IMPACT OF IMPLEMENTATION OF PAY COMMISSIONS RECOMMENDATIONS ON PUBLIC EXPENDITURE, WAGES AND SALARIES OF GOVERNMENT EMPLOYEES OF INDIAN STATES

Nidhi Tewatia*

ABSTRACT

The Research Paper focuses on the determination of relation between total public expenditure on all items and lines and public expenditure on wages and salaries of employees of state governments. The study is based on panel data relating to time series of total public expenditure and salary expenditure of states. Dickey-Fuller test of unit root shows time series of salary expenditure and total public expenditure to be stationary at first difference. Besides, the time series of public expenditure on employees' salaries and total public expenditure approximate normal distribution and both the series are nominally skewed and marginally concentrated. Total public expenditure and expenditure on salaries of public employees of 30 states and union territories increased at statistically significant high annual compound rates of growth. The positive trend coefficient of the ratio of salary expenditure to total public expenditure is significant for 8 states/UTs while the negative trend coefficient of the ratio is significant for Bihar. Thus, 21 trend coefficients of the ratio are not significant. Ten non-significant negative trend coefficients of the ratio of salary expenditure to total public expenditure suggest that the ratio has remained constant, and hence, pay commissions' recommendations do not seem to have been affected by the spatial units. Public employees' salaries and wages are determined by the lagged salaries and current total public expenditure, but the adjustment of observed to the desired level of salaries- wages is spread over about 5 to 7 years. However, the short run equilibrium is found generally to converge towards long run equilibrium.

Introduction

Income and prices, including factor rewards, are closely related to each other, and these two variables generally move together. Higher the gross national income (GNI), greater are the factor rewards and commodity prices.[1] But the factor rewards are determined by the supply relative to demand. Demand for factors of production depends on employers' capacity to pay which, in turn, depends on income/output produced by the factors of production. Employers push their demand for labor/manpower up to the point at which marginal productivity of labor equals wages/salaries. [2] The supply of labor depends on the opportunity cost. Marginal productivity equals wages which, in its turn, equals opportunity cost of supply of labor. [3] Opportunity cost is measured by the earnings foregone from the next best alternative available job to labor.

Literature Survey

The Economic theory states that factor rewards should be determined on the basis of their marginal productivity. However, researches have shown that human capital or man- power, especially the educated man-power, makes much greater contribution to growth than technology and physical capital (Schultz, T. W., 1962, Prakash, Shri, 1977, Prakash, Shri and Balakrishnan Brinda, 2010, Sharma Amit, 2017, Sharma, Shalini, Sharma Amit and Bhatnagar, Gunjan,, 2019,). It is also recognized that the

---

* Research Scholar, Department of Economics, Radha Govind University, Ramgarh, Jharkhand, India.

development administration is qualitatively different and relatively more intricate and complex than the routine civil administration. Development administration involves paradigm of growth and the implementation of development policy at the grass roots. Consequently, the growth of Indian economy has largely been driven by consistent growth of productivity which is explained by the up-gradation of educational qualifications and replacement of general education graduates and post graduates by professionally and technologically qualified graduates and post graduates in employment (Sharma, Amit 2021).

Methods and Models of Data Analysis

The study uses descriptive statistics as the preliminary step of data analysis. Descriptive or summary statistics comprises the calculated values of mean, standard error of mean, median, standard deviation, variance, coefficients of skewness and Kurtosis, minimum and maximum values and the range. [4] Thus, these statistics comprehensively display the basic features of each data set. Descriptive statistics compresses the large number of observations into few critical values that capture the essence, nature and spread of distribution and/or concentration of high values in a narrow space around the mode. The results of the summary statistics may also be used to estimate the t value of difference between the mean and median to determine if the distribution converges or diverges from normality. Past studies have shown that the t-statistics of the difference between the mean and median of the given distribution furnishes a reliable result about normality of distribution as is provided by Jack-Bera test (Sharma, Sudhi, 2014, Kiangi, Richard Fue, 2016, Negi, Gautam, 2016, Ramadhani, Khalid, 2018). [5,6]

The results of descriptive statistics relate to the following sets of data base: Separate time series data of

- total public expenditure of each state;
- public expenditure on salaries of public employees of each state; and
- separate cross section data of each year on
- total public expenditure;
- public expenditure on salaries of public employees; and
- panel data of all states and years on total public expenditure; and
- panel data of all states and years on public expenditure on wages and salaries of employees. [7-10]

Results

The exponential growth curve, transformed into semi-log form, has been estimated by OLS from the annual public expenditure on salaries of employees of 30 States and Union Territories for which data were available from 2006 to 2012.[10-13] The coefficient of time in these growth curves furnishes an estimate of annual compound rate of growth (ACGR). The OLS estimates of State/UT wise ACGR are reported in the table 1 given hereunder. The results are analyzed in the ensuing paragraphs. Table: 5.1 ACGR of Public Expenditure on Salaries context of decentralization of responsibility of development from center to state in 1971 with the appointment of state Planning Boards at state level, but the responsibility for development was further devolved from the states to districts. At the district level, District Magistrate, formerly known as District Collector, is responsible for the development of the district. Similarly, the responsibility of development devolves from D.M. on to block development officer (BDO).

Table: 1 ACGR of Public Expenditure on Salaries

UT/State	ACGR	State	ACGR	State	ACGR
Arunachal	10.59	Jharkhand	6.16	Andhra	6.69
Assam	6.74	Kerala	3.99	Chatisgarh	7.88
Himachal	6.25	Maharashtra	7.43	Haryana	7.16
.J & K	8.333	Panjab	6.98	Karnataka	5.58
Manipur	8.51	TamilNadu	7.83	M.P.	7.70
Mizoram	8.08	West Bengal	7.12	Odissa	6.19
.Sikkim	5.18	Pudicherry	5.88	Rajasthan	5.71
Uttarakhand	7.48	Meghalaya	6.31	U.P.	5.41
Bihar	6.81	Nagaland	7.24	Delhi	6.18
Gujarat	8.74	Tripura	5.77		

The perusal of the estimated growth curves (only ACGR reported here) shows that (i) The growth curve fits the data of public expenditure on employees' salaries well, and the explained proportion of variation of public expenditure on employees' salaries ranges from as high as 89% to 99% of the total inter-temporal variation. The explained proportion of variation is 89% of total inter temporal variation only for U.P., but for the remaining 28 units, it is generally greater than 90%. Adjustment Process of DLM

The value of λ, the coefficient of adjustment of the observed to warranted value of Salary expenditure has as low value as λ =0.222, and it is much lower than unit. It implies that the adjustment of actual to warranted expenditure on salaries of public employees involves long lags and delays. This conforms to the long lead time involved in the appointment of pay commissions, submission of their recommendations to the government and the approval and implementation of the same in the democratic polity of India. The following is the actual period wise percentage of adjustment:

Period:	I	II	III	Completed	Residual Total
I	0.222	……	0.222	0.778	
II	0.222	0.173	…….	0.395	0.605
III	0.222	0.173	0.134	0.529	0.471
IV	0.222	0.173	0.134	0.663	0.337

The above table reveals that 89% of total adjustment of actual to desired change in public expenditure on salaries of public employees is accomplished in five years. Thus, there is a great deal of the spread of adjustment of actual public expenditure on salaries of employees to its long run equilibrium relation with public expenditure on all items. Incidentally, actual total public expenditure on all items may be treated as the long run public revenue/income.

Advantages of DLM

The time series of both the variables are found stationary at first difference. Therefore, the length of lag is one and Distributed Lag Model is used. DLM takes care of not only the need for inclusion of one lag in the model but it also facilitates differentiating between reduced form and structural equations of the model on the one hand, and it enables the researcher to distinguish short run equilibrium from long run equilibrium relation on the other hand.

However, the adjustment of current/lagged value to its desired level is spread over more than five periods. However, the short run equilibrium tends to converge towards the long run equilibrium. It may, therefore, be surmised that the system may reach near long run equilibrium at the most in seven years.

Conclusion

Main findings of the Chapter lead to the following conclusions:

- The time series of public expenditure on employees' salaries and total public expenditure approximate normal distribution and consequently both the series are nominally skewed and marginally concentrated;

- Time series of total public expenditure and expenditure on public employees' salaries are stationary at first difference;

- Total public expenditure and expenditure on public employees' salaries incurred by all 30 states and union territories have increased at statistically significant high annual compound rates of growth;

- The positive trend coefficient of the ratio of salary expenditure to total public expenditure is significant for 8 states/UTs while the negative trend coefficient of the ratio is significant for Bihar. Thus, 21 trend coefficients of the ratio are not significant;

- Ten non-significant negative trend coefficients of the ratio of salary expenditure to total public expenditure suggest that the ratio has remained constant, and hence, pay commissions' recommendations do not seem to have affected these spatial units significantly;

- However, elasticity coefficients of salary expenditure with respect to total public expenditure indicate significant positive relation between the year-on-year growth rates of these variables;

- Public expenditure of all 30 units has been significantly affected by the implementation of the Pay Commissions' recommendations;

- Public employees' salaries are determined by the lagged salaries and current total public expenditure;
- But the adjustment of observed to desired level of salaries is spread over 5 to 7 years.

References

1. AL-Bayati, H.J.M. (2019). Growth and yield of cauliflower as affected by boron and fertilizer type. International Journal of Agricultural and Statistical Sciences, 15(2), 595-599. AL-Chalabi, A.T.M. (2019).
2. Effect of agricultural media and gibberellic acid by foliar application on growth and flowering of cockscomb Celosia crestata. International Journal of Agricultural and Statistical Sciences, 15(2), 611-615.
3. Dube, M., V. Singh and S.K. Yadav (2020). Assessment of the regional disparities in development of agricultural sector in Uttar Pradesh: A statistical analysis. International Journal of Agricultural and Statistical Sciences, 16(2), 617-624.
4. Garg, D.K. and G.P. Singh (2011). Construction of three and four associate class Partially Balanced Incomplete Block designs using method of duality. International Journal of Agricultural and Statistical Sciences, 7(2), 579-587.
5. Jassim, R.A.H., H.N. Kadhem and Q.A. Talib Alshujairy (2020). Comparing the effect of nano and mineral fertilizers and additional methods in availability and absorption of some elements and the growth and yield of maize (Zea mays L.). International Journal of Agricultural and Statistical Sciences, 16(2), 659-663.
6. Murshed, M. and M.M. Tanha (2020). Oil price shocks and renewable energy transition: Empirical evidence from net oil-importing South Asian economies. Energy, Ecology and Environment, 1-24. https://doi.org/10.1007/ s40974-020-00168-0 Mutlak,
7. N.N. (2019). Effect of salt stress and drought on production of linoleic and oleic acids of safflower callus. International Journal of Agricultural and Statistical Sciences, 15(2), 617-620.
8. Patel, H. J. and M.N. Patel (2020). Statistical analysis of daily low temperature of ahmedabad city using stochastic process. International Journal of Agricultural and Statistical Sciences, 16(2), 573-582.
9. Ramana Murthy, B., G. Mohan Naidu, B. Ravindra Reddy and S. Nafeez Umar (2018). Forecasting groundnut area, production and productivity of India using arima model. International Journal of Agricultural and Statistical Sciences, 14(1), 153-156.
10. Sarawad, I.M. and D. Singh (2009). Nitrogen Fractions in Soil and Their Contribution to Mineralizable Nitrogen and its Uptake by Wheat in a Long-Term Fertilizer Experiment. International Journal of Agricultural and Statistical Sciences, 5(1), 131-138.
11. Tiwari, H., M. Kumar, R.K. Naresh, M.K. Singh, S. Malik, S.P. Singh and V. Chaudhary (2018). Effect of organic and inorganic fertilizers with foliar application of gibberellic acid on productivity, profitability and soil health of marigold (Tagetes erecta L.) cv. Pusa Narangi Gainda. International Journal of Agricultural and Statistical Sciences, 14(2), 575-585.
12. Vishwajith, K.P., P.K. Sahu, P. Mishra, B.S. Dhekale and R.B. Singh (2018). Modelling and forecasting of arhar production in India. International Journal of Agricultural and Statistical Sciences, 14(1), 73-86.
13. Yadava, A.K. and J.B. Komaraiah (2020). Benchmarking the performance of organic farming in India. Journal of Public Affairs, e2208. https://doi.org/10.1002/pa.2208

□○□