JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Justifiable Growth Model of Indian Industrial Scenario: An Overview

***Dr.Mahadev Bagadi, Associate Professor of Commerce, Govt. First Grade College, Navalgund.**

Abstract

The idea of "economic growth," which aspired to produce a bigger economic surplus that could be spent for purposes other than basic sustenance, was developed by early modern Western European cultures. The surplus can subsequently be used to consumerism, conflict, or charitable and religious endeavours. It was long believed that the only ways for the Crown or the nation to accomplish economic development would be to increase tax rates or the population (Erber & Hagemann, 2002). A long-term process known as economic growth describes a consistent increase in the overall volume of national output and revenue. The difference between short-term economic stabilisation and long-term economic growth is made by economists because they refer to short-term swings in national production as "business cycles" (Barro, 1997). (Barro, 1997). Economic growth and development are two different ideas; the former is a limited conception since it only takes into account national production, whilst the latter takes into account both national output and quality of life. Using inputs more effectively results in increased growth, which is known as intensive growth. GDP growth that is exclusively the consequence of increases in inputs like capital, population, or territory is referred to as extensive expansion (Bjork, 1999). (Bjork, 1999).

Keywords: *Economic Growth Models, Indian GNP, Inclusive Growth, NMSEGM, NMEGM, Human Capital Investment, Natural Capital Investment.*

Introduction

Numerous research studies on economic growth in general and country-level economic development in particular have been conducted by economists. They have produced information regarding the determinants, measurement, policy, and impacts of the economic growth idea. The primary factors that determine economic development have changed in response to the demands of shifting contexts and ways of thinking; the environment must be given top priority when defining "economic growth" in the context of today.

Review of Literature

There are various interpretations of what "economic growth" means, but it mostly refers to changes in a country's GNP over a given time frame, usually a year. The value of all commodities and services produced across all economic sectors employing resources and technology makes up the GNP (IMF, 2012). Either the market or current price can be used to estimate or calculate it. It is referred to as "Real Economic Growth (REG)" if the constant/base year price is used in the calculation. Nominal Economic Growth (NEG) is the term used when the calculation is made using the current/market price.

Over time, several theories have emerged to explain the factors that contribute to economic growth, as well as how to measure it. In the early modern era, the bullionist theory of economic growth, promoted by the mercantilists, defined economic growth as a rise in the total amount of gold and silver held by the state as a result of trade expansion and the establishment of colonies abroad. Later, the Bullionist Theory encouraged expanding the manufacturing sector's capacity in order to increase exports to foreign markets at a reduced cost and ward off foreign competition in order to create trade dominance overseas. Giving monopolies to organisations like the British East India Company and the Dutch East India Company, among others, was the key to fostering economic progress in this perspective.

This would encourage someone to take advantage of a market or resource because they would be sure to reap the rewards after all other foreign rivals went out of business. This ideology was rejected because to its "tit for tat" philosophy, which causes battles between the nations. The Physiocrats and Scottish Enlightenment thinkers like Adam Smith and David Hume challenged the mercantilists' idea of economic growth, which gave rise to the "Classical Economic Growth Theory" and laid the groundwork for contemporary political economics. According to the Physiocrats' thesis, expanding capital was necessary to enable increasing productive capacity, or national wealth, which in turn allowed for growth.

Then, David Ricardo would contend that commerce was advantageous to a nation since it meant that there was more lucrative work to be done locally if one could purchase a good for less money from elsewhere. This concept of "comparative advantage" would serve as the cornerstone for justifications for free trade as a vital element of economic development. However, until the Industrial Revolution, the growth in per capita income was practically flat.

Thomas Malthus said in his work "Essay on the Principle of Population" that "any development in the economy will translate into a growth in population." The industrial revolution and medical advancements increased life expectancy, decreased infant mortality, and increased the value of education, according to the generally accepted theory of economic growth. As a result, parents started to appreciate their children's quality more than their quantity. The fertility rates of the majority of industrialized countries decreased as a result. This is referred to as the Malthusian regime's collapse.

Industrialized economies saw significant increases in their per capita incomes throughout the following centuries

as a result of income growth outpacing population expansion. Although total income might rise, income per person was obligated to remain relatively stable. The classical theory of production and the theory of growth are based on the law of variable proportions, which states that increasing either of the production factors—labour or capital—while holding the other constant and assuming no technological change, will increase output, but at a diminishing rate that eventually will approach zero. These ideas initially arose in the agricultural theories of Thomas Malthus.

The link between labour hours, capital assets, output, and investment is depicted in the model. It was suggested that the development of technology was even more significant than the buildup of money. It was the first attempt at a long-run growth analytical model. This model argues that nations utilize their resources effectively and that labour and capital have declining marginal returns (Weil, 2008). (Weil, 2008).

Statement of problem

The idea of economic growth has been revised to reflect the demands and changes of the contemporary world. There are several metrics that may be used to gauge economic growth in a country, rich or poor, besides gross national product (GNP) or gross domestic product (GDP). Along with economic growth, environmental considerations and the increase of resources must be taken into account. Instead of hurting or depleting natural resources, the expansion of the economy should work hand in hand with their growth and the preservation of the ecological balance. The increase of all natural resources and ecological balance are included in the GNP, which must be used to calculate economic growth. The methods of empirical research are used to examine the patterns, factors, and effects of India's economic growth since 1980.

Importance and objectives of the study

The traditional method of measuring economic growth rate is no longer adequate since it does not take into account the significance of factors like population growth, human capitalization, and environmental protection when examining growth patterns. These elements have grown in significance in the modern era since more often than not, economic growth is achieved at the price of human rights abuses and environmental damage. In order to expand natural capital, it is vital to redefine the term "economic growth" by putting greater emphasis on environmental protection. The measurement gap is attempted to be closed in this work. This paper's major objective is to assess the inclusiveness and broad-basedness of India's economic growth from 1980–1981 through 2021–2022.

Methodology

Selection of variables

India's economic growth since 1981 has been measured and examined using the Gross National Product (GNP), population, gross domestic savings, gross domestic investment, investment in human capital, and investment in natural capital. Additionally, these numbers are used to forecast the economic growth rate for 2021–2022.

Data collection

Some of the secondary sources on which this study is based include the RBI: Hand Book of Statistics of Indian Economy, the Planning Commission of India Report (2001), the Indian Planning Experience, and Ministry of Environment and Forests Reports (2011-12).

Results and Discussion

India's economy was in terrible shape just before it gained independence. India was converted into a market by the British government for their businesses' mill-made products as well as raw materials. Firms with Indian roots were going through a lot right now; rural and small-scale businesses were completely destroyed. After gaining independence, India had to rebuild its economy on the basis of an economic principle that would allow millions of Indians to live happily and peacefully. The goal of Mahatma Gandhi's "Rama Rajya" (no hunger and famine deaths) campaign was to create self-sufficient villages and establish indigenous companies utilising indigenous resources and technology.

Nehru, however, aspired to make India into a modern country that could learn from the experiences of western countries via industrialisation. The Soviet style of economic planning had an impact on the five-year plans for economic growth in India.. Similar to the one-sector Harrod-Domar model, the First Five Year Plan placed a strong focus on investment for capital accumulation. It was said that the faster capital could be acquired since money was needed for production and could be amassed via investment the growth rate would be greater. Mahalanobis, who himself was employing a form of it in 1951 and 1952, presented the most basic critiques. The model's inability to handle real-world economic restrictions, its failure to solve the basic choice dilemmas presented by long-term planning, and the lack of link between the model and the actual project selection for state funding were the key areas of criticism. Then came the well-known two-sector model, which Mahalanobis eventually developed into a four-sector variant. The Mahalanobis model was developed on the basis of several hypotheses, including autarky, or a closed economy, the division of labour between the production of consumer goods and capital goods, immobility of capital goods, full utilisation of production capacity, supply of capital goods determining investment, and others. Prices remain unchanged, and the only limited resource is capital. According to the concept, in order to achieve a high quality of consumption, investment is first required to create a capacity for producing capital goods (Mahalanobis, 1953).

The Nehru-Mahalanobis Growth Model had been regularly used up to 1990; Indira Gandhi's social control had helped the model by hastening the growth of the Indian economy. The economy changed from being mostly agricultural to being primarily industrial as a result of the Industrial Revolution. Technical advancements in the sector and programmes for rural development have increased agricultural productivity. The prognosis for the Indian economy has altered as a result of large investment in its core industries, advancing it to the rank of a global industrial power. When the World Trade Organization (WTO) was established, India became a member and a signatory, ushering in a new era of economic development. It then started new economic changes and followed the "Narsimhrao-Manmohan Singh Growth Model" of globalisation, liberalisation, and privatisation (NMGM). Currently, by utilising macroeconomic indicators including the Gross National Product (GNP), population (P), gross domestic savings (GDS), gross domestic investment (GDI), human capital development (HCD), and natural capital development,we assess India's economic growth from 1951–1952 to 2010–2011. (NCD). The decadal growth rates as well as the actual trends for these selected macroeconomic indicators are shown in Table 1.

Table 1: Decadal Growth Rates of Selected Macroeconomic variables of India during 1980-2021

Variables	**1980-81**	**1990-91**	**2000-01**	**2010-11**	**2020-21**
GNP (Rs)	1371.83	5242.68	19780.10	71851.59	15132738.00
Pop (million)	679	839	1019	1186	1380
GDS (Rs)	265.90	1344.08	5155.45	26519.34	879815.8
GDI (Rs)	286.84	1526.04	5282.99	28716.49	147360000
HCD (Rs)	154.8	1299.5	5847	69467.6	750000
NCD (Rs)	155.19	576.4	1470.01	1694.09	1068000
Decadal Growth Rate					
a	2.1109	2.8217	2.7729	2.6325	0.4748
b	0.2551	0.2356	0.2145	0.1639	0.8594
c	2.8983	4.0548	2.8357	4.1439	6.3141
d	2.9756	4.3202	2.4619	4.4357	7.4352
e	0.3073	7.3947	3.4994	10.8808	14.345
f	7.2723	2.7141	1.5503	0.1524	1.2145

Sources: Indian Economy survey (2021)

a = GNP decadal growth rate; b = Population decadal growth rate; c = GDS decadal growth rate d = GDI decadal growth rate; e = HCD decadal growth rate; f = NCD decadal growth ra

Figure 1: Trends in Decadal Growth of Selected Variables

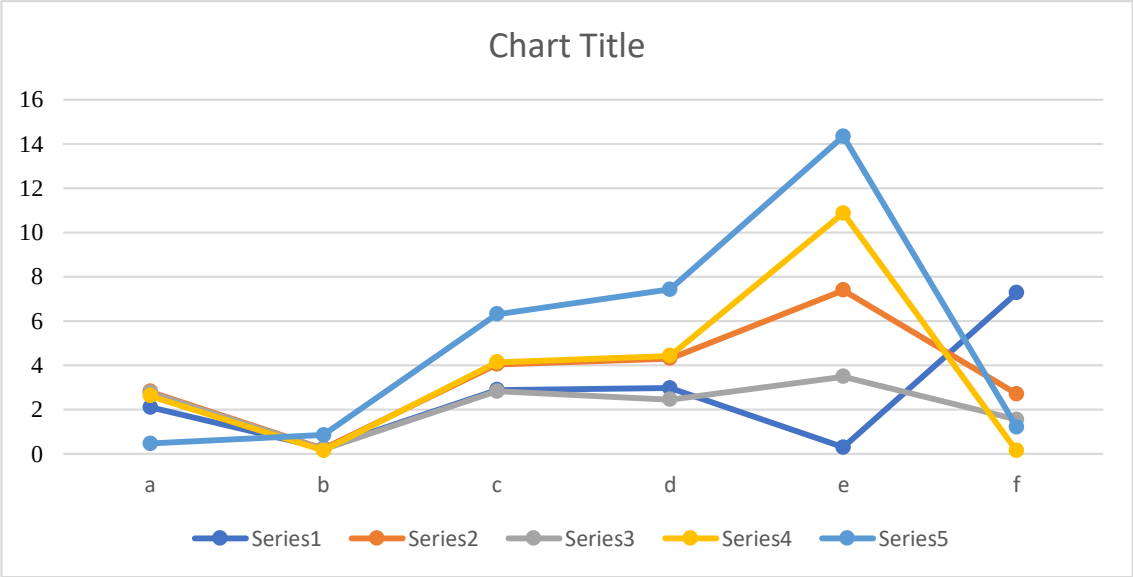
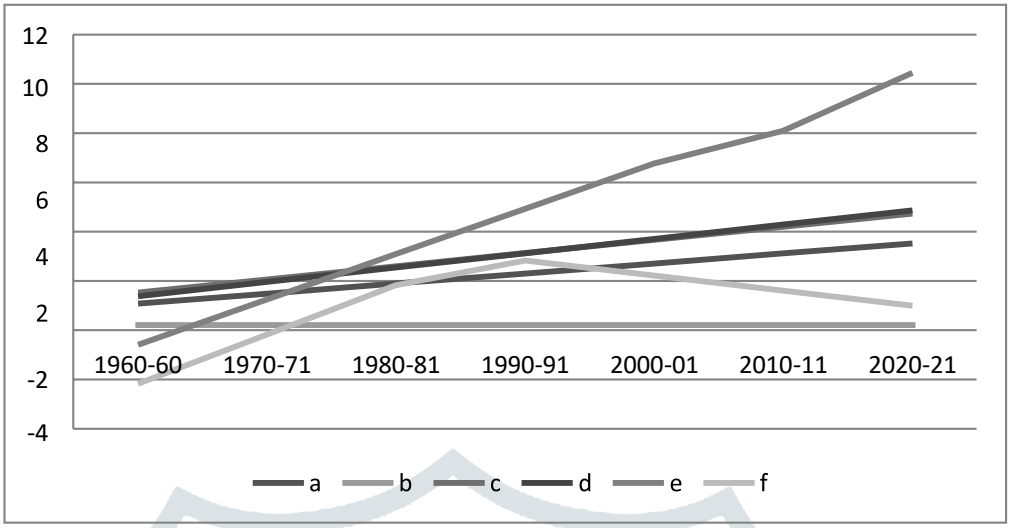


Table 2: Trend Values of Selected Variables

Year	Best-Fit-Line Trend Value (k) of Selective Variables					
	a	b	C	d	e	F
1980-81	1.8869	0.2137	2.5986	2.55	3.0926	1.83
1990-91	2.2943	0.2137	3.1316	3.1302	4.9314	2.83
2000-01	2.7007	0.2081	3.6646	3.7104	6.7702	2.219
2010-11	3.1091	0.2025	4.1976	4.2906	8.0926	1.608
2020-21	3.5165	0.1969	4.7306	4.8708	10.4478	0.997

Figure-2: Best-fit-line trend value of Selected Variables



Co-efficient of Correlations: Using Karl Pearson's method correlation co-efficient calculated between independent variables (b, c, d, e, and f) and dependentvariables (a). The co-efficient values and their square-up values are shown in Table 3.

Table 3: Correlation Co-efficient Values

Correlation between variable-a and variable-	r- value	r^2 -value	1- r^2 value
b=(r_1)	-4.0009	16.0073	-15.0073
c =(r_2)	1.2933	1.6726	-0.6726
d=(r_3)	1.2078	1.4588	-0.4588
e=(r_4)	0.8686	0.7545	0.2455
e=(r_5)	−0.1687	-0.0284	1.0284

Table 4: Computation of India's Inclusive Economic Growth Rates

Year (t) (1)	a/b (2)	a/d (3)	a/e (4)	a/f (5)	G_i (6)
1961-62 to 1970-71	64.8%	**08.8%**	13.8%	02.4%	**6.45%**
1971-72 to 1980-81	82.7%	**07.1%**	68.7%	02.9%	**7.81%**
1981-82 to 1990-91	119.8%	**06.5%**	03.8%	10.4%	**7.7%**

1991-92 to 2000-01	129.3%	**11.3%**	07.9%	17.9%	**14.36%**
2001-02 to 2010-11	160.6%	**05.9%**	02.4%	172.7%	**6.73%**
2011-12 to 2020-21	178.6 %	**07.2%**	03.4%	35.3%	**8.52%**

In Table 4, the time-period is shown in column (1), GNP growth in terms of population in column (2), in terms of investment in column (3), in terms of human capital investment in column (4), in terms of natural capital investment in column (5) and inclusive economic growth rate in column (6). Since GDS and GDI have the same trend, only GDI has been taken into account. Table 4 shows that India's decadal inclusive economic growth rate was single digit and was hovering between 6.45% to 9.8% during 1951-1991 but it reached 14.36% during 1991-2001; this clearly states that Nehru-Mahalanobis Growth Model (endogenous growth model or closed economy model) had initiated the rising trend economic growth during 1951-1991 but Narsimhrao-Manmohan Singh Growth Model (exogenous growth model or open economy model) increased the pace of economic growth to double digits between 1991 and 2001 by opening the Indian economy to the rest of the world. The decadal growth rate fell to 6.73% between 2001 and 2011 as a result of both domestic and global inflation and the great recessions. But the current growth model guarantees an 8.52% decadal inclusive growth rate from 2011 to 2021, i.e. Gi2011-21 =n (Y/Y)/ F*100/t.

=4*3.5165/16.5125*100/10=8.52%. [Gi = Inclusive Economic Growth, n = 4 variables (b, d, e, f), F = Value of b+d+e+f, t = time of 10 years]

ncluded in inclusive growth rate is more than simply growth rate. The inclusive growth rate is shown in column 6, whereas the simple growth rate is shown in column 3 of Table 4. In line with common practise, the simple growth rate is represented in terms of investment, whereas the inclusive growth rate is expressed in terms of population, investment, human capital, and natural capital. enhancing its usefulness as a metric. In terms of India's economic growth rate, inclusive growth outpaces simple growth, however between 1961 and 1991, inclusive growth outpaced simple growth on a trend of increase. This indicates that the inclusive growth rate represents growth that is influenced by rising human and natural capital growth as well as reducing population growth.

Conclusion

According to the data, at prices from 2004–2005, India's GNP increased from Rs. 105.61 crore in 1951–1952 to Rs. 71851.00 crore in 2010–2011. We also discover that its decadal growth rate first increased from 0.6075 in 1960-1961 to 2.8217 in 1990-1991 before gradually decreasing to 2.6325 in 2010-2011. This shows that the Nehru-Mahalanobis Economic Growth Model (NMEGM), which was effective in setting the Indian economy on a growth track, was a success. India's GNP increased steadily and trended higher between 1951–1952 and 1990–1991,

according to figures from 2004–2005. Strong economic policies, programmes, and measures were put in place during the crucial 1950–1980 period for the Indian economy. These included industrial policies, land reforms, public sector growth, controlled monetary expansion, budgetary policy, social control, population control, and export or peril trade policies. However, in 1990–1991 the pace of GNP decadal growth started to slow down. The post-economic reforms NMSEGM theory of economic development, which was first put forward in the 1990s, attracted more foreign investment at first but fell short of predicting growth in the agricultural and industrial sectors; the service sector, without a doubt, has grown its proportion in GNP. In the interim, the Indian rupee's value declined in comparison to the US dollar, the British pound, and other world currencies. The GNP decadal growth rate thus started to slow down, however when we consider economic growth in terms of population, Investment in natural resources, human capital, and capital was higher from 1991 to 2001 (14.36%), respectively. This was brought about by the Indian economy's opening up, the implementation of new economic reforms, and the growth of the service sector in the information technology and biotechnology industries (ITBT). The worldwide recession of the first decade of the twenty-first century had a severe effect on the Indian economy, slowing down inclusive economic growth between 2001 and 2011. Nevertheless, from 2011 to 2021, it recovered at a quicker pace (8.52%). Additionally, It demonstrates that the Indian economy has a self-sustaining growth mechanism that was launched by early plans and development programmes and could always retain its growth rate at or above 5%, notwithstanding trying conditions.

It is important to include the effects of population growth, human capital investment, and the expansion of natural capital when measuring economic growth using models or techniques like G=Y/Y*100 or G=% of gross domestic investment/capital-output ratio (GDI%/K/O). The "inclusive economic growth methodology," also known as Gi= n (Y/Y)/ F*100/t, is a novel method for estimating economic growth rate that takes into consideration both the generation of wealth through international commerce and the maintenance of a healthy environment for all species on Earth.

REFERENCES

- Anand Sinha (2012), “Financial Inclusion and Urban Cooperative Banks”, edited transcript at the launch of the financial inclusion program of COSMOS Bank at Pune.
- Chakrabarty K.C (2011), “"Financial Inclusion and Banks: Issues and Prospects," November 2011 RBI Bulletin. "Financial Inclusion: A Road India Needs to Travel," K.C Chakrabarty (2011), RBI Bulletin, November 2011.
- Chakrabarty K.C (2012), “"Empowering MSMEs for Financial Inclusion and Growth: The Role of Banks and Industry Associations," speech given at the 2012 SME Banking Conclave.
- Chakrabarty K.C (2013), “"Financial Inclusion in India: The Journey So Far and the Way Forward," Keynote talk at CNBC TV 18's Finance Inclusion Conclave in New Delhi.”