Resource Allocation in Education and Socio-economic Education Development in the Small Industry in India

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ABSTRACT: Economy of India can't accomplish the objective of sustainable economic development and education about small industries to the resource like human resources, until or unless it can put a generous sum in human resources. Education is a fundamental factor of development. It does not just improve the personal satisfaction of an individual yet in addition improves the social advantage of the public. The motivation behind this examination to discover how public expenditures on education can improve the economic and social state of the society in India. Regardless, the issue that whether further developed level of education coming about on the grounds that more education spending can advance economic growth is yet sketchy. A few economic and social analysts and researchers have maintained the two-sided connectivity between these two factors, yet some are recommending that economic growth essentially animates government to spend more on education, not the substitute way. The research question of this paper is "do education and expenditures on education get economic and social with education of small industry advancement"? Considering this research issue, the current paper utilizes Granger Causality methods to conclude the causal connection between government's education spending and socio-economic development in India for the period 1972-2021. Results uncovered that there is no short run causality between government expenditure on education and socio-economic growth, yet economic growth influences public spending on education. This provides guidelines to the new education policy (NEP) makers that they should priorities their attention towards allocation of development and non-development expenditures of government's budget to enhance the quality of education and welfare of individuals in the society. Special focus should be given on the compulsory primary education which is already a part of sustainable development goals.

Keywords: sustainable development goal, new education policy, education expenditure; social progress; economic growth, small industry

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INTRODUCTION
Education in any country is considered as an engine of economic development since it shields individual from the wrongs of substance and despondency and supply data information and bliss that transform them to be useful for the society. Moreover, the significance of primary education is extraordinarily high basically as great establishment fortifies the students' capacity to get on instructional stepping stool flawlessly, keenly and with progress. Quality education at primary education is the key to entire schooling system since the rest of them built upon it. Since previously India was suffering from very surprising social ills like peace and lawfulness breakdown, corruption, weak governance, illiteracy, poor quality of education, social and income divergence, destitution/poverty, street kids, road drug addicts. Presently there is a critical need to battle against these evils and follow the way of NEP and social advancement. Which is conceivable through upgrading the capacity of a society to fulfill the fundamental needs of its voters, set up building blocks, to boost and support the norm of their lives as per their maximum capacity. Social development or social advancement is essentially a method of societal change and assists with evaluating that change.

Tragically the Social Progress Index and as explained in global handicraft index uncovered a horrendous circumstance for India. Out of 133 countries India remains at 98th position and the peer countries Pakistan and Bangladesh remain at 113th and 101st respectively. India still not ready to accomplish the target of Millennium Development Goals albeit the Sustainable Development Goals are in process. Presently it's an ideal opportunity to concentrate on the achievement of 100% literacy rate in india. Which is conceivable just through the strategy of "education for all" at least at primary level. That is the reason it is a challenge for the government and strategy producers to reroute public expenditures and prioritize their objectives. Public spending on education is the fundamental source to improve socio-economic in small industry with poor condition. The essential objective of this research study is to discover the causal relationship between public spending on education and socio-economic development and examine the impact and significance of government spending on education(Yadav et al 2022o).

Rest of the study consist of: section 2 explains the detailed review of literature of the existing research work. Research methodology and data description are described in sections 3 and 4 respectively. Results of research are industries section 5. Section 6 concludes the research work.

REVIEW OF LITERATURE
Numerous investigations have been done to check the connection between public expenditures on education and economic growth in small industry.

Opposite Devaranjan et al. (1996) uncovered a negative connection between these two factors in the wake of investigating a 43 nations panel dataset during 1970 to 1990. Yildirim et al. (2011) utilized Toda and Yamamoto causality examination to discover the causality interface between monetary development and management devoting on schooling in Turkey throughout the time frame 1973 to 2009 and uncovered that because of low portion of public spending on education it doesn't prompt economic development. An advanced and most effective technique may have a big impact on the learning and teaching method of handicrafts, as well as their existence, and identity preservation of their handmade skill characters (Yadav et al 2022u),

“Magia Raptzen (2011)” The handicraft experts observed that academicians, researchers, and students can learn the value and potential of craft in terms of marketing economy, supply methods and utilize their knowledge, aptitude, and skill to increase the income of workers, artisan involved in the handicraft industries. The findings show that there is a large gap in the worth and quality of craft for the learners in both the control groups and experimental (yadav et al 2022m).

But (Yadav et al 2022c) published about the performance of women in ODOP of Uttar Pradesh and they gave an initial approach to the developing global handicraft index for small businesses. A new concept for the development
of the handicraft industry in the world and to enhance the positive completion in a new era there is a need for a global handicraft index (Yadav et al 2022m) and (Yadav et al 2021b). we know that women are involved in the handicrafts sector and their performance is increasing day by day even during the pandemic time. So it needs to make strategies for its development in the handicraft industry (Yadav et al 2022a). in the case of formal and informal knowledge transformation in the handmade carpet industry, Yadav et al analyzed the good criteria for the transformation of institutions, (Yadav et al 2022t). How to develop business strategies for upgrading the handicraft artisan’s skills there is a need for special strategies (Yadav et al 2022i). (Yadav Nassir Mammadove et al 2022f) described important small industries in Azerbaijan and different handicraft industries and how to develop special strategies in the sector. some famous handicrafts industries in Uttar Pradesh are also in the decline phase and we need to improve this shazar stone sector (Yadav et al 2022l). (Yadav et al 2022h) discussed the digital transformation and innovation of the handmade carpet industry during a pandemic time.

Wadad and Kalakech (2009) discovered blended outcomes, positive outcome over the long run but negative impact in the short run. Idrees and Siddiqui (2013) checked the long run relationship between expenditure on schooling and GDP growth in the developed and developing countries during 1990 – 2006 and tracked down that this affiliation is solid in the developing countries including India as contrast with developed nations.

Existing literature widely observationally verify the connection among public disbursement and economic development. The current examination pushes ahead and understands the significance of social development and for that reason not just assess the causation from the community spending on learning to economic growth yet additionally check this expenditure impact on social development in India. So, the research question of this paper is Does public spending on education cause socio-economic development in India? Which is also the research gap. This article is an endeavor to fill this void.

RESEARCH METHODOLOGY

For getting answer to the research question of this study, Granger Causality methodology is adopted to determine the causative connection between public spending on education and socio-economics progress. Simple regression analysis does not imply causations. Theoretical consideration is required to ascribe causality. Prior to causality test Augmented Dickey Fuller unit root test is performed to check stationarity of time series variables. A multivariate version of Granger-Sim’s causality test has been carried out using the unrestricted VAR (Vector Auto-regression) model. Lag selection criterion is
based on AIC (yadav et al. 2022a). Finally, pairwise Granger Causality test is conducted. Based on theoretical approach this study examines three models.

1. **Model 1.**
   \[
   EG_t = \alpha_1 + \alpha_2 EG_{t-1} + \alpha_3 Education_t-1 + \epsilon_t
   \]

2. **Model 2**
   \[
   LE_t = \beta_1 + \beta_2 LE_{t-1} + \beta_3 Education_t-1 + \epsilon_t
   \]

3. **Model 3**
   \[
   CM_t = \gamma_1 + \gamma_2 CM_{t-1} + \gamma_3 Education_t-1 + \epsilon_t
   \]

Where EG is economic growth, LE is life expectancy, CM is child mortality. \(\alpha, \beta\) and \(\gamma\) with 1 subscript are intercepts and with 2 or 3 subscripts are coefficients and \(\epsilon\) represents the error terms and they are uncorrelated. For the valuation of these relationships and their path of causality of variable quantity Vector autoregressive technique is used.

\[
\begin{align*}
\Delta \ln EG_t &= \kappa_0 + \sum_{i=1}^p \kappa_i \Delta \ln EG_{t-i} + \sum_{i=1}^p \kappa_i \Delta \ln Edu_{t-i} + \sum_{i=1}^p \kappa_i \Delta LE_{t-i} + e \\
\Delta \ln Edu_t &= \omega_0 + \sum_{i=1}^p \omega_i \Delta Edu_{t-i} + \sum_{i=1}^p \omega_i \Delta \ln Edu_{t-i} + \sum_{i=1}^p \omega_i \Delta \ln EG_{t-i} + \sum_{i=1}^p \omega_i \Delta LE_{t-i} + e \\
\Delta \ln CM_t &= \psi_0 + \sum_{i=1}^p \psi_i \Delta CM_{t-i} + \sum_{i=1}^p \psi_i \Delta Edu_{t-i} \sum_{i=1}^p \psi_i \Delta \ln Edu_{t-i} \sum_{i=1}^p \psi_i \Delta \ln EG_{t-i} \sum_{i=1}^p \psi_i \Delta LE_{t-i} + e
\end{align*}
\]

**DATA DESCRIPTION**

The aim of this paper to discover the causal association among the outflow on learning by government of India and socio-economic development during the period 1972 to 2021. Yearly statistics is utilized to test out the influence of administration districts outlays on education on GDP growth and social development. Independent variable is public expenditures on education and dependent variables are GDP growth, life expectancy and Child mortality (yadav et al. 2022a). For economic growth this study used Nominal GDP in log form, government expenditures on education in log form. For checking the social development study used life expectancy and child mortality as proxy variables. All data are taken from World Development Indicators (WDI) (yadav et al. 2022b).

**RESEARCH RESULTS**

For empirical research and application of causality test this is the prerequisite to run the unit root test. According to the result expenditure on education, economic growth and mortality series become stationary at first
difference I (1) but life expectancy series become stationary at level I (0). Table 1. Shows the result of stationarity.

**Table 1. Unit Root Test**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Economic Growth</th>
<th>Education</th>
<th>Life Expectancy</th>
<th>Child Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationary</td>
<td>I (1)</td>
<td>I (1)</td>
<td>I (0)</td>
<td>I (1)</td>
</tr>
</tbody>
</table>

For finding out the direction of influence of education expenditures on economic growth, life expectancy and child mortality, regression analysis in the form of VAR model is used. Before that lag length criteria are set based on AIC, SC, and HQ. According to all three lag selection criteria results, 3 lags are suitable for the model. Outcomes are shown in Table 2.

**Table 2. VAR Lag Order Selection Criteria**

<table>
<thead>
<tr>
<th>Lag</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akaike information Criterion</td>
<td>-12.15</td>
<td>-27.78</td>
<td>-32.28</td>
<td>-34.21*</td>
</tr>
<tr>
<td>Schwarz information Criterion</td>
<td>-11.98</td>
<td>-26.94</td>
<td>-30.77</td>
<td>-32.04*</td>
</tr>
<tr>
<td>Hannan-Quinn information criterion</td>
<td>-12.08</td>
<td>-27.47</td>
<td>-31.73</td>
<td>-33.42*</td>
</tr>
</tbody>
</table>

Regression analysis results of VAR model are reported in table 3. Three models are defined as:

**Table 3a. Model 1: Dependent Variable: Economic Growth**

<table>
<thead>
<tr>
<th>Variables</th>
<th>EG</th>
<th>Education</th>
<th>LE</th>
<th>CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lag 1</td>
<td>-0.28</td>
<td>0.03</td>
<td>1.23*</td>
<td>0.090</td>
</tr>
<tr>
<td>Lag 2</td>
<td>-0.30</td>
<td>0.08</td>
<td>-2.05*</td>
<td>0.092</td>
</tr>
<tr>
<td>Lag 3</td>
<td>-0.06</td>
<td>-0.01</td>
<td>0.82</td>
<td>-0.011</td>
</tr>
<tr>
<td>Constant</td>
<td>0.06</td>
<td>Durban-Watson Stat</td>
<td>2.01</td>
<td></td>
</tr>
</tbody>
</table>

*Denotes statistically significant coefficient

Coefficient values of dependent and independent variables in the model 1 represent that public expenditure on education does not cause economic growth as its coefficient values are not statistically significant. Child mortality and economic growth’s lag also do not cause economic growth. On the other hand, life expectancy lag 1 and 2 cause economic growth.

**Table 3b. Model 2: Dependent Variable: Life Expectancy**

<table>
<thead>
<tr>
<th>Variables</th>
<th>LE</th>
<th>Education</th>
<th>EG</th>
<th>CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lag 1</td>
<td>2.65*</td>
<td>0.014*</td>
<td>-0.01</td>
<td>0.004</td>
</tr>
</tbody>
</table>
In the model 2 where causality between life expectancy and other three variable is checked. Resultant findings of the test reveals that lag of life expectancy, government’s spending on education and child mortality cause life expectancy but economic growth does not.

Table 3c. Model 3: Dependent Variable is Child Mortality

<table>
<thead>
<tr>
<th>Variables</th>
<th>CM</th>
<th>Education</th>
<th>EG</th>
<th>LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lag 1</td>
<td>0.91*</td>
<td>0.18</td>
<td>-0.18</td>
<td>-2.82</td>
</tr>
<tr>
<td>Lag 2</td>
<td>0.44</td>
<td>0.11</td>
<td>0.30</td>
<td>4.57</td>
</tr>
<tr>
<td>Lag 3</td>
<td>-0.49*</td>
<td>0.13</td>
<td>-0.67</td>
<td>-1.74</td>
</tr>
<tr>
<td>Constant</td>
<td>0.07</td>
<td>Durban-Watson Stat</td>
<td>1.9</td>
<td></td>
</tr>
</tbody>
</table>

*Denotes statistically significant coefficient

Model 3 which checked the causal relationship between child mortality and other variables. Public spending on education does not cause child mortality. It means opposite is happening, child mortality is reducing in India which is a good sign for social progress. In sum, VAR model results revealed that although expenditures on education are not leading economic growth, but they are improving social development (yadav et al 2022e).

Table 4. VAR Granger Causality / Block Exogeneity Wald Test

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Education</th>
<th>EG</th>
<th>LE</th>
<th>CM</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Growth</td>
<td>.63</td>
<td>-</td>
<td>0.34</td>
<td>0.03*</td>
<td>0.05*</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>0.00*</td>
<td>0.23</td>
<td>-</td>
<td>0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Child Mortality</td>
<td>0.44</td>
<td>0.44</td>
<td>0.13</td>
<td>-</td>
<td>0.16</td>
</tr>
</tbody>
</table>

For finding out the short run causality VAR Granger Causality / Block Exogeneity Wald test is performed. Findings of this assessment are reported in Table. 4. According to the test result public spending does not granger cause economic growth and child mortality rate in the short run period, but it causes life expectancy which is enhancing among the adults(yadav et al 2022c).
<table>
<thead>
<tr>
<th></th>
<th>Z-value</th>
<th>P-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education does not granger cause Economic growth</td>
<td>0.74</td>
<td>0.53</td>
<td>Accepted</td>
</tr>
<tr>
<td>Economic growth does not granger cause Education</td>
<td>3.04</td>
<td>0.04</td>
<td>Rejected</td>
</tr>
<tr>
<td>Education does not granger cause Life Expectancy</td>
<td>6.6</td>
<td>0.00</td>
<td>Rejected</td>
</tr>
<tr>
<td>Life Expectancy does not granger cause Education</td>
<td>0.29</td>
<td>0.83</td>
<td>Accepted</td>
</tr>
<tr>
<td>Education does not granger cause Child Mortality</td>
<td>1.01</td>
<td>0.40</td>
<td>Accepted</td>
</tr>
<tr>
<td>Child Mortality does not granger cause Education</td>
<td>0.85</td>
<td>0.48</td>
<td>Accepted</td>
</tr>
<tr>
<td>Economic growth does not granger cause Life Expectancy</td>
<td>2.52</td>
<td>0.07</td>
<td>Accepted</td>
</tr>
<tr>
<td>Life Expectancy does not granger cause Economic growth</td>
<td>1.6</td>
<td>0.21</td>
<td>Accepted</td>
</tr>
<tr>
<td>Economic growth does not granger cause Child Mortality</td>
<td>2.70</td>
<td>0.12</td>
<td>Accepted</td>
</tr>
<tr>
<td>Child Mortality does not granger cause Economic Growth</td>
<td>3.2</td>
<td>0.036</td>
<td>Rejected</td>
</tr>
<tr>
<td>Life Expectancy does not granger cause Child Mortality</td>
<td>2.08</td>
<td>0.12</td>
<td>Accepted</td>
</tr>
<tr>
<td>Child Mortality does not granger cause Life Expectancy</td>
<td>4.65</td>
<td>0.00</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Finally, Pair-wise Granger Causality assessment was performed, which is presented in Table 5. Its results revealed that there is uni-directional causality between economic growth and education expenditure, education and life expectancy, economic growth and life expectancy, child mortality and economic growth. Expenditure on education does not cause economic growth however economic growth cause an increase in public expenditure on education. In sum, expenditure on education causes an increase in life expectancy and reduction in child mortality, which is good for socio-economic point of view of the economy.

CONCLUSION

This article is an endeavor to discover the causal connection among public spending on learning and socio-economic development in India. The research question of this study is, does public spending on education improves economic and social condition of the society. The time span of this study is from 1972 to 2017. Annual time series of GDP, Expenditure on education, life expectancy and
child mortality rate are used. For social development life expectancy and child mortality are used as proxy variables (yadav et al 2022g). Results revealed that there is no little managed connectedness among administration disbursement on learning and economic expansion, but economic growth affects public spending on education. Life expectancy increases as education expenditure increases. On the other hand, expenditure on education also reduces child mortality as public become aware about health due to education.

This study may provide some guidelines to the policy makers, they should priorities their attention towards allocation of development and non-development expenditures of government budget to enhance the quality of education and welfare of individuals in the society. Special focus should be on the compulsory primary education (yadav et al 2022h).

The developing country like India should realize the importance of quality education and qualified workforce. They are useful in keeping the speed of economic growth with the fast expansion in manufacturing product and technological advancement. The development process of a country is completely founded on powerful and effective educational system. Without the improvements in educational level, productivity of labour and capacity of knowledge and economic growth cannot be conceivable(yadav et al 2022i). Other than that, a powerful education framework has a few positive commitments in social, social, political, and economic regions. With this respect, strategy creators ought to fundamentally concentrate the mission of planning qualified, useful, and beneficial laborers to the basics of education framework. Making polices to expand the education costs about the education levels from essential to advanced education can be informed that as a second guidance for that. As an equivalent result with the examinations in writing, it was observed that there was a positive and critical connection between tutoring costs and economic growth (yadav et al 2022d). More asset portions on education particularly on essential, auxiliary education and professional preparation which will have significant commitments to the economic growth process and a wellspring of extending the trade chances of data creation and sharing.

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