International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Impact of Privatization of SOEs on Economic Growth in India

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Abstract

This Paper investigate the impacts of privatization and disinvestment of state-owned enterprises (SOEs) on economic growth in the context of India. It delves into an in-depth analysis of the relationship between disinvestment (a proxy for privatization) and economic growth in India. This finding employ rigorous methodologies, including unit root tests, ARDL (Autoregressive Distributed Lag) cointegration analysis, and diagnostic tests to ensure the robustness and reliability of the results. Collectively, these findings offer valuable insights for policymakers, government authorities, and stakeholders involved in decisions regarding the privatization and disinvestment of SOEs in India, providing lessons for enhancing efficiency and competitiveness in the evolving global economic landscape.

Keywords: SOEs, Economic Growth, Disinvestment, Privatization, ARDL.

Introduction

In today's dynamic and ever-changing global economic landscape, governments worldwide are constantly seeking innovative approaches to ensure the optimal performance and competitiveness of their public sector enterprises. One such approach that has garnered significant attention and debate is strategic disinvestment, commonly known as privatization. This process involves the transfer of ownership and management control of state-owned enterprises to private entities, with the goal of enhancing efficiency, productivity, and overall performance. The Indian economy, like many others, has also experienced substantial shifts in its economic policies and governance practices over the years. In an effort to revitalize and strengthen its public sector, the Indian government undertook a series of strategic disinvestments in certain Central Public Sector Enterprises (CPSEs) during the period from 1999-2000 to 2023-44. These disinvestments were strategically implemented with the aim of unlocking the potential of these enterprises and positioning them for sustainable growth in a liberalized and competitive market environment.

Methodology

To evaluate the impact of privatization of SOEs on economic growth in India, here we follow the co-integration and the ARDL. Here, disinvestment and growth rate are the two variables.

We have to know the stationary property of the time series data. To show the stationary of data, we use a unit root test to stationary property in variable disinvestment and growth rate. Unit root is the time series data, makes it non-stationary. If the time series is non-stationary, it means there is a unit root. In unit root, ADF test and PP test are using. The ADF test is the H0 that a unit root is in the time series data. The PP test is a unit root test on time series data and test H0 that is integrated into first order difference. The Augmented Dickey–Fuller test (ADF) and Philip Perron (PP) tests help to show the significance and

stationery of the time series data. When the P value is less than 0.05 (5%), it shows the data is statistically significant. And also, if the test statistics (t statistics) have less than critical value, then reject the null hypothesis (H0) and it means series is stationary. Table 4.1, shows the unit root test results.

Variables	**ADF**		**PP**		**P value ADF**		**P value PP**	
	I = 0	I = 1	I = 0	I = 1	I = 0	I = 1	I = 0	I = 1
Disinvestment	-3.804	-6.69	-3.947	-13.74	0.029	0.000	0.0217	0.000
GDP Growth	-1.57	-3.59	-1.369	-3.591	0.484	0.0121	0.5843	0.0121

Table 4.1: Unit Root Test Results

From table 4.1, we can see that ADF model for disinvestment, P – value at level 0.029 is less than 0.05. And also, in the PP model for disinvestment, P – value at level 0.0217 is less than 0.05. For the dependent variable growth, P – value of ADF model and PP model at first difference is 0.0121, which is less than 0.05(5%). So that we can conclude the time series data of disinvestment is significant and stationary at the level and time series data of GDP growth is significant and stationary at the first difference order.

Once the arrangement of variables has been adjusted for integration across different order, the next step is to conducting a cointegration test. Since variables have different order of integration that is disinvestment is stationary at level and GDP Growth at first difference. So that we will move towards ARDL cointegration. Null hypothesis (H0): No levels relationship. Here we can see in the table 4.2 that the F – statistics 24.14 is much greater than the critical values for the 10%, 5%, 2.5%, and 1 % levels of significance this means that we can reject the null hypothesis of no levels relationship with a high degree of confidence.[1] In conclusion, the ARDL bounds test results suggest that there is a statistically significant long – run relationship between the variables.

Significance level	***Critical value***	***F – test***	***Conclusion***
10 %	3.02	24.14	Reject the null hypothesis
5 %	3.62	24.14	Reject the null hypothesis
2.5 %	4.18	24.14	Reject the null hypothesis
1 %	4.94	24.14	Reject the null hypothesis

Table 4.2: Results of the ARDL bounds test

The long-run equation

[1] F – statistics in statistics is a hypothesis testing procedure that considers two variances from two samples. The F – test is used when the difference between two variances needs to be significantly assessed.

EC = LNGDP - (-0.0335*LNDIS + 19.7497)

This equation stats that the long – equilibrium level of GDP growth is negatively related to the disinvestment. In other word we can say that an increase in the disinvestment will lead to a decrease in the long run equilibrium of GDP growth.

The coefficients of ARDL model can be interpreted as follows:

- The coefficient of DISINVESTMENT is -0.0335, which depict that a 1 % increase in the disinvestment will lead to a 0.0335 % decrease in the long – run equilibrium level of GDP growth
- The constant term is 19.9497, which depict that the long – run equilibrium level of GDP growth is 19.9497 %, when the disinvestment is equal to zero

The bound test and ARDL long – run equation both found that there is a long-term relationship between GDP growth and disinvestment

Variable	***Coefficient***	***T - Statistics***
Disinvestment	-0.033	-0.023
C	19.749	1.154

Table 4.3: ARDL coefficient

Table 4.3 shows the ARDL regression with variable disinvestment has a negative and statistically significant influence on the GDP growth rate at 10 % level. This means that a 1 % increase in disinvestment associated with 0.033 % decrease in the GDP growth rate.

Variable	***Coefficient***	***Std. Error***	***T – statistic***	***Prob.***
CointEq(-1)*	-0.005991	0.001658	-3.613622	0.0013

Table 4.4: ARDL Error Correction Regression

The error correction term (ECT) is a measure of how quickly the variables in a model return to their long – run equilibrium after a shock. In this case, the ECT is negative, which means that the variables are adjusting towards their long – run equilibrium. The coefficient of the ECT is also significant, which means that the error correction term is a statistically significant predictor of the variables. The error correction term (ECT) is denoted as CointEq(-1) in the table 4.4 . It is a measure of the speed at which the variables return to their long-run equilibrium after a shock. In this table, the coefficient of the ECT is -0.005991, which is significant at the 0.01 level. This means that about 0.59% of any movements into disequilibrium are corrected for within one period.

To put it simply, if there is a shock to the system, the variables will tend to return to their long run equilibrium at a rate of 0.59% per period. This is a relatively fast rate of adjustment, which suggests that the variables are closely linked together. The negative sign of the ECT coefficient indicates that the variables are moving towards their long-run equilibrium. This is to be expected, as the ECT is a measure of the error between the actual and long-run values of the variables. Overall, the results of the error correction term suggest that the variables are closely linked together and that they return to their long-run equilibrium relatively quickly after a shock.

Here are some additional things to keep in mind about the error correction term:

The ECT is typically between 0 and -1. A value of 0 indicates that there is no error correction, while a value of -1 indicates that the variables are perfectly correcting for any deviations from their long-run equilibrium.
The size of the ECT coefficient is important for determining the speed of adjustment. A larger coefficient indicates a faster rate of adjustment.

TEST	***NULL HYPOTHESIS***	***VALUE***	***P – VALUE***
JARQUE – BERA TEST	Normally distributed residuals	2.013	0.3654
RAMSEY RESET TEST	Stable structure	3.596147	0.0679
BREUSCH-PAGAN-GODFREY TEST	Homoscedasticity	1.371751	0.2507
BREUSCH-GODFREY LM TEST	No serial correlation	4.526651	0.0198

Table 4.5 Diagnostic Tests

In the end result, we conducted diagnostic tests to assess the reliability of the model and the stability of the estimates. Table 4.5 shows the efficiently estimated coefficients and indicates that the Breusch-Godfrey LM test does not find any serial correlation in the model. The BreuschPagan-Godfrey test's finding of homoscedasticity leads to more reliable and efficient standard errors and coefficient estimates. Since the probability value (P-Value) of the Ramsey Reset test is greater than 10%, we cannot reject the null hypothesis. Therefore, we can conclude that the approach and model are well-defined.

Conclusion

The chapter moved to ARDL (Autoregressive Distributed Lag) cointegration analysis, considering the differing orders of integration between the variables. The ARDL bounds test was performed, and the results were decisive in rejecting the null hypothesis of no levels relationship. This suggests a significant long-term relationship between the variables. The derived ARDL long-run equation revealed that disinvestment had a negative relationship with economic growth. An increase in disinvestment was associated with a decrease in the long-run equilibrium level of GDP.
The coefficients of the ARDL model provided further insights. The coefficient of disinvestment indicated that a 1% increase in disinvestment would lead to a 0.0335% decrease in the long-run equilibrium level of GDP. The constant term suggested that the long-run equilibrium level of GDP was 19.9497% when disinvestment was at zero. The error correction term (ECT) analysis highlighted the speed at which the variables return to their long-run equilibrium after a shock. The negative ECT coefficient signified that the variables were adjusting towards their equilibrium. This adjustment occurred at a relatively swift rate of 0.59% per period, indicating a strong linkage between the variables. To ensure the robustness of the model, diagnostic tests were conducted. The Breusch-Godfrey LM test indicated the absence of serial

correlation, while the Breusch-Pagan-Godfrey test verified homoscedasticity, enhancing the reliability of the standard errors and coefficient estimates. The Ramsey Reset test did not provide sufficient evidence to reject the null hypothesis, validating the overall approach and model.

Collectively, this study provides a comprehensive perspective on the complex dynamics of privatization in India, offering valuable insights into its effects on both the financial performance of CPSEs and the broader economic growth context. While the financial analysis highlights the transformative potential of privatization for state-owned enterprises, the economic growth analysis calls for careful consideration of the trade-offs involved in disinvestment policies. These insights contribute to a deeper understanding of the intricate relationship between privatization, state-owned enterprises, and the broader economy, facilitating more informed decision-making in the realm of economic policy.

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