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Indian economy: Growth extrapolation for 2050

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Abstract
India's economy has grown at an impressive growth over the last two and half decades as a result of wide-ranging structural reforms to open up the economy and make it more competitive after 1991. Due to increasing importance in world economy, issues relating to the growth of Indian economy have been the subject matter of debate and discussion at home as well as abroad. Global financial crisis affected the growth rate of some sector of the economy but not, as much as high, slogans announced by the corporate sector.

In India, where rapid economic growth has become a national goal, analysis of the sources of growth assumes special significance to formulation of the macroeconomic strategy and policies that affect the future growth rate- its rate as well as pattern. Using the data on labour and a model of capital accumulation and productivity growth, we map out GDP growth on India economy until 2050. The main objective of this paper is to estimate potential growth using the Cobb-Douglus production function in the Indian context and then examine their implication for policy.

Keywords: Indian economy, growth, global financial, macroeconomic

1. Introduction

Indian economy exhibited a strong performance after the economic reform in 1991. It is 26 years now since the initiation of the economic reform process in 1991. The scope of the economic reforms undertaken has been wide ranging, covering such sphere as agriculture, international trade, industrial production, financial markets, and foreign investment.

The system of state control on economic activities has gradually been dismantled and replaced by a more market friendly economic system where economic decisions of private agents respond to market signals. The primary objective of the reform was to put the economy on a sustainable high growth path by establishing an incentive framework that helps movement towards the best possible allocation of factors of production across various sectors in the economy and the most efficient input combination with in a production sector (Panda, 2005) [25].

The Indian economy has been achieving the high rate of growth after the reform process. The rate of growth recorded during the period 1950-51 to 2016-2017 clearly showed a tendency of steady upward trend. After growing at about 3.5 percent from the 1950s to the 1970s, India's economy expanded during the 1980s to reach an annual growth rate of about 5.5 percent at the end of the period. It increased its rate of growth to 6.7 percent between 1992-93 and 1996-97, as a result of the far reaching reforms embarked on in 1991 and opening up of the economy to more global competition. Its growth dropped to 5.5 percent from 1997-98 to 2001-02 and to 4.4 percent in 2002-03, due to the impact of poor rains on agriculture output. In 2003-04, the economy grew at a rate of 8.5 percent. In 2004-05, growth rate dropped to 7.5 percent. After that it has recorded a growth rate of 9.0 percent in 2005-06, and 9.4 percent in 2006-07. There was a significant slowdown in the growth rate due to global financial crisis in 2008-09. The growth rate of gross domestic product in 2008-09 was 6.7 percent. The decreasing growth rate affects the all sector of the economy during the global financial crisis.

Recently Central Statistics Office (CSO) has revised the national accounts aggregates by shifting to the new base of 2011-12 from the earlier base of 2004- 05. The economic scenario presented by the new series (with 2011-12 as base year) reveals that there was perceptible improvement in some of the macro-aggregates of the economy in 2013- 14, which got strengthened in 2014-15. Factors like the steep decline in oil prices, plentiful flow of funds from the rest of the world, and potential impact of the reform initiatives of the new government at the centre along with its commitment to calibrated fiscal management and consolidation bode well for the growth prospects and the overall macroeconomic situation. Real GDP growth declined from 8 percent in 2015-16 to 7.1 percent in 2016- 17, as momentum slowed over the course of the fiscal year. Real GDP growth slipped from 7.7 percent in the first half of 2016-17 to 6.5 percent in the second half (Economic Survey-II, 2017).

India's strong growth potential is a matter of debate between international agencies. The Indian economy is today the world's second fastest growing economy after China. According to the International Monetary Fund (IMF), India's share in world GDP has increased from an average of 4.8 per cent during 2001-07 to 6.1 per cent during 2008-13 and further to an average of 7.0 per cent during 2014 to 2015 in current Purchasing Power Parity (PPP) terms. Propelled by growth in services and manufacturing sectors, coupled with an appreciating rupee, India became a 2 trillion dollar economy in 2016-17 on current exchange rates, and with that it moved into the elite club of 10 economic powerhouses that enjoy this distinction. India is in seventh place in world economy. The economic slowdown, affected the domestic demand and decrease the GDP growth in 2008-09. India sustaining a strong rebound with its strong domestic demand and rising business confidence. IMF's World Economic

Outlook report has predicted India GDP growth rate at 7.2% for 2017-18 and 7.7% for 2018-19, even as it sees World GDP growth rate at 3.5% in 2017 and 3.6% in 2018. Using the data from 2000-2005 on labour and a model of capital accumulation and productivity growth, we map out GDP growth on India economy until 2050. The main objective of this study is to estimate potential growth using the Cobb-Douglus production function in the Indian context and then examine their implication for policy.

2. Review of Literature

Economists held a skeptical view of India's long-run potential growth until the 1990s. In some quarters, it was viewed that the average growth rate of the Indian economy during the 1990s was not significantly different from the 1980s, despite a plethora of reform and liberalisation measures, which were taken in 1991-92 in the wake of balance of payment crisis (Balakrishnan 2004; Virmani 2004; Acharya 2002) [4, 1]. The IMF Report (2010) concluded that India's GDP growth rate increasing after global financial crisis. More importantly, the global community is appreciating India and its progress better now than ever before. All these developments, therefore, necessitate forming an opinion on India's long-run growth trajectory and prospects for future growth.

Several studies have also been conducted about the potential growth rate of the Indian economy. Potential output has been measured using either simple univariate trends or multivariate techniques where a measure of potential output is extracted from a number of variables organized in some theoretical framework. This could be a production function, or a simpler output-capital ratio, or a more complex dynamic stochastic general equilibrium (DSGE) or structural vector autoregression (SVAR) model. A third set of techniques are stochastic filters such as the Hodrick-Prescott (HP) or the Band-Pass filter (Ashima Goyal and Sanchit Arora, 2012) [3]. Donde and Saggar (1999) [15] estimated the potential output to be 6.3 percent using the univariate approach. However, they felt that with current structural changes and ongoing reforms, policy shocks could take the potential growth rate of the Indian economy to the 8-10 percent mark in near future. Dhal (1999 a,b) [12] using a dynamic input-output framework placed potential growth at 6.5 percent while a potential growth rate of 8-10 percent was estimated based on the production function and warranted growth approaches.

Dholakia (2001) [14] discusses in detail the sources of India's accelerated growth and the vision of Indian economy in 2020. He points out that the growth acceleration achieved during the last 15 years has created the conditions for India's take-off into the orbit of high growth.

Wilson & Purushothaman (2003) [34] argue that India has the potential to show the fastest growth over the next 30 and 50 years. Growth could be higher than 5 percent over the next 30 years and close to 5 percent as late as 2050 if development proceeds successfully. Rodrik and Subramanian (2004 b) have estimated the potential output growth to be more than 7 percent.

Kelkar (2004) [21] believes that India is at the threshold of "a golden age of growth", with India's democratic framework being a key growth fundamental.

Virmani (2006) discussed reforms taking the economy above its current potential growth rate of around 6.5 percent. A draft approach paper to the Eleventh Five Year Plan released by the Planning Commission suggests that the economy can grow between 8 and 9 percent a year on a sustained basis provided appropriate policies are put in place. Otherwise, in a business as usual scenario, i.e., the growth expected to be achieved without significant new policy initiatives is around 7 percent per annum (Plannin Commision, 2006) [26]. In a report on 'Measuring the Global Output Gap' HSBC (2006) Global Research finds that India is running above potential to an extent of 2.6 per cent and places potential growth rate at 5.6 per cent.

Similarly, the OECD (2006) [24] report on economic outlook reveals that the Indian economy has experienced extremely rapid growth in demand over the three years prior to 2005 which to a certain extent is cyclical. While GDP growth picked up to 8.5 per cent over this period, supply has not been able to match demand, despite impressive increases in investment. This, to some extent, points towards the fact that the Indian economy is operating above its potential.

Ranjan *et al.* (2007) [29] provide estimates of the potential growth rate for India by adopting alternative approaches of statistical trend filtering techniques and a production function. The Hodrick-Prescott filtering technique leads to estimated potential GDP growth of about 7 percent. Using the latest demographic projection and a model of capital accumulation and productivity growth, Poddar & Yi (2007) [28] estimated that India has the potential to show the fastest growth over the next 30 to 50 years. They estimated India's potential growth rate at about 8 percent until 2020. Similarly, Deutsche Bank (2006) [11] places the potential growth rate of the Indian economy at about 5.5 percent during the 2006-20 periods.

The IMF (2010) estimates growth at 5.7 per cent in 2009 but remains optimistic in the sense that growth could reach 8.8 per cent in 2010, if the reform scenario where successful fiscal adjustment creates space for needed infrastructure and social spending and structural reforms accelerate.

Barry Bosworth, Susan M. Collins, and Arvind Virmani (2007) [5] discussed the Sources of Growth in the Indian Economy. This paper empirically examines India's economic growth experience during 1960-2004, focusing on the post 1973 acceleration. The analysis focuses on two unusual dimensions of India's experience -- the concentration of growth in services production, and the modest levels of human and physical capital accumulation. It suggests that India needs to broaden the base of its economic growth through greater efforts to promote the expansion of the industrial sector – especially manufacturing – and to emphasize the creation of jobs as well as gains in TFP.

Hiroro Oura of IMF in a paper (Wild or Tamed? India's Potential Growth, 2007) [18] summarized the results of some research papers calculating India's potential growth. The papers used different methodologies and hence the differences in potential growth rates with range varying from a low of 7.3-7.6% to a high of 9.5-9.8%. The author says, excluding two studies with more extreme human capital assumptions potential growth rate could be around 8-9%. It needs to be pointed out that all these papers were written in phase of Great Moderation when world economy was growing at a fast pace and there were no real economic concerns. The economic situation is drastically different from the pre-crisis phase.

Table 1: Estimates of India's potential growth (in %)

	Rodrik-Subramanian	Poddar-Yi	WEO	Bosworth Collins
Paper written in	2004	2007	2006	2006
India's Long Term GDP Growth	7.3-7.6	9.5-9.8	8.7-9.0	8.0-8.4

Source: Oura (2007)

An RBI study, Bordoloi *et al*. (2009) [6], estimated potential growth for India using HP filter, Band-Pass filter, BN decomposition, unobserved component model and SVAR for the period 1998-2007. They mention they do not use DSGE and production function approaches because of lack of conceptual clarity and data respectively. They find unobserved component models to be most efficient for estimation of quarterly potential output based on a series of comparison tests. Their potential growth estimates range between 8 and 10 percent for 2007, with their preferred method giving an estimate of above 9 percent.

C Rangarajan and D K Srivastava (2017) [10] wrote a paper on Underlying Drivers of India's Potential Growth. They suggested that Global growth is expected to be tepid in the medium term and India will have to depend on domestic growth drivers. In order to better understand the future, a new methodological framework is proposed to estimate potential growth in India with a focus on capacity output till 2029–30. The domestic savings rate was identified as the most potent growth-augmenting driver.

3. Growth Rate, Savings and Capital Formation

Economic forecasts change dramatically in a short time tracking the real time economic situation. Like we see in Economic survey-2 how even the long term growth forecasts were revised lower as compare to Economic Survey-1 in 2016-17. As regards Outlook for Growth 2017-18, Survey (Volume I) had forecast a range for real GDP growth of 6.75 percent to 7.5 percent for FY 2018. Real economy grew by 7.1 per cent in 2016-17 compared with 8 percent the previous year. This performance was higher than the range predicted in the Economic Survey (Volume I) in February.

In India, attainment of higher rate of economic growth received topmost priority in almost all the five year plans of the country. But the achievements of planning in India are far short of its targets. There are two distinct growth periods: a first phase from 1950 to 1980 (phase I) and second phase from 1980 to 2004 (phase II) (Virmani 2004a). The first phase is characterized by slow growth rate in GDP as comparison to phase II. The economic activity is being supported by a significant rise in domestic savings and capital formation. Insufficiency of capital is considered as an important limiting factor for growth (Ahmad, 2007). The step up in the growth rate of the Indian economy since 2003-04, has been driven by a higher capital formation, supported by a sizeable increase in the rate of gross domestic savings.

Over the longer term, India's gross domestic savings and gross domestic capital formation have increased substantially. Both savings and capital formation have grown steadily throughout, rising from low levels of 9 percent of GDP during 1950s to 23 percent ranges in the 1990s. The national savings rate surged further to 27 percent during 2000-04, buoyed by inflow of remittances. Gross domestic savings rose to 32 percent of GDP in 2005-06 from 31 percent in 2004-05 and further 36 percent of GDP in 2007-08. Domestic savings and capital formation rates reached highs during 2007-08. But it decrease upto 33 percent of GDP in 2014-15.

The increase in saving, before the global financial crisis was driven by higher private corporate and household savings. Due to higher savings rate as well as the higher recourse to foreign savings, the gross domestic capital formation increased to 34.2 percent of GDP in 2014-15, a substantial jump from 23 percent recorded during 2001-02 (Government of India; 2010). Overall, the average gross domestic savings and gross domestic capital formation was much high than that in 1980. It is clear therefore that the higher growth rate since the 1980s has indeed been supported by a more rapid pace of investment.

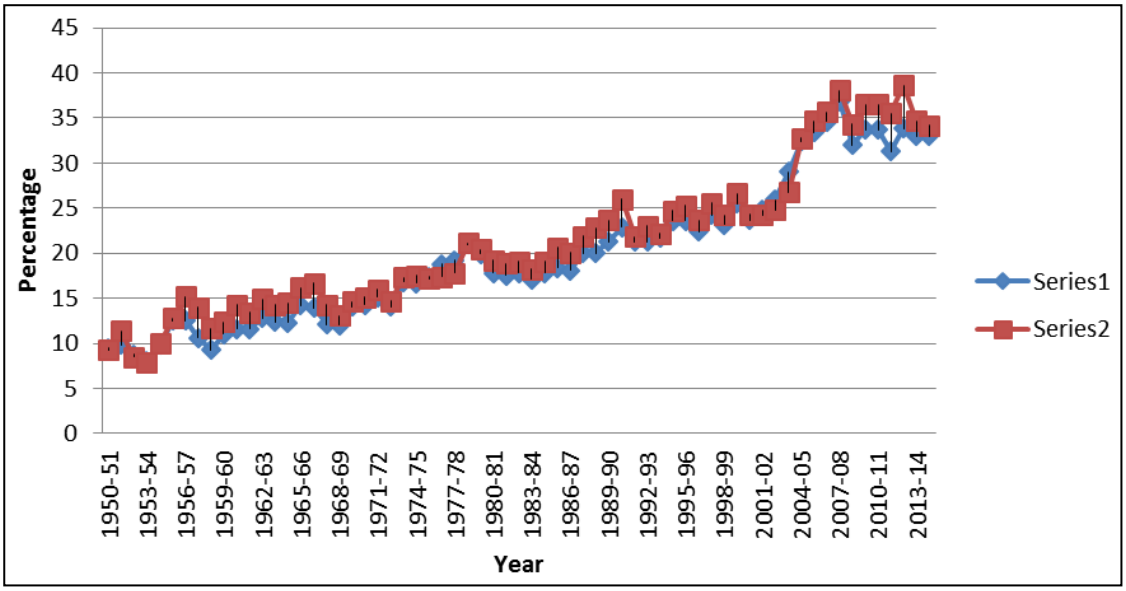


Fig 1: Gross Domestic Saving and Gross Capital Formation as percentage of GDP at curent market prices

4. Cobb-Douglas production function and estimating potential growth rates

The methods popularly used for estimating potential growth include:

1. Statistical filtering technique, viz, linear trend, the Hodrick-Prescott filter, the Bandpass filter and the Kalman filter;
2. Labour productivity growth accounting using a production function;
3. Simultaneous econometric models;
4. Multivariate time series models such as structural vector auto-regression models (SVAR); and
5. The concept of warranted growth rate used for measuring potential growth rate

In this study, a multivariate production function, the Cobb-Douglas production function, is used for measuring potential growth rate of the economy and to estimate the contribution to growth from physical and human capital accumulation, as well as productivity gains.

$$Y = AL^{a} K^{(1-a)} \quad (1)$$

Where
Y: Total (real) output
A: Total factor productivity (TFP)
K: (Real) net physical capital stock
L: Labour input
a: Factor share of labour
(1-a): Factor share of capital
By taking the time derivatives of natural logarithms of Equation (1), we can derive the various input contributions to output growth:

$$\ln Y = \ln A + a \ln L + (1-a) \ln K \quad (2)$$

$$Y^* = A^* + aL^* + (1-a)K^* \quad (3)$$

and

$$A^* = Y^* - aL^* - (1-a)K^*$$

As we can see from Equation (3), GDP growth (Y*) can be boosted by higher growth in the labour input (L*), capital stock (K*), as well as TFP (A*). The key assumption underlying our projection is that the Indian economy maintains policies and develops institutions that are supportive to growth. If policies of development are changed, there is a chance that our projections are not met, but if the Indian economy comes anywhere close to meeting the projection set out here, the implication for the pattern of growth and economic activity could be large. Secondly, net physical capital stock had a dominant effect on output, followed by labour. Third, the sum of the coefficients of capital and labour was equal to unity, implying the possibility of constant return to scale in production in the absence of structural parameters. It is also assumed that a perfect competition in the market must prevail. On these assumptions, we estimated the potential growth rate of Indian economy.

5. Estimating Potential GDP Growth

Theoretically, the concept of potential output is used to describe the 'full employment' GDP or the level of real GDP attainable when operating at a higher level of resources use. In other words, potential output is a measure of an economy's productivity capacity; it is not a technical ceiling on output that cannot be exceeded.
Growth accounting divides GDP growth into three components:

1. Growth in employment,
2. Growth in the capital stock
3. Technical progress (or total factor productivity)

Potential output is commonly estimated through the production function described above. To do so, we must remove cyclical changes in the inputs. We have to change the different base year of all the input in one base year, which is used to estimate the potential growth rate. We obtained the working age population and employment statistics from the annual population and employment survey conducted by National Sample Survey Organization (NSSO). We used data on population from census 2001. For capital input, we used the net physical capital stock data for fiscal years 1998-99 to 2003-04, from National Account Statistics (2006) compiled by the Indian Central Statistical Organization (CSO). The growth rates of the economy are compiled from the data taken from National Account Statistics at constant prices. Then we estimated the value of a and (1—a), which is the share of labour and capital, respectively. Using regression analysis we estimated these values as 0.794 and 0.206, respectively. After calculating the value of the share of labour and capital, we calculated the Total Factor Productivity (TFP) of the Indian Economy using the alternate TFP estimates on the basis on actual data for 2004-05. We analyse the data for the normal situation it mean before the global financial crisis.
We inserted the de-trended growth rate of input (A*, L* and K*) into equation (2) to calculate the potential output growth. We used the capital growth rate and employment growth from Sachs (2006) projection and projected the potential growth rate. Table 2 shows the estimation of TFP from labour, capital and growth rate.

Table 2: Estimates of potential growth of inputs and output

Year	Annual Growth (% change year on year)				Annual percentage point contribution to growth		Annual share of Contribution to growth (%)			
	GDP	TFP	K	L	TFP	K	L	TFP	K	L
2000-01	4.662	2.514	3.646	1.76	2.514	0.751	1.397	53.90	16.13	29.97
2001-02	6.472	4.575	2.809	1.66	4.575	0.579	1.318	70.69	08.94	20.37
2002-03	3.406	1.409	3.333	1.65	1.409	0.687	1.310	41.37	20.16	38.46
2003-04	8.288	6.020	4.267	1.75	6.020	0.879	1.389	72.63	10.60	16.76
2004-05	7.985	5.764	5.772	1.30	5.764	1.189	1.032	72.18	14.89	12.92
Average	6.163	4.056	3.965	1.62	4.056	0.817	1.286	65.88	13.26	20.86

Estimation results

Using the Cobb Douglas production function, with our assumption of factor share of capital and labour, we found that overall productivity growth surged an average annual growth rate of 4.05 percent during 2000-01 to 2004-05 five years. Table 3 shows the projection of the potential GDP for 2050.

Table 3: Sources of economic growth: History and projections

Year	Annual Growth (% change year on year)				Annual percentage point contribution to growth			Annual share of Contribution to growth (%)		
	GDP	TFP	K	L	TFP	K	L	TFP	K	L
Average Projection for 2006-10										
Maximum	9.091	6.020	7.2	2.0	6.020	1.483	1.588	66.22	16.31	17.47
Minimum	4.480	1.409	7.2	2.0	1.409	1.483	1.588	31.45	33.10	35.45
Average	7.127	4.056	7.2	2.0	4.056	1.483	1.588	56.91	20.81	22.28
Average Projection for 2011-20										
Maximum	9.000	6.020	8.3	1.6	6.020	1.710	1.270	66.89	19.00	14.11
Minimum	4.389	1.409	8.3	1.6	1.409	1.710	1.270	32.10	38.96	28.94
Average	7.036	4.056	8.3	1.6	4.056	1.710	1.270	57.65	24.30	18.05
Average Projection for 2021-50										
Maximum	8.123	6.020	7.9	0.6	6.020	1.627	0.476	74.11	20.02	05.86
Minimum	3.512	1.409	7.9	0.6	1.409	1.627	0.476	40.12	46.33	13.55
Average	6.159	4.056	7.9	0.6	4.056	1.627	0.476	65.85	26.42	07.73

Projection Maximum is an optimistic approach which shows the full employment growth of capital, labour and technical progress. Projection 'maximum GDP' assumes a TFP growth rate of 6.02 percent which was the highest TFP growth rate for India for 2001-02. Figure 4 shows the maximum GDP projection for the year 2050.

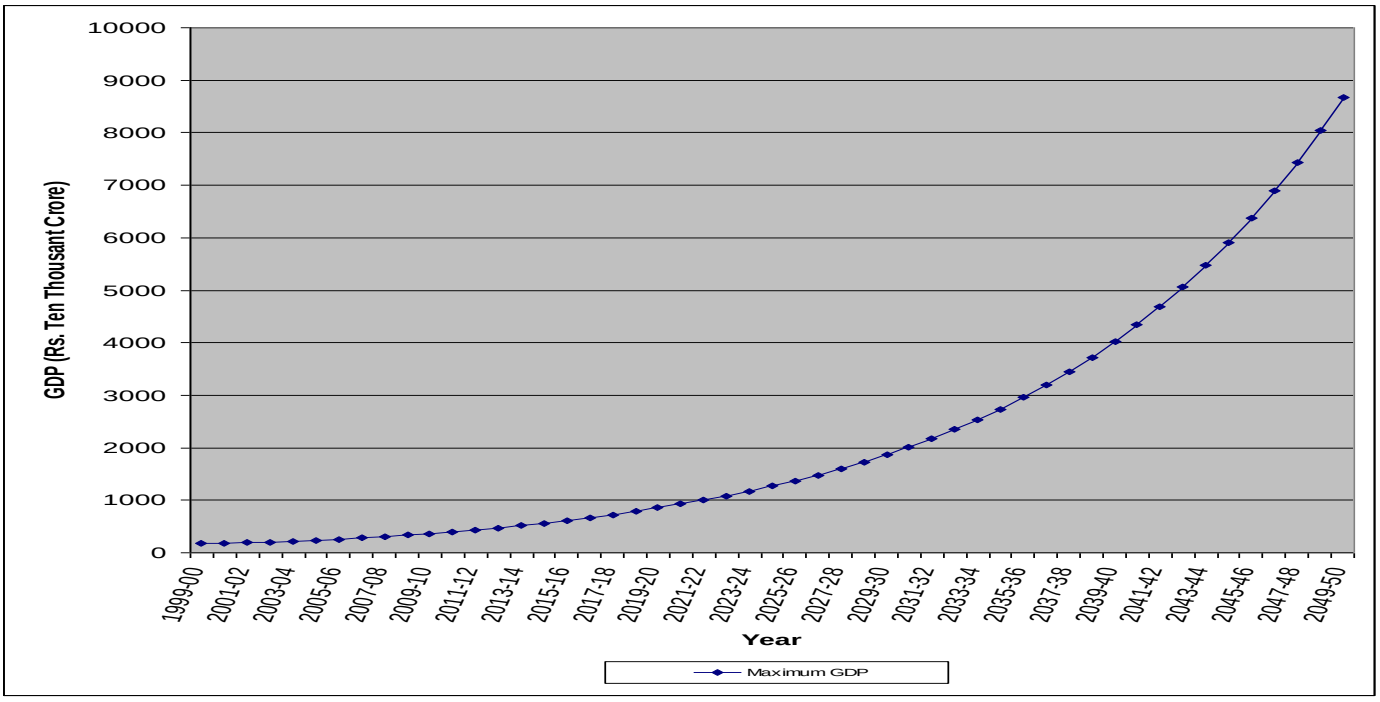


Fig 2: Maximum GDP Projection for the year 2050

Projection 'minimum GDP' assumes a TFP growth rate of 1.409 percent which was the lowest TFP growth rate for India in 2002-03. Figure 2 shows the minimum GDP projection for the year 2050.

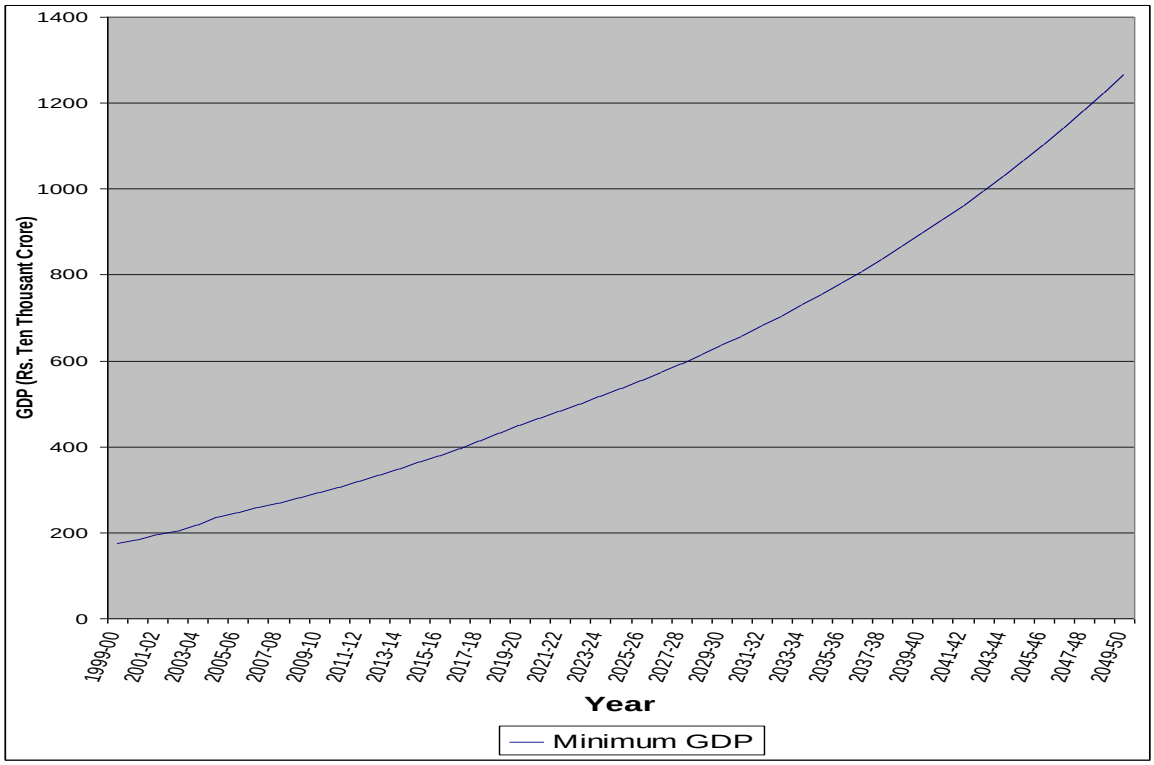


Fig 3: Minimum GDP Projection for the year 2050

Projection 'average GDP' assumes a TFP growth rate of 4.056 percent which was the average TFP growth rate for India in 2000-05. Figure 3 shows the average GDP projection for the year 2050.

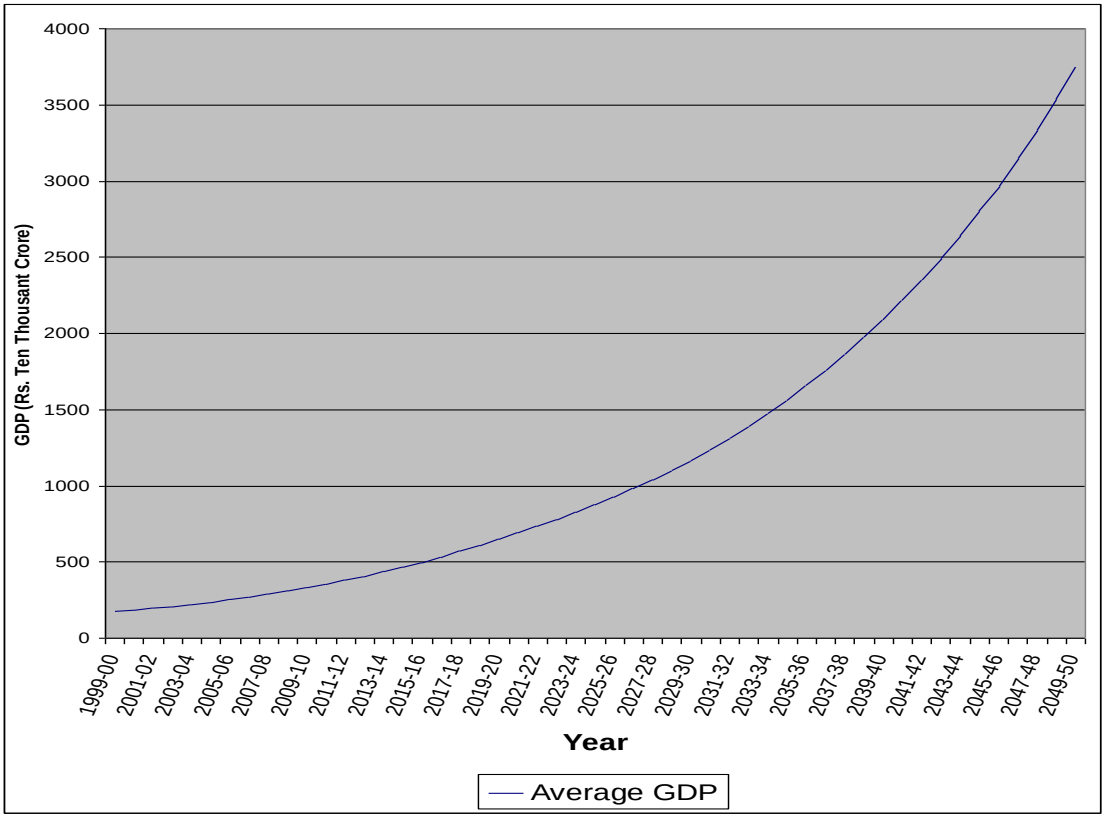
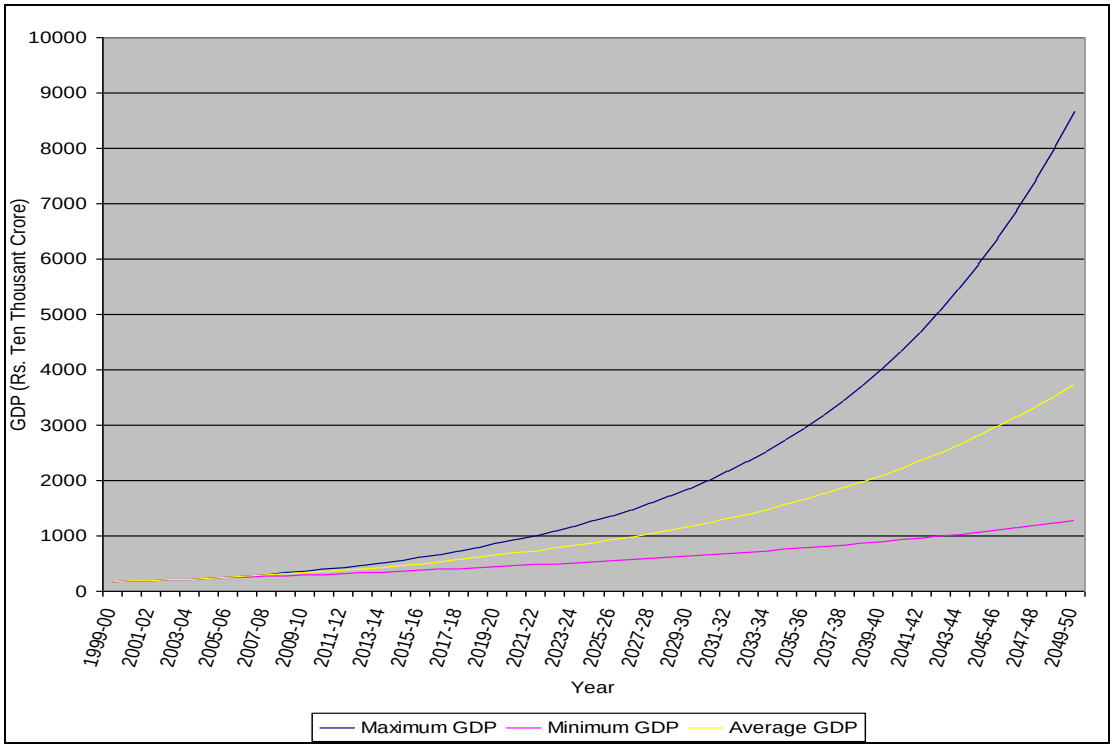


Fig 4: Average GDP Projection for the year 2050

GDP Projection growth rate for 2050
Projections Maximum GDP, Minmum GDP, and Average GDP Plot Gross Domestic Product (GDP) for 2050, assuming different total factor productivity growth rate from 2000-05.



Source: Figure generated from table 3

Fig 5: GDP Projection for the year 2050

6. Key Findings

Indian economy has changed a lot over the past 70 years. Over the next 40 years the changes could be dramatic. Using the latest demographic projection and a model of capital accumulation and productivity growth, we map out GDP growth in the Indian economy until 2050. The result shows that if things go right, the Indian economy could become an important source of growth to the world economy.

Our projections are optimistic, in the sense that they assume reasonably successful development. But they are economically sensible, internally consistent and provide a clear picture against which investors can set their expectations. Our results show that Indian economy has the potential to have the fastest growth over the next 30 and 40 years. According to Goldman Sachs (2003), the Indian economy GDP potential could be more than 46.03 percent in 2050 as comparison to 2004-05. But our projection shows that if the economy grows at the rate of 6.02 percent the potential GDP would have more than 36.65 percent in 2050 as comparison to 2004-05.

7. Measures to Strengthen the Economy

The NDA government focuses on many issues to the upgrade the economy from traditional growth trajtory to higher growth path. The slogan made by government is "Maximum Governance and minimum government". But there are so many sectors which need more attention and direction to more inclusive growth vision. There are suggestions to maintain the potential growth rate of the economy is as follows:

1. Promote macroeconomic stability; competition; good regulatory policies; legal rules and procedures conducive to entrepreneurship and risk-taking.
2. We also integrate the financial sector which are helpful the saving from surplus spender to deficit spender. It will increases the confidence of the consumer and increases the saving.
3. There is need of raising the rate of domestic savings beyond 32 percent of GDP, especially by reducing government dis-savings at the central and state levels. The burden can be reduced by reducing non-developmental expenditure, reducing external loan and internal subsidies, reforms in tax structure and strengthening incentives for savings.
4. Infrastructure development is the big challenge for Indian Economy. There is need for larger amount of investment in infrastructure, which reduces the cost of industry both in public and private sector.
5. We need more warehouses and storage facilities for storing of commodities. It will control the price in the market and helpful for controling inflation which can leads social unrest in the economy.
6. To increase the growth rate, we need to pay greater attention to larger resources for agriculture, social sectors and rural development programs to increase employment, reduce poverty and create a mass base in support of economic reforms keeping climate change in mind. Make in India is a good initiative but not implement upto the mark which create the employment opportunities in rural areas. We need to review the poverty alleviation programme to uplift the rural areas.
7. We are not able to attain the even the 5 percent of growth rate in the agriculture sector. For the Indian economy to attain growth rate of 9 percent and above, the stagnation in production of major crops and agriculture investment needs to be reversed.

8. Government should focus on primary and higher education through a regulatory framework. We need to expand access to primary and secondary education and improve quality of the education by allocating more funds and basic infrastructure for schools and institutions.
9. To increase the productivity of manufacturing superior inputs, ideas, and technology must used by domestic firms. The increased competition will improve efficiency and profits of the firms. The increased productivity of the firms also encourages employment from the less productive agriculture sector to more productive sectors.

8. Conclusion

In India, where rapid economic growth has become a national goal, analysis of the sources of growth assumes special significance to formulation of the macroeconomic strategy and policies that affect the future growth rate- as well as pattern.

The Indian Government has recently renewed their reform impetus for economic growth. They are working to liberalise foreign investment in some keys areas and to reform the tax system in the form of GST in 01 July 2017 and the delivery of subsidies. The government introduced demonetization of currency to curb the black money and corruption on 8th November 2016. These are important steps, but further reforms are also essential for India to make the most of its assets: a young and dynamic population, an entrepreneurial and increasingly innovative business sector for foreign investors, and proximity to one of the most dynamic and business favorable regions in the world. The Economic Survey-II suggested that to sustain the current growth trajectory, investments and exports need to pick up and the twin balance sheet problem needs to be resolved in order to facilitate credit growth. The survey also noted that the launch of GST, positive impacts of demonetisation, rationalization of energy subsidies and actions to address the twin balance sheet challenge will augur well for the growth of the Indian economy.

Any kind of long term projection is subject to a great deal of uncertainty, and we need to be mindful that India's growth transition is unlikely to be smooth or devoid of shocks. The present attempt may not be conclusive in itself to estimate potential GDP growth. Due to given data limitation and of information pertaining to various structural parameters, this may be an underestimate of potential growth. The Indian economy has a large base of labour force if the whole labour force is fully utilized the potential GDP may be more. There was a large restriction on foreign capital since 1951. If the whole restrictions are removed on foreign capital, it increases the availability of foreign capital and further increases the growth rate of economy. The growth rate is also affected by the fiscal and monetary policies of the government, consumer spending of the people of the country, the increase in infrastructure facilities, governance and external and internal policies made by the government. The strength of the external sector would supplement the growth process.

India's high growth rate since 2003 represents a structural increase rather than simply upturn. India has more than one billion population. It has a abundant labour supply, but there is need to increase the capital accumulation. It is well positioned to reap the benefit of favourable demographic, including an urbanization bonus. Growth acceleration achieved during the last 26 years has created the condition for India's take off into the orbit of high growth.

References

1. Acharya, Shankar. India: Crisis, Reform and Growth in the 1990s, Working Paper No. 139, Centre for Research on Economic Development and Policy Reform, Stanford University, 2002.
2. Ahmed, Sadiq. India's Long-Term Growth Experience: Lessons and Prospects, Sage, New Delhi, 2007.
3. Ashima Goyal, Sanchit Arora. Deriving India's Potential Growth from Theory and Structure, Indira Gandhi Institute of Development Research, Mumbai, 2012.
4. Balakrishnan P. Macroeconomic Policy and Economic Growth in India since 1980, Asian Development Bank, Manila, 2004.
5. Bosworth Barry, Susan M. Collins, Arvind Virmani. "Sources of Growth in the Indian Economy, NBER Working Paper No. 12901, 2007.
6. Bordoloi, Sanjib, Das, Abhiman, Jangili, Ramesh. Estimation of potential output in India'. RBI occasional papers, 2009. Available at http://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2239.
7. Censes. Government of India, 2001.
8. Central Statistical Organisation. National Accounts Statistics, 2006.
9. Central Statistical Organisation. National Accounts Statistics, 2010.
10. C Rangarajan, D K Srivastava. Underlying Drivers of India's Potential Growth Economic and Political Weekly. 2017; 52:25-26.
11. Deutsche Bank Research. India rising: A medium term perspective, 2005.
12. Dhal, S. Estimating Optimum Growth Rate for the Indian Economy: A Dynamic Macroeconomic Model, Reserve Bank of India Occasional Papers. 1999a, 20(3).
13. _____. Potential Growth in India: Viable Alternatives to Time Series Approaches, Reserve Bank of India Occasional Papers. 1999b, 20(3).
14. Dholakia. Sources of India's accelerated Growth and the vision of India economy in 2020, Presidential address, 2001.
15. Donde K, M Saggar. Potential Output and Output Gap: A Review", Reserve Bank of India Occasional Papers. 1999, 20(3).
16. Government of India. Economic Survey 2009-10, Ministry of Finance, New Delhi, 2010.
17. Government of India. Economic Survey-II 2016-17, Ministry of Finance, New Delhi, 2017.
18. Hiroro Oura. Wild or Tamed? India's Potential Growth, IMF working paper, 2007.
19. Hongkong, Shanghi Bank Corporation. Gapology and Globalisation: Measuring the Global Output Gap, Economic Global, HSBC Global Research, UK, February, 2006.
20. International Monetary Fund. A Shifting Global Economic Landscape, World Economic Outlook, April, 2017.
21. Kelkar, Vijay. India's Emerging Economic Challenges, Economic and Political Weekly. 1999; 24(33):14-22.

22. _____. India: On the Growth Turnpike, Economic Development of India. 2004, 77.
23. National Sample Survey Organisation. Employment and Unemployment Situation in India. 2006, 2005-06.
24. OECD. OECD Economic Outlook June No. 79. 2006, 1.
25. Panda, Manoj. Macroeconomic Scene Growth and Equity Perspective, India Development Report 2004-05, Oxford University Press, New York, 2005.
26. Planning Commission. Towards Faster and More Inclusive Growth: An Approach Paper to Eleventh Five Year Plan, Government of India, 2006.
27. _____. Draft Twelfth Five Year Plan, Government of India, New Delhi, 2012.
28. Poddar, Tushar, Eva Yi. India's Rising Growth Potential", Global Economics Paper No. 152, Goldman Sachs, 2007.
29. Ranjan, Rajiv, Rajeev Jain, Sarat C Dhul. "India's Potential Economic Growth: Measurement Issues and Policy Implications", Economic and Political Weekly. 2007, 42(17).
30. Virmani, Arvind. Growth, Capital and Employment: Performance in Perspective", Economic Research Paper No. 3, February, Planning Commission, 1989a.
31. _____. Sources of India's Economic Growth: Trends in Total Factor Productivity, Working Paper No. 131, Indian Council for Research on International Economic Relation, New Delhi, 2004.
32. _____. Policy Regimes, Growth and Poverty: Lessons of Government Failure and Entrepreneurial Success, Working Paper No. 170, Indian Council for Research on International Economic Relation, New Delhi, 2005.
33. _____. Propelling India from Socialist Stagnation to Global Power: Policy Reforms, Academic Foundation, New Delhi, 2006.
34. Wilson, Dominic and Roopa Purushothaman. Dreaming With BRICs: The Path to 2050, Global Economics Paper No. 99, Goldman Sach, 2003.