An Econometric Appraisal of the Impact of Economic Reforms on the Growth Performance of Assam

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Abstract

In the year 1991, India had undertaken the Economic reforms in the country which necessarily laid considerable impact on every state of the country and every economic sector. There are many studies on the impact of India's economic reforms on economic growth performance, but the focus has been largely on the performance of the economy as a whole or of individual sectors. The performance of individual states in the post-reform period has not received comparable attention so this study is an attempt to cover this area of interest. Further balanced regional development has always remained on top of the agenda in the national policy of India and it is necessary to evaluate whether economic reforms have promoted this objective or not. In this regard, considering the growth performance of the Assam economy in the pre-reform and post-reform period we have tried to evaluate the impact of the reforms on the Gross State Domestic Product of the state. In this paper, we have tried to evaluate the impact based on a comparison between GSDP of Assam in the pre reform and post reform period. The paper uses simple statistical or econometric tools like mean, standard deviation, coefficient of variation and most importantly a Paired T test for the GSDP in the Pre and Post reforms period in the state. In this way, the study makes an attempt to evaluate the impact of economic reforms on the growth performance of the state of Assam.

Keywords: Assam Economy, Economic Growth, Gross State Domestic Product, Economic Reforms

I. Introduction:

India’s growth miracle has attracted worldwide attention, particularly because this growth has been pursuant to the wide ranging economic reforms introduced in the early 1990s. After pursuing a strategy of self reliance for more than forty years, compelled by the balance of payment crisis, India initiated wide ranging economic reforms in 1991. These reforms covered macro-economic stabilization programmes addressing fiscal and current account imbalances and exchange rate regime. These reforms also sought to evolve an industrial and trade policy framework to promote efficiency, reduce the bias in favour of excessive capital intensity and encourage employment oriented industrialization.

Change is the only permanent thing in the world, so every individual, every society, every civilization, and every country changes with the changing times. India understood this reality better late than never, in India major economic reforms has been undertaken since July, 1991 with the objective to free the Indian industrial sector from various controls and regulations. These significant economic reforms in India aimed at opening up of the economy, greater marketization and globalization in the country. The economic reforms programme in India was initiated to tackle the severe economic crises, with the advent of economic reforms much has been debated on their success or failure but the fact is that India's recent progress toward economic growth stems from reforms undertaken after the 1991 fiscal crisis, which lifted India from decades of slow growth under socialist rule and offered an opportunity to improve living conditions in the immense, poor country. And the recent growth has been impressive – among the highest growth rates in the world.

The study is an attempt to explore the dynamics of economic growth in the North Eastern state of Assam. The reforms necessarily laid there impact on every state of the country and its every economic sector. But the impact seems negligible so for as state of Assam is concerned. The importance of such study lies in the fact that in recent times the impact of India's economic reforms on economic performance has been the subject of much academic study and public debate in India, but the focus has been largely on the performance of the economy as a whole or of individual sectors. The performance of individual states in the post-reform period has not received comparable attention so there are very good reasons why such an analysis should be of special interest. Whatever limited study has been done, that too excluded the economy of North Eastern region. Since the region has wide untapped resources which can be used to develop internal as well as international trade with neighboring countries under the new market economy spearheaded by economic reforms, therefore it is necessary to study the regional dimensions of economic growth in North East Indian states. Therefore, here an attempt has been made in this paper to highlight the impact of economic reforms on the economic development of the North Eastern state of Assam.

II. Objectives:

The prime objective of this paper is to evaluate the impact of economic reforms on the Gross State Domestic Product of Assam.

III. Data and Methodology:

The Gross State Domestic Product (SDP) commonly known as State Income is one of the important indicators to measure the economic development of the State. It also serve as an indicator to assess the status of the economy among the States in the Country as well as overall impact of various developmental programmes carried out by the government and gives insight of the strength and weakness in the operation of the economy over a period of time. In this research paper GSDP is used to judge the economic performance of the state of Assam. The whole study is based on secondary data derived the RBI databank and logical conclusions are derived by applying Mean, Standard Deviation, coefficient of Variation and Paired T-test is used to test the validity of hypothesis.

Hypothesis: The following hypothesis is laid down for verification and conformation:

H_0: There is no significant impact of the economic reforms on the economic development of the state.

IV. Post-Reform Economic Growth in Assam- Empirical Evidence:

The State Domestic Product (SDP) commonly known as State Income is one of the important indicators to measure the economic development of the State. In the context of planned economic development of the State, State Income and Per Capita Income (PCI) plays a vital role in formulation of policies by policy makers, planners and administrators. These estimates also serve as an indicator to assess the status of the economy among the States in the Country as well as overall impact of various developmental programmes carried out by the government and gives insight of the strength and weakness in the operation of the economy over a period of time. The State Domestic Product (SDP) is defined as the aggregate of the economic value of all goods and services produced within the geographical boundaries of the State counted without duplication during a specified period of time usually a year.

The estimates of State Domestic Product are prepared both at "current" and "constant" prices. The estimates of SDP at current prices are obtained by evaluating the goods and services at prices prevailing during the year. These estimates however, do not reveal the real economic growth; the estimates of SDP are also prepared by evaluating the goods and services at the prices that have been prevailing in the base year. These estimates are known as estimates of SDP at constant prices and are as such regarded as a real measure of the level of development of the economy in different time periods. So in this study we will be focusing on the GSDP at constant prices for the state.

First of all, as a part of the analysis let us have a look at the growth performance of Assam in comparison to the national economy in the post reforms period. Table 1 shows the comparative growth of GDP and GSDP at constant prices (2004-05).

Table 1: Comparative Growth of GDP and GSDP at constant price (2004-05)

Year	Assam		India	
	GSDP(Rs. Crore)	Growth Rate (%)	GDP(Rs. Crore)	Growth Rate (%)
2004-05	53397.72	-	2971464	-

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2005-06	55213.56	3.4	3254216	9.5
2006-07	57782.53	4.7	3566011	9.6
2007-08	60567.50	4.8	3898958	9.3
2008-09	64696.88	6.8	4162509	6.8
2009-10	69923.65	8.1	4493743	8.0
2010-11	75082.07	7.4	4879232	8.6
Average		5.87		8.63

Source: Economic Survey Assam, 2010-11, Directorate of Economics and Statistics Govt. of Assam

The above table shows that the GSDP (at constant price) which is the real indicator of economic performance was Rs 53397.72 crores in the year 2004-05 and the same touched a mark of Rs 75082.07 crores in the year 2010-2011.The growth rate has increased from 3.4 per cent to 7.4 per cent. If a careful analysis is made the annual average growth rate of GSDP at constant price (2004-05) is 3.4 per cent which is too low in comparison to the average national growth which stands at an average annual growth rate of about 9.5 per cent in the year 2005-06. The growth rate of Assam is lower than the national growth rate for all the years from 2004-05 to 2010-11, except for the year 2009-10. In 2009-10, the growth rate of Assam is 8.1 per cent whereas the growth rate of India in 8.0 per cent. Moreover, the average annual growth rate of GSDP of the state is only 5.87 per cent over the periods under consideration in comparison to the average annual national growth rate which is 8.63 per cent. The data presented in table 1 respectively bring clearly this reality to light that state economy is lagging behind on the development front in comparison to the national economy.

However, to have an idea about the change in the growth scenario within the state after economic reforms let us have a look at the GSDP in the state in the pre and post reforms period.

Table 3: A comparative analysis of Gross State Domestic Product of Assam State in the post and pre- reform periods at constant price

Sl. No.	GSDP after reforms of 1991(X)*	GSDP before reforms of 1991(Y)**	Difference (X-Y=D)

	(Rs. in Crore)	(Rs. in Crore)	(Rs. in Crore)
1	37326	2743.80	34582.2
2	38079	2876.87	35202.13
3	39158	2991.39	36166.61
4	40277	3025.37	37251.63
5	41459	3231.13	38227.87
6	41869	3154.23	38714.77
7	41778	3334.30	38443.7
8	43106	3371.58	39734.42
9	44197	3620.41	40576.59
10	45344	3768.95	41575.05
11	48551	3942.20	44608.8

Source: NITI Ayog State Statistics.

**NSDP before reforms is taken from 1981-82 to 1991-92 with 1980-81prices as base.

*NSDP After reforms are taken for the period from 1992-93 to 2002-03 with 2004-05 prices as base.

Note: Calculations are made by the scholar.

The above table shows the difference between Gross State Domestic Product of Assam before and after economic reforms in 1991 in India. It is seen from column 4 in the table that there were positive difference during the two periods under consideration between the GSDP of the state. This conveys to us that there was positive impact of economic reforms on the state domestic product.

To judge the impact of economic reforms of 1991on the GSDP (Assam) in the following section we have applied the “Paired T test” for the data given on the Table-3. The test brings the following results-

	GSDP Pre-reform Period 1981-82 to 1991-92	GSDP Post-reform Period 1992-93 to 2002-03
Mean	3278.20	41922.18
Standard Deviation	376.98	3297.07
Coefficient of Variation	1.42	1.09

Through this comparison it is absolutely clear that the economic performance of the state economy is consistent and less variable in the post reform period. The coefficient of variation in for the pre-Reform period is 1.42% and the same for post-Reform period is 1.09%. Hence, it means that the economic reforms have affected the economy and brought consistency in the increase in GSDP over the years. Moreover, the positive difference between the Mean and Standard Deviation of GSDP in the Pre and Post reforms period shown by the above table also depicts a positive impact on the economic growth in the state.

To test the hypothesis that there is no significant impact of the economic reforms on the economic development of the state of Assam, a Paired T test is performed. Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied as the skewness and kurtosis levels were estimated at .585 and .346, respectively, which is less than the maximum allowable values for a t test (i.e., skewness< | 2.0 | and kurtosis< | 9.0 |). It will also be noted that the correlation between the two condition was estimated at r = .981, p<.001, suggesting that the paired samples t test is appropriate in this case. The results of the t test are as followed-

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference: Lower	Upper			
Pair 1 GSDPafter - GSDPbefore	38644.00	2928.01895	882.83093	36676.90920	40611.04898	43.773	10	.000

By applying "T- Test" to the data presented in Table 3 the calculated value of T = 43.773 as shown by the above table and it is significant at 5 per cent level of significance at 10 degrees of freedom. Therefore, H_0 (Null Hypothesis) is rejected, t (10) =43.773, p<.001. Rejection of the null hypothesis means that Economic reforms had significant impact on the economic development of the state economy.

V. Summary and Conclusion:

The economic reforms of 1991laid their impact on every state and every sector of the economy and the state of Assam has also experienced the same, though the state is still lagging behind some other state economies and the national economy at large. It is evident from the discussion that the annual average growth rate of GSDP is 5.87 per cent which is too low in comparison to the average national growth which stands at an average annual growth rate of about 8.63 per cent. The result of the econometric analysis has left us with a

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statistically significant t value which has rejected the null hypothesis and this depicts that the economic reforms has significant impact on the growth performance in the state of Assam.

Economic reforms was undertaken not only to accelerate the growth of economic development in this country but also to achieve the objective of sustained and equal regional growth. But the study shows that Assam is still lagging behind the national economy and other neighbouring states due to certain reasons:

- The state has its varied and diversified geographic, agro-climatic and topographic features
- Remoteness and isolation from major markets
- Ethnic diversity
- Small size of domestic market
- Lack of economic infrastructure, etc.

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