perron test. First, Indira Gandhi presided over both a decline and an acceleration of the growth rate, the UPA I saw a phase of the highest growth ever achieved in India but this had commenced in 2003-04, the last year of NDA I. Finally, there has been no acceleration of growth since 2014 which has seen the Narendra Modi government in place ever since.

Table 2: Growth breaks 1900-2020

| Break | Break dates |
|---|---|
| 1 | 1908-09<br>[1907-08, 1910-11] |
| 2 | 1917-18<br>[1914-15, 1918-19] |
| 3 | 1930-31<br>[1929-30, 1937-38] |
| 4 | 1945-46<br>[1944-45, 1946-47] |
| 5 | 1952-53<br>[1951-52, 1953-54] |
| 6 | 1978-79<br>[1977-78, 1979-80] |
| 7 | 2003-04<br>[2002-03, 2004-05] |

We also note one implication of having commenced our exercise with the year 1950 which is that it would have the consequence that a growth transition that may have taken place immediately after Independence, or even in the early fifties, will be missed given the requirement that we allow for a minimum length for each growth segment (in our case h=5). This possibility can be addressed by simply conducting the Bai-Perron test for a sample that includes the 1950s but starts at an earlier date. To pursue this, we adopt as our sample the entire 20th century and the two decades of the present one. The results are presented in Table 2. Next, again, the trajectory of growth implied by the estimated breakpoints has been graphed in Figure 2.

*Figure 2*
*Break dates and growth rates 1900-2020*




We now find that there is an acceleration of growth in the early 1950s, this having escaped identification when the sample commenced with 1950. This phase in India's economic history may be termed the crucible of growth. It comes after a phase - 1947 to 1952 - when GDP had actually declined, launching the economy onto a trajectory of ever increasing growth rates. In fact, the growth acceleration from 1953-54 is the greatest of all, amounting to a shift in the growth rate of 5.5 percentage points. Clearly, the economic policies of initiated after 1947 lifted an otherwise stagnant economy.

It will be noticed that two breakpoints, 1964-65 and 1971-72 found to be significant in the post-independence time series are no longer significant when the series was extended backward. This result may be understood as follows. As stated in the section on the methodology being used, for a breakpoint to be significant on the basis of the BIC, the reduction in the residual sum of squares (RSS) due to its adoption must be greater than the associated increase in the penalty factor. For RSS to be lowered sufficiently, a breakpoint must be an important deflection point of the series. When the Bai-Perron procedure is applied to an extended time series the search for the global minimum is over a new space; therefore, it is possible that a breakpoint that is identified as a significant deflection point in a short time series may no longer be one when a time series is extended. By this reasoning, the two breakpoints of 1978-79 and the one in the early 2000s, which are seen to be robust to the change in the length of the time series, can be considered as two important deflection points in India's post-independence growth trajectory. To this may be added the breakpoint of 1952-53 that emerges as the series is extended backwards. Finally, it may also be noted that when the series is extended the last breakpoint arises two years later than it dos in the shorter sample. However, we consider this too minor a change given the length of the time series and therefore not deserving of attention.

With hindsight, we can say something about the plausibility of our choice of the value of *h*. Note that for the GDP series commencing 1950, with 70 observations, *h* equals to 5 will allow for upto 12 breakpoints and for the series covering the period 1900 to 2020, with 120 observations, *h* equals to 5 implies a maximum of 22 breakpoints. On the other hand, our estimation yielded 5 breakpoints for the former series and only 7 breakpoints for the latter. As this is far less than the maximum number of possible breakpoints in each case it suggests that our choice of *h* equals to 5 was not restrictive. It may also be noted that none of the estimated segments have length less than 7.

Finally, in a brief turn towards the existing literature on growth transitions in India the following may be noted. A statistical verification of a growth acceleration having taken place in the early fifties was first made by Hatekar and Dongre (2005). A growth acceleration *circa* 1980 was first reported by Wallack (2003) and confirmed by Rodrik and Subramanian (2005), Balakrishnan and Parameswaran (2007) and Kotwal, Ramaswami and Wadhwa (2010). By combining the Bai-Perron procedure for estimating multiple breakpoints with a sample extending over a century we are able to see the growth transitions after 1950 all at once as it were, as in Figure 2. With this, the narrative of a growth transition in India occurring only after the reforms of 1991 is rendered incredible.

## V. A model of accelerating growth

We now provide a brief outline of the theoretical a model in Balakrishnan, Das and Parameswaran (2017) which explains the observed growth transitions in India through a mechanism of cumulative causation linking the manufacturing and the services sectors.[4]

[4] The reason for conceiving the model thus is that while these two sectors demonstrate continued acceleration India's agricultural sector does not, implying that the dynamic is located in the non-agricultural economy. See Balakrishnan, Das and Parameswaran (2017) for the evidence.

Our theoretical model focuses on the producer services which enter manufacturing production as intermediate inputs. We do not explicitly model the agriculture sector here. The implicit assumption is that agriculture is characterised by surplus labour with a constant marginal product of labour. Hence labour migrates from agriculture to manufacturing over time as long as the wage rate in manufacturing is higher than the constant wage rate in agriculture (in Lewisian fashion).

The manufacturing sector uses labour and a variety of specialized services as complementary inputs (along the lines of Dixit and Stiglitz, 1977). Manufacturing production is carried out by perfectly competitive firms which are price takers. Therefore, each of the inputs entering into manufacturing production gets paid its marginal product. Also, the complementarity between labour and specialized inputs in manufacturing production means that greater employment of one factor increases the marginal productivity of the other.

The specialized inputs for manufacturing production are supplied by the service sector firms, which are operated by local monopolists. There is a fixed set up cost associated with the production of specialized inputs. Hence, production of specialized inputs is not viable until the manufacturing production reaches a certain scale and there is sufficient demand for these inputs. However, once the minimum scale requirement is met, higher manufacturing production generates higher demand, and therefore higher profits, for the services sector. Excess profits generated in the service sector (over the fixed cost) are reinvested in the same sector in developing newer varieties. As these newer varieties are employed in manufacturing production in the next period, the productivity of labour in manufacturing goes up, thereby drawing more labour to manufacturing.

There are two interrelated and dynamic mechanisms that drive growth in our model. These are (a) the dynamics associated with augmented varieties (i.e., increasing specialization in production); (b) the dynamics associated with movement of labour from agriculture to manufacturing (i.e., the process of migration). Let $n$ denote the number of varieties and $L$ denote the number of workers employed in manufacturing production at any point of time. Notice that $n$ captures the degree of specialization, while $L$ is a proxy for the scale of manufacturing production. One can then derive the following laws of motion that govern the dynamics of $n$ and $L$ respectively:

(i) Given the fixed cost associated with production of specialized inputs, the growth rate of *n* is a positive function of the scale of manufacturing production;

(ii) Given the constant wage rate in agriculture, the growth rate of *L* is a positive function of the productivity of labour in manufacturing production.[5]

Noting that scale of manufacturing is represented by *L* and that productivity of labour in manufacturing production is positively related to *n* (due to the assumed complementarity in manufacturing production), these two dynamic mechanisms now create a positive feedback loop such that as *n* increases, the growth rate of *L* goes up; and as *L* increases, the growth rate of *n* goes up. Indeed, it is this positive feedback loop (capturing a process of cumulative causation) that generates accelerating growth in our model.

To understand how the mechanics of cumulative causation works here, let us begin with some (*n*,*L*) combination. Now suppose *L* goes up (due to some external reason). This would now set in motion a chain of events as follows. An increased flow of labour into manufacturing production will raises demand for the complementary specialized inputs. This, in turn, will raise the profitability of each of the existing specialized inputs. Higher profits are then invested in augmenting the variety of specialized inputs, which means more such inputs would be available for manufacturing production in the next period. This would raise the productivity of labour in manufacturing production. Higher marginal product of labour and the concomitant higher wages in manufacturing relative to agriculture will then draw in more labour from agriculture, expanding the scale of operation of the manufacturing sector even further.

This virtuous cycle of ever-increasing varieties and ever-expanding productivity of labour generates a process of *accelerating* growth in manufacturing production. To see how, note that the growth rate of manufacturing is the sum of growth rate of *L* and growth rate of *n*. Now consider a one -shot increase in L, which raises the growth rate of *n* (by the law of motion specified in (i)). Had there be no other effect, then this one -shot increase in *L* would have raised the growth rate of manufacturing once and for all, but there would have been no continued acceleration. However, the rise in n now

[5] The fact that these laws of motion are defined as growth rates, and not as absolute changes, indicate presence of knowledge externalities in production of newer varieties (ceteris paribus, higher existing varieties imply greater production of new varieties) and presence of network externalities in the migration process (ceteris paribus, greater number of workers employed in manufacturing draws in more labourers from agriculture to manufacturing).

activates the law of motion for L (as specified in (ii)) such that L grows further, and at a higher rate. This way, the growth of manufacturing *accelerates* not just because both n and L keep increasing, but because as they increase, they feed into each other's growth rate, thereby *increasing* the growth rates of *L* and *n* simultaneously!

We should mention here that the increasing growth rate of manufacturing is accompanied by an increasing growth rate of the producer services as well (since higher manufacturing growth implies increasing demand for specialized inputs). In other words, the process of cumulative causation implied in our model will result in an *accelerating* growth rate for the entire non-agricultural sector.

Two caveats apply. First, due to the existence of a fixed cost in the production of specialized inputs, the process of cumulative causation leading to accelerating growth does not operate until the size of manufacturing production is large enough. Secondly, the process of cumulative causation will stop working if the flow of labour from agriculture to the manufacturing sector dries up. The labour migration process could come to a halt either because the surplus labour in agriculture has been exhausted or because the productivity in agriculture has risen. Both will lower the relative wage gap between manufacturing and agriculture, thereby slowing down the labour absorption rate in manufacturing production.

The model is actually characterised by multiple possible equilibrium trajectories in the long run. There exist a lower equilibrium where the manufacturing and services sectors stagnate at a very low level, and a higher equilibrium with large and growing manufacturing and services sectors. In the absence of any external stimulus, a poor economy can remain stuck at the lower equilibrium permanently. This creates the scope for state intervention in the form of a Big Push, which can increase the size of the manufacturing sector, thereby activating the positive feedback mechanism and generating accelerating growth.

In Balakrishnan. Das and Parameswaran (2017). having provided a model of accelerating growth we had proceeded to test it for India data spanning the years 1950 to 2016. As the presence of positive feedback between the two sectors of the non-agricultural economy, implies a long run equilibrium relationship among them, the methodology chosen was cointegration analysis. We found that the time series of the outputs of manufacturing and producer services - accounting for 85 percent of services production in the economy - demonstrates 'segmented cointegration with one break', i.e., the series are co-integrated but only for a segment of this period[6]. By sequential elimination cointegration was established for the sample period commencing 1965. Combined with the result that growth first accelerated in the early 1950s the following interpretation of the growth process recorded in India may be made. Starting from the early 1950s steady growth of the economy, driven mainly by agricultural production and public investment, took the non-agricultural economy to the scale necessary for the internal dynamic envisaged in our theoretical model to set in. This provides perspective on the role of the Nehru-Mahalanobis Strategy in India's economic development. It was to have launched the economy onto a trajectory of periodically accelerating growth. Having come after a half century of indifferent growth (see Figure 2), this strategy may be described as path-breaking. As for the subsequent trajectory of India's economic growth, interestingly, its acceleration had in fact been anticipated by Mahalanobis[7].

Finally, the acceleration of growth after 1991 fits into the model of accelerating growth provided by us. We have already spoken of the impulse that can be provided by exogenous factors such as greater public investment or faster agricultural growth which would alter the rate of growth of manufacturing. In fact these are likely to have been at work during the growth transitions of the early fifties and the late seventies. The liberalised policy allowing for greater private sector participation in the infrastructural sectors of the economy since 1991 may be seen as increasing the range of producer services now available to manufacturing.

## VI. India and the world

The results of estimating growth breaks for a period exceeding half a century establishes that growth in India has accelerated continuously since the nineteen fifties, interspersed with a phase in the sixties when it decelerated twice. However, while this establishes beyond doubt that contrary to claims to the contrary the economy had displayed a dynamism throughout it does not tell us anything about India's performance relative to the rest of the world during this period. This is an issue of some interest from a developmental perspective. To get a sense of this we have presented in Figures 3, 4 and 5 plots of India's per

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[6] See Tables 2 to 5 in Balakrishnan. Das and Parameswaran (2017) for details.
[7] See Mahalanobis (1955).

capita GDP relative to that of three comparators, namely the World economy, East Asia and China.

Figure 3

India's per capita income as percent of World per capita income

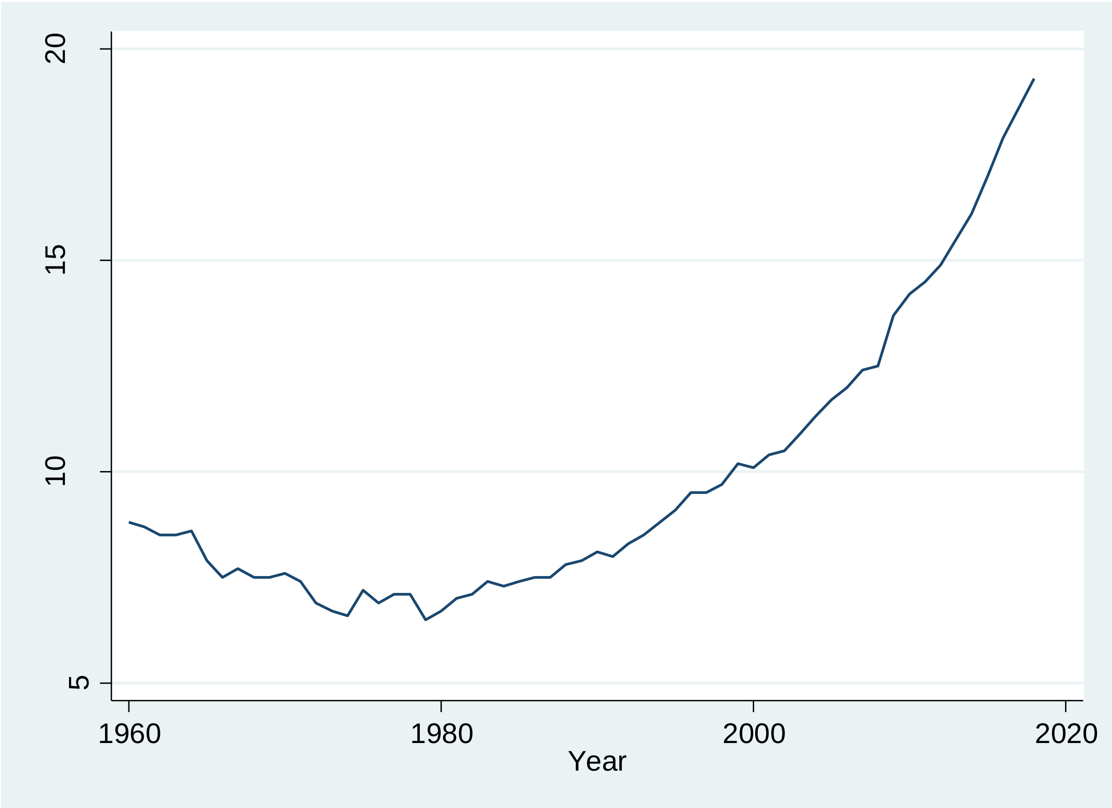
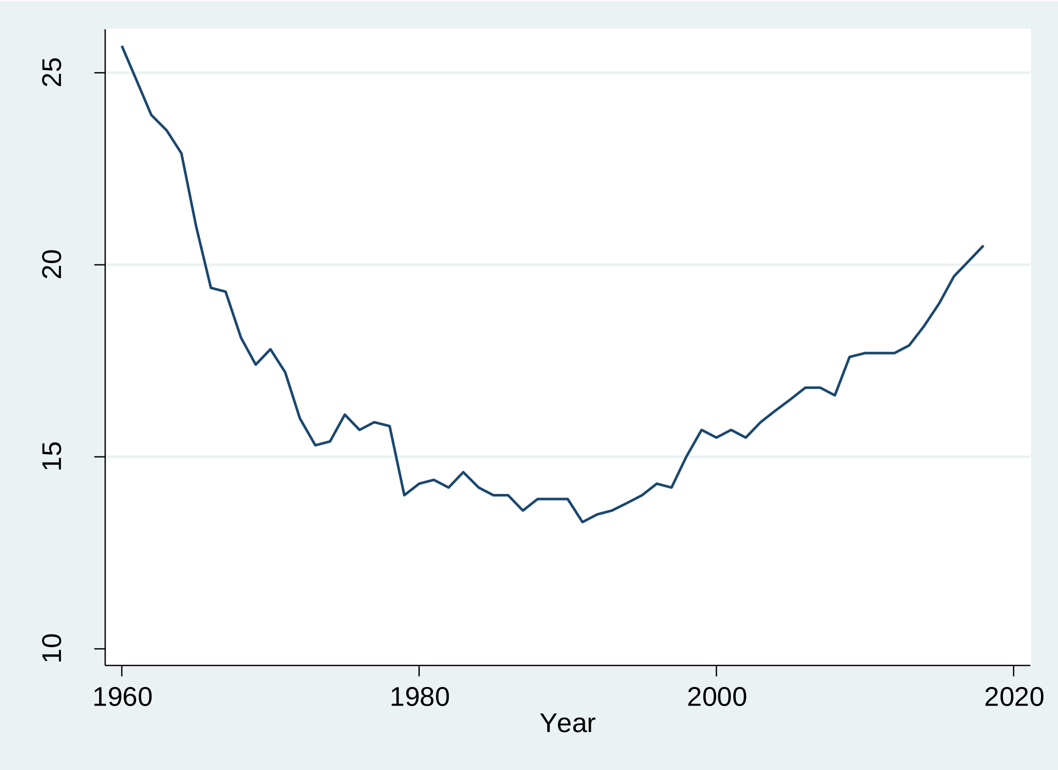



Figure 3 shows India losing ground to the Rest of the World from 1960 till the late seventies, after which date it shows a continuing improvement in its relative per capita income. Not surprisingly, during the transitions to lower growth in the mid-sixties and the early seventies - as depicted in Figure 1 - it lost ground ground to the rest of the world. The Indian experience vis-a-vis East Asia, represented by Figure 4, is somewhat different from that with respect to the Rest of the World. In this comparison India's relative position continues to worsen for longer, till around the time of the economic reforms of 1991. So, in a comparison with East Asia it may well be said that the Indian economy was *falling behind even as it was forging ahead* for about three and a half decades. Even after the catch-up had started in the early 1990s, in 2020 India was further behind East Asia than it was in 1960.

*Figure 4*

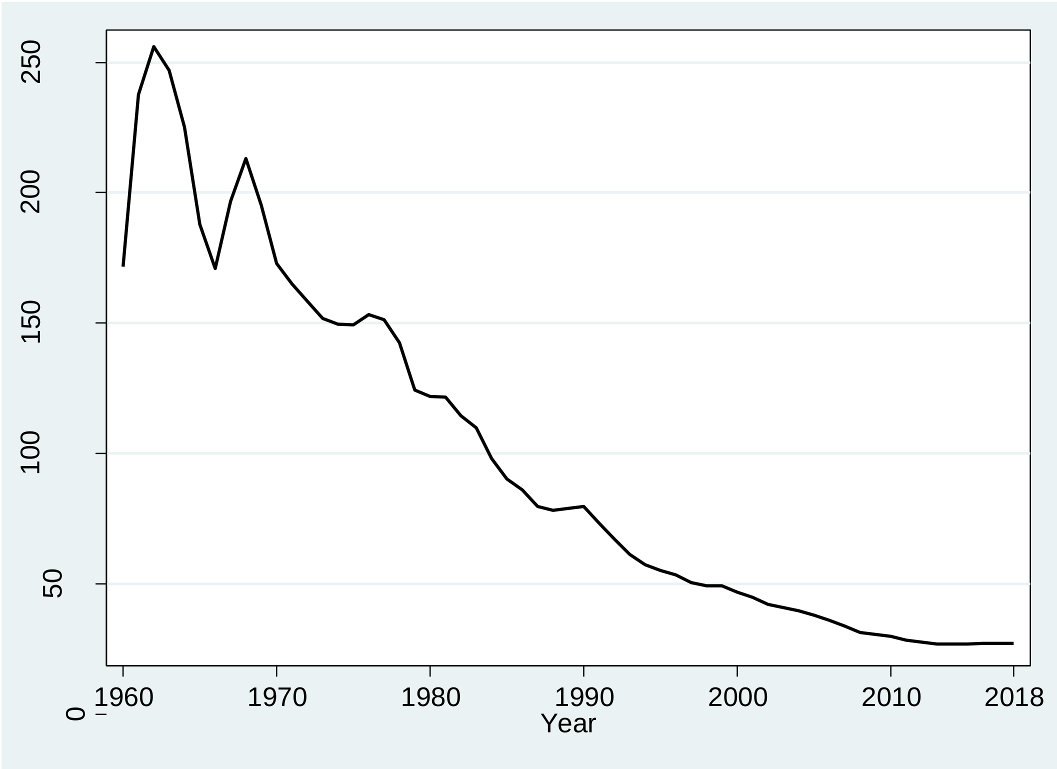
*India’s per capita income as percent of East Asia and Pacific*




Finally, we take the comparator that is most often invoked when assessing India's performance, namely China. As seen in Figure 5 India's growth history seems to be one of progressively falling behind China in terms of per capita income despite having an income level more than double the latter's in the early sixties. Unlike vis-à-vis East Asia there is no catch up with China after 1980 when economic growth in India accelerated. More significantly, there is slippage even after the economic reforms of 1991. China has continued to surge ahead. This suggest that differences between India and China in terms of their growth performances go beyond the degree of regulation of their economies. The indication is that other factors play a role.

Figure 5

*India’s per capita income as a percentage of China's*




## VII. Conclusion

We have here established the growth transitions that have taken place in India. This suggests that in a certain narrative excessive emphasis has been placed on the importance of a liberal policy regime for economic growth. Using the most recent GDP data we have shown that while the liberalising reforms of 1991 surely mattered it was the Nehru-Mahalanobis Strategy launched in the 1950s that played the path-breaking role in the growth process in India. After the economy had been shocked into growth in the nineteen fifties, an internal dynamic described by us, and shown to exist, may well account for the periodic acceleration of the economy that is observed. The results reported here also show that the economic policies of the Modi government are yet to have an impact on the growth rate of the economy. Our interpretation of this fact is that while that hurdles to growth in India do exist they cannot be overcome by shifting to a more liberal policy regime alone. The outcome of the economic policies of the Modi years reveal that liberalisation by itself is unlikely to take India closer to world income levels. We believe that a closer look at the East Asian experience should provide clues to how to address the challenge of low income levels for a large section of India despite continuing, and even accelerating, growth.

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## Data

(i) GDP at market prices for the period 1950-51 to 2019-20 are measured in 2011-12 prices. Data from 1950-51 to 2011-12 are from the website of the Ministry of Statistics and Programme Implementation (MOSPI), Government of India (URL http://www.mospi.gov.in/publication/back-series-national-accounts-base-2011-12). The data for the remaining years were taken from EPW Foundation's 'India Time Series'. The source cited for this data is MOSPI. It may be noted that the GDP figures for the years 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17 are 3rd Revised Estimates; data for the year 2017-18 is the 2nd Revised Estimate; data for the year 2018-19 is the 1st Revised Estimates; data for 2019-20 is the 2nd Provisional Estimate. GDP figures for pre-independence India are from Sivasubramonian (2000). They have been converted to 2011-12 prices through splicing.

(ii) Per capita income for the World, East Asia and Pacific, China, and India are from the 'World Development Indicators' database of the World Bank.