EMPLOYMENT-PRODUCTIVITY RELATIONSHIP OF MICRO AND SMALL ENTERPRISES IN ASSAM-AN ECONOMETRIC ANALYSIS

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INTRODUCTION

The Small Scale Industries have vital contribution in the process of industrialization, employment generation and in fulfilment of socio-economic objectives in Assam. Presently the small-scale industries have been sub- divided into Micro, Small and Medium Enterprise under the Micro, Small and Medium Enterprises Act 2006. The categorisation of enterprises is made based on their investment in plant and machineries in case of manufacturing sector or in equipments in case of service sector. For speedy growth of this sector, the Government of Assam has already brought some simplification in its procedures in respect of registration as well as declared incentives in its Industrial Policy – 2008. There are 32984 SSI/MSME units in Assam and provided employment to 167216 persons till the end of 2009-10 (Economic Survey, 2010-11). The present study has been undertaken with an objective to examine the role and potential of Micro and Small Enterprises (MSEs) in increasing employment and income of rural people from the time series data pertaining the period 2000-01 to 2010-11 which has been collected from Directorate of Industries and commerce, Govt. of Assam. The analysis relating to these aspects would definitely help the policy makers to identify the appropriate strategies which should be adopted to make different enterprises more effective in providing increase in income and employment in Assam.

OBJECTIVES AND METHODOLOGY

The present study attempts to examine the following specific hypotheses in the context of Micro and Small Enterprises (MSEs) in Assam:

a. That a large number of man-days in a MSEs does not necessarily lead to a higher production or output;

b. That the productivity closely related to the size of MSEs units and

c. That an increase in capital does necessarily mean an increase in production of MSEs.

An attempt is made to examine these hypotheses with the help of data collected from secondary sources collected from Directorate of Industries and commerce, Govt. of Assam (2000-01 to 2010-11). The statistical analysis, applying regression techniques i.e, simple and multiple regressions, has been used to examine the relationship between employment, output or production and capital investment across the enterprises. Regression equations and all the statistical results are generated by using MS EXEL.

RESULTS AND DISCUSSION

Output, Employment and Capital Investment of MSEs in Assam (2000-01 to 2010-11)

In the relationship between output(Y) and employment(E), the dependent variable(Y) taken is the total value of output produced during the study period (2000-01 to 2010-11) by MSEs and the independent variable (E) includes total man-days of employment. It is observed from Table-1 that in MSEs the number of man-days generated is positively related to the value of output produced. But this relationship is not strongest, in which an increase of one man-day employment leads to an increase in output to the tune of Rs.1.45lakh in those periods.

In the case of relationship between output (Y) and capital (K), the total value of output (Y) produced is taken as dependent variable for regression analysis and capital investment (K) as independent variable. It is observed that (From Table-1) a positive relationship prevails between output and capital, which is also strongest. Thus, an increase of one rupee in capital leads to an increase in output by Rs.2.09 lakh.

Table-1: Relationship across Output, Employment and Capital of MSEs (2000-01 to 2010-11)

Relationship	Regression Equation	Standard Error	t- value	R2	d.f
Output (**Y**) and Employment (**E**)	**Y= a+bE** Y=20420.06+1.45E**	0.4917	2.94	0.49	9
Output (**Y**) and Capital (**K**)	**Y= a+bK** Y=7978.65+2.09K**	0.8398	2.48	0.41	9
Employment (**E**) and Capital (**K**)	**E= a+bK** E=11510.38+0.264K**	0.5206	0.50	0.02	9
Output (**Y**), Employment (**E**) and Capital (**K**)	**Y= a+bE+cK** Y=6531.67+1.27E*+1.76K**	0.3559 0.5638	3.57 3.13	0.76	8

Source: Computed from Secondary data, Directorate of Industries and commerce, Govt. of Assam (2000-01 to 2010-11)

Note: **Significant at 1 per cent

**   *Significant at 0.1 per cent**

So far as the relationship between employment (E) and capital (K) is concerned, the regression equations having employment as dependent variable and capital as independent variable (From Table-1) reveals that an increase in the capital by one rupee generated an additional employment (E) by 0.264 man-days, which implies that relationship is not strongest.

The results of regression equation given in Table-1 reveals whether productivity in terms of output and value added per worker bears a relationship to the size of the MSEs in terms of Employment (E), capital (K) and Output (Y). It was found that the total capital employed in a unit was directly and significantly related to output per worker. Thus an increase in the total capital by one rupee generated additional output of Rs. 1.76 lakh. The inference is clear that an increase in number of workers during the period lead to an increase in per worker output and therefore the capital base needs to strengthen more.

The Table-1 shows that the co-efficient of determination (R^2) are 0.49, 0.41, 0.02 and 0.76 respectively. It denotes that 49 per cent of the total variation of the dependent variable 'Y' is explained by the independent variable 'E' in the first equation. Again, 41 per cent of the total variation of the dependent variable 'Y' is explained by the independent variable 'K' in the Second equation. Similarly, 2 per cent of the total variation of the dependent variable 'E' is explained by the independent variable 'K' in the third equation. And lastly, 76 per cent of the total variation of the dependent variable 'Y' is explained by the independent variables in the multiple regression analysis.

From the value of 't' statistic corresponding to regression coefficients, it was found that the variables like 'E' and 'K' found to be statistically significant at 1% level in simple and multiple regression equations in Table-1. It depicts the importance of these variables in augmenting growth of output in MSEs in Assam during the study period.

CONCLUSION

A resume of regression analysis relating to the employment productivity relationships indicates the most widely observed relationship between the output, employment and capital investment. It is observed that output can be increased by increasing employment of labour or increasing both labour and

capital in MSEs. Another implication of the findings is that although workers already engaged in enterprises should be utilised more intensively which will raise the income per workers rather than adding more workers without augmenting capital size in MSE units.

Further, the results of regression equations relating to a positive relationship across variables indicates that there is a large scope of providing more effective employment in terms of output growth of enterprises.

References:

Agarwal, B.L (1983) "Rural Industrialization" Indian Journal of Agricultural Economics, Vol.XXXVII, No.3, July-Sep. pp.342

Government of Assam (2010-11) "Economic Survey" Govt. of Assam

Prasad and Prasad (1983) "Rural industrialization in Bihar" Indian Journal of Agricultural Economics, Vol.XXXVII, No.3, July-Sept

Quaterly Journal on MSMEs in North Eastern Region (2009-2010) published by North East Development Finance Corporation Limited (NEDFi)

Govt. of Assam (2010) "Directorate of Industries and commerce", Govt. of Assam