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IMPACT OF SECTORAL GROWTH ON POVERTY UNDER ALTERNATIVE MARKET REGIMES
A CASE STUDY OF RURAL INDIA

Basanta K. Pradhan
Amarendra Sahoo

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IMPACT OF SECTORAL GROWTH ON POVERTY UNDER ALTERNATIVE MARKET REGIMES
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Abstract

The objective of the study is to estimate the poverty alleviation effects that depend on the change in average income received by various population groups resulting from the growth of a sector's output and on the strength of poverty sensitivity. The poverty alleviation effects in rural India are estimated under four alternative market regimes using a Social Accounting Matrix (2 factor x 7 agent x 10 sector). It is found that agriculture sectors dominate the poverty alleviation effects irrespective of policy regimes. Manufacturing sector assumes importance under more liberalised regimes. Moreover, the poverty eradicating impacts of sectoral growth are maximum on the households which are engaged in agriculture.

JEL Classification No.: D-58 and D-132

Key words: Poverty alleviation; Social accounting matrix; Multiplier decomposition; Liberalisation.

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1. INTRODUCTION

Poverty alleviation has always occupied a crucial niche in the planning process of a low-income country like India. A substantial amount of research has gone into analysing the factors that explain poverty. A major area of research has been in this direction by decomposing the changes in poverty due to growth and distribution by using various methodologies. In India, considering the importance of sectoral break-ups into rural and urban in the direction of poverty analysis, attempts have been made by many researchers (Kakwani and Subbarao (1990), Jain and Tendulkar (1990) and Datt and Ravallion (1992)) to assess the impact of growth and changes in relative inequality on the movements of different poverty indicators over time for both rural and urban population separately. All these studies have shown that the growth component dominates in influencing poverty.

The policy makers in India are often puzzled by the issue of sectoral composition of growth and its impact on poverty. In the context of the ongoing structural adjustment and stabilisation programme, the issue assumes further significance. An attempt has been made in this paper to estimate the impacts of the growth of output of different production activities on the poverty alleviation of different household groups in rural India. In all the earlier study pertaining to poverty alleviation in India, the sectoral growth has been confined either to rural or urban growth in general or, within rural, agriculture growth in particular. Ravallion and Dutt (1996) have made an attempt to reveal the importance of sectoral composition of economic growth vis-a-vis the population shift effect in reducing poverty for both urban and rural India.

However, all these works related to poverty consider growth in real average per capita total expenditure (data collected from different rounds of National Sample Survey Organisation, Government of India). In our study, the sectoral growth of production is reflected on the change in household income. Hence, the average income of a household group (classified according to its occupation) is the real income received by the household in the production process[1]. Besides, the disaggregation of sectors are more than what has already been done in the Indian context.

In India, most of the literature analysing the factors affecting poverty have failed to track down the linkages among different economic activities, viz. production, consumption activities, demand for factors of production and value added distribution, through which indirect effects of growth reach the poor. The study by Thorbecke and Berrian (1994), with the help of a Social Accounting Matrix (SAM), on budget allocation as related to poverty alleviation reveals that failure to incorporate interactive effects leads to misallocation of budget among groups. Again, Thorbecke and Jung (1996) have illustrated a SAM multiplier decomposition method for Indonesia in order to capture the linkages through which a production sector's output contributes to poverty reduction.

Recognising the importance of the interlinkages among the various socio-economic institutions in India, a linear multiplier model has been used to estimate the poverty alleviation effects that depend on the change in average income received by various groups resulting from the growth of a sector's output and on the strength of poverty sensitivity.

Before 1991, the Indian economy was a controlled regime. In the mean time, the economy was opened up on many counts. Economic liberalisation is in full swing. It is likely to continue further till the economy becomes market oriented to a greater degree. Hence, it is very important to look into the impacts of sectoral growth on rural poverty during alternative policy regimes. It may also be the case that the poverty in different sections of population (i.e. various household groups) responds differently to the sectoral growth. The counter-factuals are calculated assuming various policy regimes.

The rest of the paper is divided into three sections. Section-2 explains the methodology, while the analysis of the results has been undertaken in Section-3. Conclusion is presented in the last section.

2. THE METHODOLOGY

A Social Accounting Matrix (SAM)[2] itself is not a model. Once a closure rule is specified, it becomes a model under certain assumptions, such as existence of excess capacity and fixed prices. The SAM has become an important basis for multiplier analysis that traces the direct and indirect impacts. Therefore, the multiplier analysis requires decomposition of the SAM multipliers[3]. For example, Defourny and Thorbecke (1984), and Roland-Holst and Sancho (1995) have done the structural path analysis to capture the transmission of influence within a socio-economic structure of the SAM. The SAM multipliers have already been widely used to examine the income distribution and re-distribution (Chander et. al., 1980, Civardi and Lenti, 1988, and Roland-Holst and Sancho, 1992). Recently, this multiplier decomposition analysis has been extended to analyse the impacts of sectoral pattern of growth on poverty (Thorbecke and Jung, 1996). As poverty has been a crucial issue for the Indian economy with its varied socioeconomic structure, the methodology of SAM multiplier decomposition is useful in addressing the importance of sectoral pattern of growth in alleviating poverty.

A standard SAM[4] multiplier can be calculated by

$$Y_n = (I-A_n)^{-1}X$$
$$= M_aX$$

where Y_n is endogenous accounts, A_n is transaction matrix, X is exogenous accounts and M_a is the SAM accounting multiplier which assumes unitary expenditure elasticities. As the purpose of our analysis is to see the sectoral effects of growth on poverty alleviation of the household groups, we will limit ourselves to that part of the multipliers which link production activities to household groups, i.e. a sub-set M_{a24} of the set M_a. In this paper, to deal with the different policy regimes, various combinations of "government account", "capital account" and "rest of the world (ROW) account" are used as exogenous variables.

In order to capture the transmission mechanism of sectoral growth effects on the income of the households, and in turn, on poverty, the total multiplier effects are decomposed into 'distributional effects' and 'interdependency effects' (see Thorbecke and Jung (1996)). The 'distributional effects' take into account (a) the direct income accrued to the household group by the contribution of its factors of production, (b) indirect factor incomes received by the same group through the process of intermediate demand of production system, and (c) the incomes received by the group from the transfers from other groups. On the other hand, the 'interdependency effects' trace the transmission of an exogenous injection of output on the household income via other accounts. It captures the initial first round of spending and subsequent rounds of re-spending by the household groups.

The 'distributional effects' can be explained in the following way. One unit of additional demand for a given output will increase the demand for other intermediate inputs. $(I-A_{44})^{-1}$, which represents the inverse of the input-output matrix of the production activities. This increases the demand for factors of production, i.e. labour and capital those involved in the production process, A_{14}. The additional income generated by factors of production will flow into the household groups according to their participation in the production process, A_{21}. There may also be direct income transfers between and among different groups, $(I-A_{22})$. Then, the 'distributional effects', are represented by $D=(I-A_{22})^{-1}A_{21}A_{14}(I-A_{44})^{-1}$. They originate from production activities and ends in household account. In our case, as there is no direct income transfer between and among different groups, the 'distributional effects' become $D=A_{21}A_{14}(I-A_{44})^{-1}$. An elements of D_{24} which capture the distributional effects of growth of production sectors 'j' on the household group 'i' is represented as 'd_{ij}'. The 'interdependency effects' of growth of sector 'j' on the household group 'i' is defined as $r_{ij}=m_{ij}/d_{ij}$, where m_{ij} is an element of total multiplier effects M_{a24}.

For the purpose of analysing the poverty alleviation effects induced by the change in sectoral growth, it is essential to find out a suitable measure, which can explain the poverty of the given household groups. In order to arrive at the poverty alleviation effects of aggregated household groups, the Foster, Greer and Thorbecke (FGT) (1984), measure will be suitable for group-wise poverty analysis as it satisfies the decomposability assumption, i.e., the poverty measure is additively decomposable with population share weight.

The FGT measure is defined by

$$P_\alpha = (1/n)\Sigma[(Z-Y_i)/Z]^\alpha \qquad (1)$$

Where 'Z' is the poverty line, 'n' is the number of households in a particular household group (i.e. occupational class), and 'Y_i' is the income of the *ith* household belonging to that group poverty line and being below the poverty line. The α can be viewed as a measure of poverty aversion. In this paper special cases of FGT[5] measure have been used where α takes values 0, 1 and 2. When $\alpha=0$, P_0 becomes the 'head-count ratio measure', when $\alpha=1$, P_1 is the 'poverty-gap measure' and $\alpha=2$, P_2 becomes distributionally sensitive measure'. The higher degree of 'poverty aversion', i.e. $\alpha=2$, assumes more importance in a democratic country like India, where the poorest population should get relatively more weightage in the poverty measure. A specific poverty measure must be selected, preferably one that reflects policy-makers' preferences for poverty aversion (i.e. the extent to which the welfare of the poorest of the poor is given priority) (see Thorbecke and Berrian, 1992).

The poverty sensitivity is determined by the elasticity of the poverty measure with respect to mean income for the occupational group. The elasticity is related to the poverty measure[6] in the following equation

$$(dP_{\alpha ij}/P_{\alpha ij}) = \eta_{\alpha i}(dY_i/Y_i) \quad (2)$$

Where $\eta_{\alpha i}$ is the elasticity of poverty measure $P_{\alpha ij}$ with respect to mean income of each household group, 'i' resulting from an increase in the output 'j'[7]. Now the increase in the mean income has to be linked with the accounting multiplier $m_{\alpha ij}$ (see Thorbecke and Jung (1996)). The accounting multiplier assumes a unitary marginal expenditure propensity, i.e. average propensity is equal to marginal propensity. Hence, the multiplier can be written as

$$dY_i = m_{ij}dx_j \quad (3)$$

where dx_j is the change in the output of *jth* sector (i.e. the exogenous shock).
Therefore, equation (2) becomes

$$(dP_{\alpha ij}/P_{\alpha ij}) = \eta_{\alpha i}m_{ij}(dx_j/Y_i) \quad (4)$$

As poverty is not homogeneous across household groups in a developing country, it would be interesting to look into the impact of sectoral growth on poverty for different household groups. The multiplier effects, m_{ij}, now can be decomposed into 'distributional effects', d_{ij}, and 'interdependency effects', r_{ij}. The equation 4 can be written as

$$(dP_{\alpha ij}/P_{\alpha ij})=Q_{\alpha i}d_{ij}r_{ij} \quad (5)$$

where $Q_{\alpha i} =\eta_{\alpha i}(dx_j/Y_i)$ is the 'poverty sensitive effects'. It may be noted that the poverty sensitive effects do not change across the production sectors. This implies that the poverty alleviation effects of an increase in the output of sector 'j' depend upon the mean income change of the poor across the household groups (the multiplier effects).

The group-wise poverty alleviation effects can be aggregated to get all economy poverty alleviation effects using FGT's additive decomposability axiom,

$P_{\alpha j} = \Sigma_{i=1}^{m}P_{\alpha ij}(n_i/n)$

where n_i is the population of 'ith' group, 'n' is the total population for the economy, i.e. $\Sigma_i^{m}n_i = n$ and 'm' = 1,. . . ., 6 rural households.

$$\text{Now, } (dp_{\alpha j}/P_{\alpha j}) = \Sigma_{i=1}^{m}((dP_{\alpha ij}/P_{\alpha ij})[\Sigma_{k=1}^{q_i}((Z-Y_k)/Z)^{\alpha}/\Sigma_{l=1}^{q}((Z-Y_l)/Z)^{\alpha}] \quad (6)$$

'q_i' is the number of poor in the 'ith' group and $q=\Sigma_i^m q_i$ is for the whole economy.

Hence, the second term of equation (5) is the poverty share of household group 'i' out of total poverty, i.e. '$s_{\alpha i}$'. The final equation for the poverty alleviation effects; for total population (all household groups) becomes,

$$(dP_{\alpha j}/P_{\alpha j}) = \Sigma_{i=1}^{m}(dP_{\alpha ij}/P_{\alpha ij})s_{\alpha i} \qquad (7)$$

3. A COMPARATIVE STATIC EXERCISE FOR RURAL INDIA

The Indian-SAM[8] used for this paper is based on 1989-90 input-output matrix and the household income distribution for the year 1993-94. There are ten production sectors, two factors of production and seven household groups in the SAM. The production activities are

S1: "Foodgrains",

S2: "Other agriculture",

S3: "Mining and quarrying",

S4: "Capital Goods",

S5: "Other Industries", i.e. manufacturing industries other than Capital Goods,

S6: "Construction",

S7: "Electricity, Gas and Water supply",

S8: "Education",

S9: "Health",

S10: "Other Services".

Households are classified according to their principal sources of income. There are six rural occupational classes, viz. (1) agricultural self-employed, (2) agricultural labour, (3) non-agricultural labour, (4) non-agricultural self-employed, (5) salaried class, and (6) other households. There is only one urban household group. The detailed SAM is given in Table2.

For any exercise on poverty the important pre-requisite is to identify the poor. The identification of poor requires the setting of a poverty line, which delineates the poor from the non-poor. The poverty line used in our analysis is for the year 1993-94[9]. For the FGT poverty measure we have tried α=0,1 and 2, i.e. head-count ratio, poverty-gap measure and distributionally sensitive measure respectively. Some basic estimates related to the calculation of poverty alleviation effects for rural India are given in Table 3.

Let us look at the head count ratio for the six rural household groups. It reveals that there is a wide variation of poverty across the groups. Both the agricultural labour and non-agricultural labour household groups are having the largest share of poor within the group, i.e. 65 and 58 percentage respectively, whereas salaried class and agricultural self-employed are having the lowest poverty share, i.e. 12 and 33 percentage respectively. A cursory look at the poverty share shows that it is maximum for agricultural labour and agricultural self-employed.

It is observed that the elasticity of poverty, with the head-count ratio measure, with respect to mean income has been very high in case of the salaried class (-3.47), followed by the agricultural self-employed (-1.67) and the non-agricultural self-employed (-1.21). But when more weight is given to the poorer section, i.e. $\alpha=2$, the non-agricultural labour (-2.18) shows higher elasticity, followed by the non-agricultural self-employed (-2.00) and the salaried class (-2.00). The agricultural labour and the other households demonstrate the least response.

Let us now consider the poverty sensitivity (which is crucial for determining the degree of poverty alleviation effects on household groups), i.e. elasticity adjusted for the mean income of the household group given the fixed exogenous growth (shock). The agricultural self-employed is no more one of the most poverty sensitive groups. In fact, it becomes the least sensitive group in the head-count index measure. The salaried class has, of course, both the highest elasticity of poverty and the poverty sensitivity effects. As the degree of poverty measure increases, for example, in case of the distributionally sensitive measure, the other households group having least poverty elasticity becomes most sensitive to growth in reducing poverty and it is followed by the non-agricultural labour. This indicates that at given elasticity of poverty for a particular household group, if there is an exogenous increase in growth, the degree of poverty sensitivity effects on that household group will depend on its base level mean income.

The poverty estimates are done by increasing the sectoral output by Rupees 50,000 million, which is 0.5% of GDP for 1995-96 at factor cost. We have tried to look into the poverty alleviation effects in four different policy regimes. The regimes are defined by choosing alternative closures.

Scenario-1: *Closed and Controlled Regime*, i.e. Capital, Government and ROW accounts are exogenous (Table 4A and 4B).

Scenario-2: *More Internal Liberalisation*, i.e. Government and ROW accounts are exogenous and Capital account is endogenous. In this regime, the market forces determine sectoral investments, where there is no restriction on internal borrowing and lending (Table 5A and 5B).

Scenario-3: *More External Liberalisation*, i.e. Capital and Government accounts are exogenous and ROW account is endogenous. In this regime, the external trade is free from control. There is no regulation on external capital flow, but there is a controlled domestic capital market (Table 6A and 6B).

Scenario-4: *Fully Liberalised Regime*, i.e. only Government account is exogenous and all other accounts are endogenous. In this regime, trade as well as internal and external capital transactions are not regulated. This is the extreme case of liberalisation (Table 7A and 7B).

Table 8A provides the poverty alleviation effects of sectoral growth on the overall rural population.

As suggested in the methodology, basic computations of alleviation effects of growth and their decomposition into various multiplier effects and the poverty sensitivity effects on the rural population are done at the level of occupational groups. Then they are added to arrive for the same at the total population level. To look into the pattern of the poverty alleviation effects of sectoral growth on household groups, ranks have been assigned against either the respective sectors or respective household groups in descending order, '1' representing the highest and '10' representing the lowest rank (See Table 8B for ranks for the overall population, and Table 9, 10, 11 and 12 for disaggregated household groups under different regimes).

If we look into the differential effects of sectoral components of growth on the poverty of rural population, it could be seen that the pattern at household group level is same as the over all pattern as far as poverty alleviating rankings of sectors are concerned irrespective of market regimes. Foodgrains and the other agricultural sectors always hold the highest portions of poverty alleviation effects on the household groups in all the scenarios. The role of agricultural growth, in alleviating poverty has also been emphasised in some of the earlier studies (Ahluwalia, 1976 and 1985, and Mellor and Desai, 1985). Education[10] and the other services sectors are the next two higher poverty-alleviating sectors in that order. Education, which is used to be a very high poverty-alleviating sector in first three scenarios, loses its rank by two steps in Scenario-4. Construction sector which is supposed to be one of the labour intensive sectors maintains its average poverty alleviation effects in first three scenarios, which is higher than that for the whole manufacturing sector, the mining and quarrying, and the electricity, gas and water supply sectors. However, its rank slides by two steps down during the fully liberalised regime. On the other hand, the other Industries, i.e. manufacturing industries other than the capital goods do not show any healthy poverty eradicating effects for the first two scenarios, but gradually these effects become prominent when trade account is liberalised (Scenario-3) and more in the regime of full convertibility of capital account, where capital and rest of the world accounts are endogenised (Scenario-4).

The mining and quarrying followed by the capital goods and the electricity, gas and water sectors are found to have the lowest poverty alleviating effects on household groups across all the scenarios.

It is noticed that for all the scenarios, multiplier effects play a crucial role in influencing the poverty alleviation effects of growth on various household groups. There have not been much variations in the degree of the distributional effects, which is a part of the multiplier effects, during alternative policy regimes, because of the non-changing nature of the technology of production process during the policy changes. However, the interdependency effects change as the regime changes. It is observed that as the economy gradually moves from a controlled to a fully liberalised one, these interdependency effects of growth on household groups become larger. The rankings of multiplier effects across the production sectors change mainly in accordance with that of distributional effects. In all the scenarios the sectors generating high multiplier effects (the agriculture, the education and the other services sectors) have highest rankings in distributional effects across output sectors. This is true for all the scenarios. This general observation points to the fact that intersectoral production and transfer linkages dominate the poverty alleviation effects. However, the other services generate moderately good distributional as well as interdependency effects. This implies that the growth in the other services generate more income for the rural households as their participation in the production process of this sector has been high and at the same time the demand for this sector from the rest of the economy has also been very high.

The mining and quarrying, the capital goods and the electricity, gas and water supply sectors, which generate very low poverty alleviation effects have also shown very low rankings in distributional effects vis-a-vis other sectors in all the scenarios, implying the less participation of rural households in the production process. Though the demand for commodities of the above sectors originating from the household groups generates higher interdependency effects, it is outweighed by the lower income growth generated by the distributional effects.

While the pattern of effects of sectoral growth has been almost uniform on various household groups, they have been somewhat different on the other households. Comparatively, the average multiplier effects and poverty alleviation effects from the construction sector have been quite low on the other households group, especially, when the external sector is liberalised (Scenario 3). On the other hand, in this scenario, the effects from the other industries sector has been the highest on the other households against the average effects on rest of the households.

The above phenomena take into account the column-wise rankings of the Tables 4A & B, 5A & 5B, and 7A & B. But the row-wise rankings of the above tables can be considered to look into the impacts of growth of a particular sector on different household groups. In this case, the pattern of the poverty alleviation effects of growth on various household groups remains unaltered across the production sectors, but vary across the household groups and also with the change in the poverty measures. It is observed that agricultural self-employed receives the maximum effects and is followed by agricultural labour and nonagricultural self-employed classes. The multiplier effects are least on the nonagricultural labour and the other households. While the pattern of distributional effects on the household groups remains unchanged under different market regimes, the interdependency effects on the household groups show some variations. The patterns of interdependency effects for Scenario 1 and 3, i.e. during controlled and free trade regimes are same, while they are same as well in case of Scenario 2 and 4, i.e. during the liberalised domestic capital market and fully liberalised market regimes.

While considering the effects of sectoral growth effects on household groups in reducing poverty, the agricultural self-employed group does not receives the maximum impacts of poverty alleviation though this group has maximum multiplier effects as compared to other household groups irrespective of market regimes. In case of head-count ratio measure, the alleviation-effects are maximum on the salaried class, followed by agricultural self-employed and nonagricultural self-employed groups and the least effect has been on the nonagricultural labour and the other households groups. This phenomenon is true irrespective of the change in the policy regimes. But as the degree of poverty measure increases, for example, in the case of distributionally sensitive measure, the salaried class is no more the top beneficiary of poverty eradication effects and it, in fact, becomes the lowest second from the bottom in receiving the alleviation effects. The lowest beneficiary remains the nonagricultural self-employed group in all the scenarios. It is worth mentioning that least multiplier effects also back this household group.

In case of the distributionally sensitive poverty measure, the household group accruing maximum benefit of alleviation effects changes from policy regime to regime. It is the agricultural labour household category that benefits the most in the poverty alleviation effects during the Scenario 1 and 3, and is followed by the other households and the nonagricultural self-employed groups. But during the Scenario 2, both the agricultural labour and the other households group occupies same importance in receiving the benefits. In the fully liberalised regime, i.e. the Scenario 4, the other households group has been the most benefiting household group of poverty alleviation effects and the agricultural labour has been the next benefiting group. It is clear that in all the scenarios the other household group, which has been on the lower side of receiving the benefit with head-count ratio measure, responds the most to the poverty alleviation effects with the distributionally sensitive measure.

4. CONCLUSION

In this paper, the SAM multiplier effects of sectoral growth on the income of the household groups are decomposed to understand the transmission mechanism of the sectoral composition of growth on poverty in India. Fairly disaggregated production sectors are being used. More importantly, this has been explored under four alternative market regime.

Table 4A: (Scenario 1): Decomposition of Multiplier effects of Sectoral Growth on Household Groups of Rural India
(Capital, ROW and Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects										
1.AG. SELF(R)	0.8436	0.8035	0.3911	0.5334	0.3862	0.6248	0.5516	0.7095	0.5937	0.6824
2.AG LAB(R)	0.1759	0.1681	0.0789	0.1085	0.0787	0.1301	0.1104	0.1465	0.1219	0.1395
3.NON AG.LAB(R)	0.0074	0.0070	0.0033	0.0045	0.0033	0.0054	0.0046	0.0061	0.0051	0.0058
4.NO AG.SELF(R)	0.1558	0.1482	0.0735	0.0999	0.0722	0.1155	0.1041	0.1318	0.1106	0.1274
5.SALARIED(R)	0.1522	0.1451	0.0698	0.0954	0.0692	0.1126	0.0982	0.1276	0.1066	0.1223
6.OTHERS(R)	0.0392	0.0361	0.0244	0.0313	0.0222	0.0296	0.0364	0.0364	0.0319	0.0382
Distributional Effects										
1.AG. SELF(R)	0.3994	0.3851	0.1616	0.2281	0.1668	0.2936	0.2206	0.3229	0.2647	0.2987
2.AG LAB(R)	0.0843	0.0818	0.0315	0.0455	0.0334	0.0617	0.0422	0.0667	0.0541	0.0604
3.NON AG.LAB(R)	0.0035	0.0034	0.0013	0.0019	0.0014	0.0026	0.0018	0.0028	0.0023	0.0025
4.NO AG.SELF(R)	0.0733	0.0704	0.0309	0.0431	0.0314	0.0540	0.0426	0.0599	0.0494	0.0561
5.SALARIED(R)	0.0723	0.0699	0.0285	0.0405	0.0297	0.0531	0.0387	0.0581	0.0474	0.0533
6.OTHERS(R)	0.0162	0.0144	0.0125	0.0155	0.0109	0.0125	0.0193	0.0164	0.0149	0.0183
Interdependency Effects										
1.AG. SELF(R)	2.1120	2.0864	2.4202	2.3391	2.3161	2.1280	2.5008	2.1974	2.2426	2.2846
2.AG LAB(R)	2.0868	2.0553	2.5002	2.3850	2.3533	2.1068	2.6197	2.1950	2.2541	2.3104
3.NON AG.LAB(R)	2.0873	2.0559	2.4986	2.3841	2.3525	2.1072	2.6171	2.1950	2.2539	2.3099
4.NO AG.SELF(R)	2.1261	2.1041	2.3803	2.3154	2.2968	2.1399	2.4435	2.1987	2.2364	2.2711
5.SALARIED(R)	2.1036	2.0761	2.4454	2.3537	2.3280	2.1210	2.5377	2.1966	2.2463	2.2929
6.OTHERS(R)	2.4184	2.4989	1.9491	2.0230	2.0479	2.3738	1.8920	2.2199	2.1442	2.0857

Table 4B: (Scenario 1): Poverty Alleviation Effects of Sectoral Growth on the Household Groups of Rural India (Capital, ROW and Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Head-count Ratio										
1.AG. SELF(R)	0.0447	0.0426	0.0207	0.0283	0.0205	0.0331	0.0292	0.0376	0.0315	0.0362
2.AG LAB(R)	0.0299	0.0286	0.0134	0.0184	0.0134	0.0221	0.0188	0.0249	0.0207	0.0237
3.NON AG.LAB(R)	0.0024	0.0023	0.0011	0.0015	0.0011	0.0017	0.0015	0.0020	0.0016	0.0019
4.NO AG.SELF(R)	0.0319	0.0304	0.0151	0.0205	0.0148	0.0237	0.0213	0.0270	0.0227	0.0261
5.SALARIED(R)	0.0584	0.0557	0.0268	0.0366	0.0265	0.0432	0.0377	0.0490	0.0409	0.0469
6.OTHERS(R)	0.0040	0.0037	0.0025	0.0032	0.0023	0.0030	0.0037	0.0037	0.0032	0.0039
Poverty Gap Measure										
1.AG. SELF(R)	0.0468	0.0446	0.0217	0.0296	0.0214	0.0346	0.0306	0.0393	0.0329	0.0378
2.AG LAB(R)	0.0483	0.0462	0.0217	0.0298	0.0216	0.0357	0.0303	0.0402	0.0335	0.0383
3.NCN AG.LAB(R)	0.0038	0.0036	0.0017	0.0024	0.0017	0.0028	0.0024	0.0032	0.0026	0.0030
4.NO AG.SELF(R)	0.0462	0.0439	0.0218	0.0296	0.0214	0.0342	0.0309	0.0391	0.0328	0.0378
5.SALARIED(R)	0.0337	0.0321	0.0154	0.0211	0.0153	0.0249	0.0217	0.0282	0.0236	0.0271
6.OTHERS(R)	0.0180	0.0166	0.0112	0.0144	0.0102	0.0136	0.0168	0.0168	0.0147	0.0176
Distributionally Sensitive Measure										
1.AG. SELF(R)	0.0536	0.0511	0.0248	0.0339	0.0245	0.0397	0.0350	0.0451	0.0377	0.0434
2.AG LAB(R)	0.0734	0.0702	0.0329	0.0453	0.0329	0.0543	0.0461	0.0611	0.0509	0.0582
3.NON AG.LAB(R)	0.0055	0.0052	0.0025	0.0034	0.0024	0.0040	0.0034	0.0046	0.0038	0.0043
4.NO AG.SELF(R)	0.0528	0.0502	0.0249	0.0338	0.0245	0.0391	0.0353	0.0446	0.0374	0.0431
5.SALARIED(R)	0.0337	0.0321	0.0154	0.0211	0.0153	0.0249	0.0217	0.0282	0.0236	0.0271
6.OTHERS(R)	0.0458	0.0422	0.0285	0.0366	0.0260	0.0346	0.0425	0.0426	0.0373	0.0446

Table 5A: (Scenario 2): Decomposition of Multiplier effects of Sectoral Growth on Household Groups of Rural India (ROW and Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier Effects										
1.AG. SELF(R)	1.7483	1.6518	0.8782	1.1759	0.8467	1.3014	1.2597	1.5080	1.2773	1.4844
2.AG LAB(R)	0.4757	0.4492	0.2403	0.3213	0.2313	0.3542	0.3450	0.4110	0.3485	0.4052
3.NON AG.LAB(R)	0.0371	0.0349	0.0193	0.0256	0.0184	0.0276	0.0279	0.0323	0.0275	0.0322
4.NO AG.SELF(R)	0.3240	0.3058	0.1641	0.2193	0.1578	0.2413	0.2357	0.2802	0.2376	0.2764
5.SALARIED(R)	0.3148	0.2976	0.1573	0.2109	0.1519	0.2342	0.2255	0.2711	0.2294	0.2664
6.OTHERS(R)	0.1661	0.1551	0.0927	0.1214	0.0868	0.1245	0.1357	0.1484	0.1278	0.1506
Distributional Effects										
1.AG. SELF(R)	0.3994	0.3851	0.1616	0.2281	0.1668	0.2936	0.2206	0.3229	0.2647	0.2987
2.AG LAB(R)	0.0843	0.0818	0.0315	0.0455	0.0334	0.0617	0.0422	0.0667	0.0541	0.0604
3.NON AG.LAB(R)	0.0035	0.0034	0.0013	0.0019	0.0014	0.0026	0.0018	0.0028	0.0023	0.0025
4.NO AG.SELF(R)	0.0733	0.0704	0.0309	0.0431	0.0314	0.0540	0.0426	0.0599	0.0494	0.0561
5.SALARIED(R)	0.0723	0.0699	0.0285	0.0405	0.0297	0.0531	0.0387	0.0581	0.0474	0.0533
6.OTHERS(R)	0.0162	0.0144	0.0125	0.0155	0.0109	0.0125	0.0193	0.0164	0.0149	0.0183
Interdependency Effects										
1.AG. SELF(R)	4.3770	4.2893	5.4346	5.1562	5.0774	4.4321	5.7113	4.6700	4.8251	4.9695
2.AG LAB(R)	5.6424	5.4921	7.6156	7.0659	6.9144	5.7378	8.1857	6.1589	6.4411	6.7097
3.NON AG.LAB(R)	10.5054	10.1936	14.5907	13.4538	13.1404	10.7032	15.7686	11.5760	12.1606	12.7168
4.NO AG.SELF(R)	4.4204	4.3433	5.3105	5.0833	5.0181	4.4686	5.5316	4.6745	4.8065	4.9281
5.SALARIED(R)	4.3513	4.2576	5.5130	5.2015	5.1141	4.4104	5.8267	4.6674	4.8364	4.9949
6.OTHERS(R)	10.2424	10.7305	7.3946	7.8429	7.9942	9.9717	7.0482	9.0379	8.5783	8.2235

Table 5B: (Scenario 2): Poverty Alleviation Effects of Sectoral Growth on Household Groups of Rural India (ROW and Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Head-count Ratio										
1.AG. SELF(R)	0.0926	0.0875	0.0465	0.0623	0.0449	0.0690	0.0668	0.0799	0.0677	0.0787
2.AG LAB(R)	0.0808	0.0763	0.0408	0.0546	0.0393	0.0602	0.0586	0.0699	0.0592	0.0689
3.NON AG.LAB(R)	0.0119	0.0112	0.0062	0.0082	0.0059	0.0088	0.0089	0.0103	0.0088	0.0103
4.NO AG.SELF(R)	0.0664	0.0627	0.0336	0.0449	0.0323	0.0494	0.0483	0.0574	0.0487	0.0566
5.SALARIED(R)	0.1208	0.1142	0.0604	0.0809	0.0583	0.0899	0.0865	0.1040	0.0881	0.1023
6.OTHERS(R)	0.0168	0.0157	0.0094	0.0123	0.0088	0.0126	0.0137	0.0150	0.0129	0.0152
Poverty gap index										
1.AG. SELF(R)	0.0970	0.0916	0.0487	0.0652	0.0470	0.0722	0.0699	0.0836	0.0708	0.0823
2.AG LAB(R)	0.1307	0.1234	0.0660	0.0883	0.0635	0.0973	0.0948	0.1129	0.0957	0.1113
3.NON AG.LAB(R)	0.0192	0.0181	0.0100	0.0133	0.0095	0.0143	0.0144	0.0167	0.0143	0.0167
4.NO AG.SELF(R)	0.0960	0.0906	0.0486	0.0650	0.0468	0.0715	0.0699	0.0830	0.0704	0.0819
5.SALARIED(R)	0.0696	0.0658	0.0348	0.0467	0.0336	0.0518	0.0499	0.0600	0.0507	0.0589
6.OTHERS(R)	0.0764	0.0713	0.0427	0.0558	0.0399	0.0573	0.0624	0.0683	0.0588	0.0693
Distributionally sensitive index										
1.AG. SELF(R)	0.1111	0.1050	0.0558	0.0747	0.0538	0.0827	0.0800	0.0958	0.0812	0.0943
2.AG LAB(R)	0.1986	0.1875	0.1003	0.1341	0.0965	0.1479	0.1440	0.1716	0.1455	0.1692
3.NON AG.LAB(R)	0.0275	0.0259	0.0143	0.0190	0.0137	0.0205	0.0207	0.0240	0.0204	0.0239
4.NO AG.SELF(R)	0.1097	0.1036	0.0556	0.0743	0.0534	0.0817	0.0798	0.0949	0.0805	0.0936
5.SALARIED(R)	0.0696	0.0658	0.0348	0.0467	0.0336	0.0518	0.0499	0.0600	0.0507	0.0589
6.OTHERS(R)	0.1939	0.1811	0.1083	0.1418	0.1014	0.1454	0.1585	0.1733	0.1492	0.1759

Table 6A: (Scenario 3): Multiplier effects of Sectoral growth on Household Groups of Rural Inida
(Capital, Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier Effects										
1.AG. SELF(R)	0.9475	0.9008	0.4761	0.7186	0.5724	0.7305	0.6414	0.7955	0.7113	0.7912
2.AG LAB(R)	0.1971	0.1880	0.0963	0.1463	0.1168	0.1516	0.1288	0.1640	0.1460	0.1618
3.NON AG.LAB(R)	0.0083	0.0079	0.0040	0.0061	0.0049	0.0063	0.0054	0.0069	0.0061	0.0068
4.NO AG.SELF(R)	0.1752	0.1663	0.0894	0.1345	0.1070	0.1353	0.1209	0.1478	0.1325	0.1477
5.SALARIED(R)	0.1708	0.1625	0.0850	0.1286	0.1025	0.1316	0.1143	0.1430	0.1276	0.1418
6.OTHERS(R)	0.0498	0.0460	0.0331	0.0499	0.0408	0.0403	0.0456	0.0453	0.0438	0.0493
Distributional Effects										
1.AG. SELF(R)	0.3995	0.3852	0.1618	0.2286	0.1674	0.2938	0.2207	0.3229	0.2650	0.2988
2.AG LAB(R)	0.0843	0.0818	0.0316	0.0456	0.0336	0.0618	0.0422	0.0667	0.0541	0.0604
3.NON AG.LAB(R)	0.0035	0.0034	0.0013	0.0019	0.0014	0.0026	0.0018	0.0028	0.0023	0.0025
4.NO AG.SELF(R)	0.0733	0.0704	0.0309	0.0432	0.0316	0.0540	0.0426	0.0599	0.0495	0.0561
5.SALARIED(R)	0.0724	0.0699	0.0286	0.0406	0.0298	0.0531	0.0387	0.0581	0.0475	0.0534
6.OTHERS(R)	0.0169	0.0150	0.0139	0.0197	0.0157	0.0139	0.0201	0.0168	0.0167	0.0195
Interdependency Effects										
1.AG. SELF(R)	2.3715	2.3387	2.9434	3.1438	3.4200	2.4863	2.9065	2.4632	2.6847	2.6474
2.AG LAB(R)	2.3380	2.2979	3.0479	3.2104	3.4792	2.4551	3.0534	2.4577	2.6963	2.6771
3.NON AG.LAB(R)	2.3388	2.2989	3.0457	3.2085	3.4769	2.4557	3.0504	2.4580	2.6961	2.6766
4.NO AG.SELF(R)	2.3902	2.3616	2.8914	3.1098	3.3900	2.5036	2.8356	2.4660	2.6784	2.6318
5.SALARIED(R)	2.3604	2.3252	2.9763	3.1649	3.4387	2.4760	2.9521	2.4614	2.6885	2.6570
6.OTHERS(R)	2.9553	3.0609	2.3760	2.5280	2.6000	2.8994	2.2669	2.6907	2.6203	2.5277

Table 7A: (Scenario 4): Decomposition of Multiplier effects of Sectoral Growth on Household Groups of Rural India

(Only Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects										
1.AG. SELF(R)	3.5783	3.3676	2.0226	3.0872	2.5103	2.8235	2.7372	3.0910	2.8748	3.1973
2.AG LAB(R)	1.0002	0.9410	0.5683	0.8693	0.7083	0.7905	0.7685	0.8647	0.8064	0.8962
3.NON AG.LAB(R)	0.0815	0.0765	0.0471	0.0721	0.0588	0.0646	0.0637	0.0708	0.0663	0.0738
4.NO AG.SELF(R)	0.6646	0.6252	0.3771	0.5750	0.4675	0.5246	0.5108	0.5748	0.5350	0.5953
5.SALARIED(R)	0.6433	0.6056	0.3628	0.5541	0.4506	0.5075	0.4907	0.5553	0.5163	0.5740
6.OTHERS(R)	0.3972	0.3718	0.2373	0.3626	0.2967	0.3167	0.3224	0.3484	0.3295	0.3670
Distributional Effects										
1.AG. SELF(R)	0.3997	0.3853	0.1618	0.2284	0.1670	0.2938	0.2210	0.3232	0.2650	0.2990
2.AG LAB(R)	0.0843	0.0818	0.0316	0.0455	0.0335	0.0618	0.0422	0.0668	0.0541	0.0605
3.NON AG.LAB(R)	0.0035	0.0034	0.0013	0.0019	0.0014	0.0026	0.0018	0.0028	0.0023	0.0025
4.NO AG.SELF(R)	0.0733	0.0704	0.0309	0.0432	0.0315	0.0540	0.0427	0.0600	0.0495	0.0562
5.SALARIED(R)	0.0724	0.0699	0.0286	0.0406	0.0297	0.0531	0.0388	0.0581	0.0475	0.0534
6.OTHERS(R)	0.0179	0.0158	0.0146	0.0179	0.0125	0.0139	0.0225	0.0185	0.0170	0.0210
Interdependency Effects										
1.AG. SELF(R)	8.9535	8.7408	12.4976	13.5191	15.0352	9.6102	12.3871	9.5648	10.8493	10.6922
2.AG LAB(R)	11.8583	11.5007	17.9877	19.0924	21.1518	12.7991	18.2001	12.9482	14.8930	14.8240
3.NON AG.LAB(R)	23.0893	22.3598	35.5496	37.7757	41.9425	24.9989	35.9898	25.3128	29.2598	29.1266
4.NO AG.SELF(R)	9.0635	8.8752	12.1882	13.3135	14.8475	9.7106	11.9649	9.5834	10.8116	10.6009
5.SALARIED(R)	8.8884	8.6616	12.6929	13.6465	15.1508	9.5505	12.6582	9.5535	10.8720	10.7481
6.OTHERS(R)	22.1654	23.4863	16.2739	20.3103	23.7521	22.8389	14.3155	18.7853	19.4247	17.4838

Table 7B: (Scenario 4): Poverty Alleviation Effects of Sectoral Growth on the Household Groups of Rural India (Only Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Head-count Ratio										
1.AG. SELF(R)	0.1896	0.1785	0.1072	0.1636	0.1330	0.1496	0.1450	0.1638	0.1523	0.1694
2.AG LAB(R)	0.1700	0.1599	0.0966	0.1477	0.1204	0.1343	0.1306	0.1470	0.1370	0.1523
3.NON AG.LAB(R)	0.0261	0.0245	0.0151	0.0231	0.0188	0.0207	0.0204	0.0226	0.0212	0.0236
4.NO AG.SELF(R)	0.1362	0.1281	0.0773	0.1178	0.0958	0.1075	0.1047	0.1178	0.1096	0.1220
5.SALARIED(R)	0.2469	0.2324	0.1392	0.2126	0.1729	0.1948	0.1883	0.2131	0.1981	0.2203
6.OTHERS(R)	0.0402	0.0376	0.0240	0.0367	0.0300	0.0321	0.0326	0.0353	0.0334	0.0371
Poverty Gap Measures										
1.AG. SELF(R)	0.1984	0.1867	0.1122	0.1712	0.1392	0.1566	0.1518	0.1714	0.1594	0.1773
2.AG LAB(R)	0.2747	0.2584	0.1561	0.2388	0.1945	0.2171	0.2111	0.2375	0.2215	0.2462
3.NON AG.LAB(R)	0.0422	0.0396	0.0244	0.0373	0.0305	0.0335	0.0330	0.0366	0.0344	0.0382
4.NO AG.SELF(R)	0.1970	0.1853	0.1118	0.1704	0.1385	0.1555	0.1514	0.1704	0.1585	0.1764
5.SALARIED(R)	0.1423	0.1340	0.0803	0.1226	0.0997	0.1123	0.1085	0.1228	0.1142	0.1270
6.OTHERS(R)	0.1828	0.1710	0.1092	0.1668	0.1365	0.1457	0.1483	0.1603	0.1516	0.1689
Distributionally Sensitive Measure										
1.AG. SELF(R)	0.2274	0.2140	0.1285	0.1962	0.1595	0.1794	0.1739	0.1964	0.1827	0.2032
2.AG LAB(R)	0.4175	0.3928	0.2372	0.3629	0.2957	0.3300	0.3208	0.3610	0.3366	0.3741
3.NON AG.LAB(R)	0.0605	0.0568	0.0350	0.0535	0.0437	0.0480	0.0473	0.0525	0.0493	0.0548
4.NO AG.SELF(R)	0.2251	0.2118	0.1277	0.1948	0.1583	0.1777	0.1730	0.1947	0.1812	0.2016
5.SALARIED(R)	0.1423	0.1340	0.0803	0.1226	0.0997	0.1123	0.1085	0.1228	0.1142	0.1270
6.OTHERS(R)	0.4639	0.4342	0.2771	0.4235	0.3465	0.3699	0.3765	0.4069	0.3849	0.4286

Table 8A: Poverty Alleviation Effects of Sectoral Growth on All Household Groups of Rural India Under Different Market Regimes

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Scenario 1: Capital, ROW and Govt. as exogenous										
Head-count Ratio	0.032	0.031	0.015	0.020	0.015	0.024	0.021	0.027	0.023	0.026
Poverty gap Measure	0.040	0.038	0.018	0.025	0.018	0.030	0.026	0.034	0.028	0.032
Distributionally Sensitive Measure	0.056	0.053	0.026	0.035	0.026	0.041	0.036	0.047	0.039	0.045
Scenario 2: ROW and Govt. as exogenous										
Head-count Ratio	0.074	0.070	0.037	0.050	0.036	0.055	0.054	0.064	0.054	0.063
Poverty gap Measure	0.098	0.092	0.050	0.066	0.048	0.073	0.071	0.085	0.072	0.084
Distributionally Sensitive Measure	0.142	0.134	0.072	0.096	0.069	0.106	0.104	0.123	0.104	0.121
Scenario 3: Capital and **Govt as exogenous**										
Head-count Ratio	0.036	0.034	0.018	0.027	0.022	0.028	0.024	0.030	0.027	0.030
Poverty gap Measure	0.045	0.043	0.023	0.034	0.027	0.035	0.030	0.038	0.034	0.038
Distributionally Sensitive Measure	0.063	0.060	0.032	0.048	0.038	0.049	0.043	0.053	0.047	0.053
Scenario 4: Only Governent. **as exogenous**										
Head-count Ratio	0.154	0.145	0.087	0.133	0.108	0.121	0.118	0.133	0.124	0.138
Poverty gap Measure	0.205	0.193	0.116	0.178	0.145	0.162	0.158	0.177	0.165	0.184
Distributionally Sensitive Measure	0.298	0.281	0.170	0.260	0.212	0.236	0.230	0.258	0.241	0.268

Table 8B: Ranks of Poverty Alleviation Effects on All Household Groups of Rural India Under Different Market Regimes in Ascending Order

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Scenario 1: Capital, ROW and Govt. as exogenous										
Head-count Ratio	1	2	9	8	10	5	7	3	6	4
Poverty gap Measure	1	2	9	8	10	5	7	3	6	4
Distributionally Sensitive Measure	1	2	9	8	10	5	7	3	6	4
Scenario 2: ROW and Govt. as exogenous										
Head-count Ratio	1	2	9	8	10	5	7	3	6	4
Poverty gap Measure	1	2	9	8	10	5	7	3	6	4
Distributionally Sensitive Measure	1	2	9	8	10	5	7	3	6	4
Scenario 3: Capital and Govt as exogenous										
Head-count Ratio	1	2	10	6	9	5	8	3	7	4
Poverty gap Measure	1	2	10	6	9	5	8	3	7	4
Distributionally Sensitive Measure	1	2	10	6	9	5	8	3	7	4
Scenario 4: Only Governent. as exogenous										
Head-count Ratio	1	2	10	4	9	7	8	5	6	3
Poverty gap Measure	1	2	10	4	9	7	8	5	6	3
Distributionally Sensitive Measure	1	2	10	4	9	7	8	5	6	3

Table 9: (Scenario 1): Ranks of Multiplier and Poverty Alleviation Effects in Descending Order Across the Production Sectors and Household Groups of Rural India (Capital, ROW and Govt. accounts as exogenous)

i. Ranks of Multiplier Effects Across Production Sectors	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects										
1.AG. SELF(R)	1	2	9	8	10	5	7	3	6	4
2.AG LAB(R)	1	2	9	8	10	5	7	3	6	4
3.NON AG.LAB(R)	1	2	9	8	10	5	7	3	6	4
4.NO AG.SELF(R)	1	2	9	8	10	5	7	3	6	4
5.SALARIED(R)	1	2	9	8	10	5	7	3	6	4
6.OTHERS(R)	1	5	9	7	10	8	4	3	6	2
Distributional Effects										
1.AG. SELF(R)	1	2	10	7	9	5	8	3	6	4
2.AG LAB(R)	1	2	10	7	9	4	8	3	6	5
3.NON AG.LAB(R)	1	2	10	7	9	4	8	3	6	5
4.NO AG.SELF(R)	1	2	10	7	9	5	8	3	6	4
5.SALARIED(R)	1	2	10	7	9	5	8	3	6	4
6.OTHERS(R)	4	7	8	5	10	9	1	3	6	2
Interdependency Effects										
1.AG. SELF(R)	9	10	2	3	4	8	1	7	6	5
2.AG LAB(R)	9	10	2	3	4	8	1	7	6	5
3.NON AG.LAB(R)	9	10	2	3	4	8	1	7	6	5
4.NO AG.SELF(R)	9	10	2	3	4	8	1	7	6	5
5.SALARIED(R)	9	10	2	3	4	8	1	7	6	5
6.OTHERS(R)	2	1	9	8	7	3	10	4	5	6
iii. Ranks of Poverty Alleviation Effects Across Production Sectors										
Head-count Ratio										
1.AG. SELF(R)	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	2	2	2	2	2	2	2	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Poverty Gap Measure										
1.AG. SELF(R)	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	2	2	2	2	2	2	3	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	2	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Distributionally Sensitive Measure										
1.AG. SELF(R)	3	3	4	4	4	3	4	3	4	4
2.AG LAB(R)	6	6	1	1	1	6	1	6	1	1
3.NON AG.LAB(R)	5	5	2	2	2	5	2	5	2	2
4.NO AG.SELF(R)	2	2	5	5	5	2	5	2	5	5
5.SALARIED(R)	4	4	3	3	3	4	3	4	3	3
6.OTHERS(R)	1	1	6	6	6	1	6	1	6	6

ii. Ranks of Multiplier Effects Across Household Groups	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects										
1.AG. SELF(R)	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	2	2	2	2	2	2	2	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Distributional Effects										
1.AG. SELF(R)	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	2	2	2	2	2	2	3	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	2	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Interdependency Effects										
1.AG. SELF(R)	3	3	4	4	4	3	4	3	4	4
2.AG LAB(R)	6	6	1	1	1	6	1	6	1	1
3.NON AG.LAB(R)	5	5	2	2	2	5	2	5	2	2
4.NO AG.SELF(R)	2	2	5	5	5	2	5	2	5	5
5.SALARIED(R)	4	4	3	3	3	4	3	4	3	3
6.OTHERS(R)	1	1	6	6	6	1	6	1	6	6
iv. Ranks of Poverty Alleviation Effects Across Household Groups										
Head-count Ratio										
1.AG. SELF(R)	2	2	2	2	2	2	2	2	2	2
2.AG LAB(R)	4	4	4	4	4	4	4	4	4	4
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	1	1	1	1	1	1	1	1	1	1
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Poverty Gap Measure										
1.AG. SELF(R)	2	2	2	3	2	2	2	2	2	2
2.AG LAB(R)	1	1	3	1	1	1	3	1	1	1
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	1	2	3	3	1	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Distributionally Sensitive Measure										
1.AG. SELF(R)	2	2	4	3	3	2	4	2	2	3
2.AG LAB(R)	1	1	1	1	1	1	1	1	1	1
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	4	4	3	3	3	3	4
5.SALARIED(R)	5	5	5	5	5	5	5	5	5	5
6.OTHERS(R)	4	4	2	2	2	4	2	4	4	2

Note: 'i' and 'ii' are based on Table 5A, and 'iii' and 'iv' on 5B
'i' and 'iii' are column-wise rankings, and 'ii' and 'iv' are row-wise ranking.

Table 10: (Scenario 2): Ranks of Multiplier and Poverty Alleviation Effects in Descending Order Across the Production Sectors and Household Groups of Rural India (ROW and Govt. accounts as exogenous)

i. Ranks of Multiplier Effects Across Production Sectors	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects										
1.AG. SELF(R)	1	2	9	8	10	5	7	3	6	4
2.AG LAB(R)	1	2	9	8	10	5	7	3	6	4
3.NON AG.LAB(R)	1	2	9	8	10	6	5	3	7	4
4.NO AG.SELF(R)	1	2	9	8	10	5	7	3	6	4
5.SALARIED(R)	1	2	9	8	10	5	7	3	6	4
6.OTHERS(R)	1	2	9	8	10	7	5	4	6	3
Distributional Effects										
1.AG. SELF(R)	1	2	10	7	9	5	8	3	6	4
2.AG LAB(R)	1	2	10	7	9	4	8	3	6	5
3.NON AG.LAB(R)	1	2	10	7	9	4	8	3	6	5
4.NO AG.SELF(R)	1	2	10	7	9	5	8	3	6	4
5.SALARIED(R)	1	2	10	7	9	5	8	3	6	4
6.OTHERS(R)	4	7	8	5	10	9	1	3	6	2
Interdependency Effects										
1.AG. SELF(R)	9	10	2	3	4	8	1	7	6	5
2.AG LAB(R)	9	10	2	3	4	8	1	7	6	5
3.NON AG.LAB(R)	9	10	2	3	4	8	1	7	6	5
4.NO AG.SELF(R)	9	10	2	3	4	8	1	7	6	5
5.SALARIED(R)	9	10	2	3	4	8	1	7	6	5
6.OTHERS(R)	2	1	9	8	7	3	10	4	5	6
iii. Ranks of Poverty Alleviation Effects Across Production Sectors										
Head-count Ratio										
1.AG. SELF(R)	1	2	9	8	10	5	7	3	6	4
2.AG LAB(R)	1	2	9	8	10	5	7	3	6	4
3.NON AG.LAB(R)	1	2	9	8	10	6	5	3	7	4
4.NO AG.SELF(R)	1	2	9	8	10	5	7	3	6	4
5.SALARIED(R)	1	2	9	8	10	5	7	3	6	4
6.OTHERS(R)	1	2	9	8	10	7	5	4	6	3
Poverty Gap Measures										
1.AG. SELF(R)	1	2	9	8	10	5	7	3	6	4
2.AG LAB(R)	1	2	9	8	10	5	7	3	6	4
3.NON AG.LAB(R)	1	2	9	8	10	6	5	3	7	4
4.NO AG.SELF(R)	1	2	9	8	10	5	7	3	6	4
5.SALARIED(R)	1	2	9	8	10	5	7	3	6	4
6.OTHERS(R)	1	2	9	8	10	7	5	4	6	3
Distributionally Sensitive Measure										
1.AG. SELF(R)	1	2	9	8	10	5	7	3	6	4
2.AG LAB(R)	1	2	9	8	10	5	7	3	6	4
3.NON AG.LAB(R)	1	2	9	8	10	6	5	3	7	4
4.NO AG.SELF(R)	1	2	9	8	10	5	7	3	6	4
5.SALARIED(R)	1	2	9	8	10	5	7	3	6	4
6.OTHERS(R)	1	2	9	8	10	7	5	4	6	3

ii. Ranks of Multiplier Effects Across Household groups	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects										
1.AG. SELF(R)	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	2	2	2	2	2	2	2	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Distributional Effects										
1.AG. SELF(R)	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	2	2	2	2	2	2	3	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	2	3	3	3
5.SALARIED(R)	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Interdependency Effects										
1.AG. SELF(R)	5	5	5	5	5	5	5	5	5	5
2.AG LAB(R)	3	3	2	3	3	3	2	3	3	3
3.NON AG.LAB(R)	1	2	1	1	1	1	1	1	1	1
4.NO AG.SELF(R)	4	4	6	6	6	4	6	4	6	6
5.SALARIED(R)	6	6	4	4	4	6	4	6	4	4
6.OTHERS(R)	2	1	3	2	2	2	3	2	2	2
iv. Ranks of Poverty Alleviation Effects Across Household Groups										
Head-count Ratio										
1.AG. SELF(R)	2	2	2	2	2	2	2	2	2	2
2.AG LAB(R)	3	3	3	3	3	3	3	3	3	3
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	4	4	4	4	4	4	4	4	4	4
5.SALARIED(R)	1	1	1	1	1	1	1	1	1	1
6.OTHERS(R)	5	5	5	5	5	5	5	5	5	5
Poverty Gap Measures										
1.AG. SELF(R)	2	2	2	2	2	2	3	2	2	2
2.AG LAB(R)	1	1	1	1	1	1	1	1	1	1
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	3	3	3	3	3	3	2	3	3	3
5.SALARIED(R)	5	5	5	5	5	5	5	5	5	5
6.OTHERS(R)	4	4	4	4	4	4	4	4	4	4
Distributionally Sensitive Measure										
1.AG. SELF(R)	3	3	3	3	3	3	3	3	3	3
2.AG LAB(R)	1	1	2	2	2	1	2	2	2	2
3.NON AG.LAB(R)	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	4	4	4	4	4	4	4	4	4	4
5.SALARIED(R)	5	5	5	5	5	5	5	5	5	5
6.OTHERS(R)	2	2	1	1	1	2	1	1	1	1

Note: 'i' and 'ii' are based on Table [illegible]

'i' and 'iii' are column wise ranking, and 'ii' and 'iv' are row wise ranking

Table 11: (Scenario 3): Ranks of Multiplier and Poverty Alleviation Effects in Descending Order Across the Production Sectors and Household Groups of Rural India (Capital, Govt. accounts as exogenous)

i. Ranks of Multiplier Effects Across Production Sectors											ii. Ranks of Multiplier Effects Across Household Groups									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects																				
1.AG. SELF(R)	1	2	10	6	9	5	8	3	7	4	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	1	2	10	6	9	5	8	3	7	4	2	2	2	2	2	2	2	2	2	2
3.NON AG.LAB(R)	1	2	10	6	9	5	8	3	7	4	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	6	9	5	8	3	7	4	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	1	2	10	6	9	5	8	3	7	4	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	2	4	10	1	8	9	5	6	7	3	5	5	5	5	5	5	5	5	5	5
Distributional Effects																				
1.AG. SELF(R)	1	2	10	7	9	5	8	3	6	4	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	1	2	10	7	9	4	8	3	6	5	2	2	2	2	2	2	3	2	2	2
3.NON AG.LAB(R)	1	2	10	7	9	4	8	3	6	5	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	7	9	5	8	3	6	4	3	3	3	3	3	3	2	3	3	3
5.SALARIED(R)	1	2	10	7	9	5	8	3	6	4	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	4	8	9	2	7	10	1	5	6	3	5	5	5	5	5	5	5	5	5	5
Interdependency Effects																				
1.AG. SELF(R)	9	10	3	2	1	7	4	8	5	6	3	3	4	4	4	3	4	3	4	4
2.AG LAB(R)	9	10	4	2	1	8	3	7	5	6	6	6	1	1	1	6	1	6	1	1
3.NON AG.LAB(R)	9	10	4	2	1	8	3	7	5	6	5	5	2	2	2	5	2	5	2	2
4.NO AG.SELF(R)	9	10	3	2	1	7	4	8	5	6	2	2	5	5	5	2	5	2	5	5
5.SALARIED(R)	9	10	3	2	1	7	4	8	5	6	4	4	3	3	3	4	3	4	3	3
6.OTHERS(R)	2	1	9	7	6	3	10	4	5	8	1	1	6	6	6	1	6	1	6	6
iii. Ranks of Poverty Alleviation Effects Across Production Sectors											**iv. Ranks of Poverty Alleviation Effects Across Household Groups**									
Head-count Ratio																				
1.AG. SELF(R)	1	2	10	6	9	5	8	3	7	4	2	2	2	2	2	2	2	2	2	2
2.AG LAB(R)	1	2	10	6	9	5	8	3	7	4	4	4	4	4	4	4	4	4	4	4
3.NON AG.LAB(R)	1	2	10	6	9	5	8	3	7	4	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	6	9	5	8	3	7	4	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	1	2	10	6	9	5	8	3	7	4	1	1	1	1	1	1	1	1	1	1
6.OTHERS(R)	2	4	10	1	8	9	5	6	7	3	5	5	5	5	5	5	5	5	5	5
Poverty Gap Measures																				
1.AG. SELF(R)	1	2	10	6	9	5	8	3	7	4	2	2	3	2	2	2	2	2	2	2
2.AG LAB(R)	1	2	10	6	9	5	8	3	7	4	1	1	2	1	1	1	3	1	1	1
3.NON AG.LAB(R)	1	2	10	6	9	5	8	3	7	4	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	6	9	5	8	3	7	4	3	3	1	3	3	3	1	3	3	3
5.SALARIED(R)	1	2	10	6	9	5	8	3	7	4	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	2	4	10	1	8	9	5	6	7	3	5	5	5	5	5	5	5	5	5	5
Distributionally Sensitive Measure																				
1.AG. SELF(R)	1	2	10	6	9	5	8	3	7	4	2	2	4	3	3	3	4	3	3	3
2.AG LAB(R)	1	2	10	6	9	5	8	3	7	4	1	1	1	1	1	1	1	1	1	1
3.NON AG.LAB(R)	1	2	10	6	9	5	8	3	7	4	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	6	9	5	8	3	7	4	3	3	3	4	4	4	3	4	4	4
5.SALARIED(R)	1	2	10	6	9	5	8	3	7	4	5	5	5	5	5	5	5	5	5	5
6.OTHERS(R)	2	4	10	1	8	9	5	6	7	3	4	4	2	2	2	2	2	2	2	2

Note: 'i' and 'ii' are based on Table 6A and 'iii' and 'iv' on 6B.
'i' and 'iii' are column-wise rankings, and 'ii' and 'iv' are row-wise ranking.

Table 12: (Scenario 4): Ranks of Multiplier and Poverty Alleviation Effects in Descending Order Across the Production Sectors and Household Groups of Rural India (Only Govt. accounts as exogenous)

	i. Ranks of Multiplier Effects Across Production Sectors										ii. Ranks of Multiplier Effects Across Household Groups									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier effects																				
1.AG. SELF(R)	1	2	10	5	9	7	8	4	6	3	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	1	2	10	4	9	7	8	5	6	3	2	2	2	2	2	2	2	2	2	2
3.NON AG.LAB(R)	1	2	10	4	9	7	8	5	6	3	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	4	9	7	8	5	6	3	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	1	2	10	5	9	7	8	4	6	3	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	1	2	10	4	9	8	7	5	6	3	5	5	5	5	5	5	5	5	5	5
Distributional Effects																				
1.AG. SELF(R)	1	2	10	7	9	5	8	3	6	4	1	1	1	1	1	1	1	1	1	1
2.AG LAB(R)	1	2	10	7	9	4	8	3	6	5	2	2	2	2	2	2	3	2	2	2
3.NON AG.LAB(R)	1	2	10	7	9	4	8	3	6	5	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	7	9	5	8	3	6	4	3	3	3	3	3	3	2	3	3	3
5.SALARIED(R)	1	2	10	7	9	5	8	3	6	4	4	4	4	4	4	4	4	4	4	4
6.OTHERS(R)	4	7	8	5	10	9	1	3	6	2	5	5	5	5	5	5	5	5	5	5
Interdependency Effects																				
1.AG. SELF(R)	9	10	3	2	1	7	4	8	5	6	5	5	5	5	5	5	5	5	5	5
2.AG LAB(R)	9	10	4	2	1	8	3	7	5	6	3	3	2	3	3	3	2	3	3	3
3.NON AG.LAB(R)	9	10	4	2	1	8	3	7	5	6	1	2	1	1	1	1	1	1	1	1
4.NO AG.SELF(R)	9	10	3	2	1	7	4	8	5	6	4	4	6	6	6	4	6	4	6	6
5.SALARIED(R)	9	10	3	2	1	8	4	7	5	6	6	6	4	4	4	6	4	6	4	4
6.OTHERS(R)	4	2	9	5	1	3	10	7	6	8	2	1	3	2	2	2	3	2	2	2
iii. Ranks of Poverty Alleviation Effects Across Production Sectors											**iv. Ranks of Poverty Alleviation Effects Across Household Groups**									
Head-count Ratio																				
1.AG. SELF(R)	1	2	10	5	9	7	8	4	6	3	2	2	2	2	2	2	2	2	2	2
2.AG LAB(R)	1	2	10	4	9	7	8	5	6	3	3	3	3	3	3	3	3	3	3	3
3.NON AG.LAB(R)	1	2	10	4	9	7	8	5	6	3	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	4	9	7	8	5	6	3	4	4	4	4	4	4	4	4	4	4
5.SALARIED(R)	1	2	10	5	9	7	8	4	6	3	1	1	1	1	1	1	1	1	1	1
6.OTHERS(R)	1	2	10	4	9	8	7	5	6	3	5	5	5	5	5	5	5	5	5	5
Poverty Gap Measures																				
1.AG. SELF(R)	1	2	10	5	9	7	8	4	6	3	2	2	2	2	2	2	2	2	2	2
2.AG LAB(R)	1	2	10	4	9	7	8	5	6	3	1	1	1	1	1	1	1	1	1	1
3.NON AG.LAB(R)	1	2	10	4	9	7	8	5	6	3	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	4	9	7	8	5	6	3	3	3	3	3	3	3	3	3	3	3
5.SALARIED(R)	1	2	10	5	9	7	8	4	6	3	5	5	5	5	5	5	5	5	5	5
6.OTHERS(R)	1	2	10	4	9	8	7	5	6	3	4	4	4	4	4	4	4	4	4	4
Distributionally Sensitive Measure																				
1.AG. SELF(R)	1	2	10	5	9	7	8	4	6	3	3	3	3	3	3	3	3	3	3	3
2.AG LAB(R)	1	2	10	4	9	7	8	5	6	3	2	2	2	2	2	2	2	2	2	2
3.NON AG.LAB(R)	1	2	10	4	9	7	8	5	6	3	6	6	6	6	6	6	6	6	6	6
4.NO AG.SELF(R)	1	2	10	4	9	7	8	5	6	3	4	4	4	4	4	4	4	4	4	4
5.SALARIED(R)	1	2	10	5	9	7	8	4	6	3	5	5	5	5	5	5	5	5	5	5
6.OTHERS(R)	1	2	10	4	9	8	7	5	6	3	1	1	1	1	1	1	1	1	1	1

Note: 'i' and 'ii' are based on Table 7A and 'iii' and 'iv' on 7B.
'i' and 'iii' are column-wise rankings and 'ii' and 'iv' are row-wise ranking.

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The effects of sectoral growth on the poor depend on the degree of participation of the poor socioeconomic groups in the production process and the extent of integration of their consumption demand to the production side and the poverty sensitivity effects of the household groups to their mean income. It is seen that growth in the agriculture, the education and the other services sectors are found to be more effective than that in other sectors in improving the lot of the rural poor in India, irrespective of policy regimes.

Despite the higher poverty sensitivity effects of many sectors, the poverty alleviation effects have been low mainly because of the lower distributional effects. The distributional effects depend on the participation of poor household groups in the production process and the prevailing technology in the different production sectors. Hence, it is crucial to bring the poor socio-economic groups into the mainstream of the production activities through employment generation programs so that growth in a particular sector can lead to larger impact on poverty.

It is observed that the effects of sectoral growth on the rural poor do not change much when the economy passes through the mild liberalisation process from the erstwhile restricted regime. It is only in the case of full liberalisation (Scenario 4), the process of industrialisation could become conspicuous in alleviating rural poverty. In this case, income generated for the household groups from the manufacturing industries has been more through an increase in the degree of interlinkages of the industries in the economy than the degree of participation of households in the production process. This is just the opposite of that in the agriculture and the education sectors where despite the lower interlinkages, the poverty alleviation effects are more because of higher participation by the poor in the production activities. But the 'other services' sector which is the most labour intensive sector generates more income for the household groups both through proper participation of poor households in the production process and in generating high demand in the economy for the same sector.

The salaried class, which has got high poverty sensitivity effects despite their low share in the poverty, receives the maximum poverty eradication effects of sectoral growth with the head-count ratio measure. But as the poorest of the poor households are given importance with the distributionally sensitive measure, the household groups having high poverty shares, i.e. the agriculture labour and agriculture self-employed become the maximum beneficiaries of the alleviation effects. It is, however, the other households group, because of its very high poverty sensitivity in the higher degree of poverty measures also receives a great degree of poverty alleviation effects from the sectoral growth. In the rural economy where the agriculture sector in particular has been most responsible in improving the lot of poor, it is no doubt that the households engaged in the agricultural activities like agricultural self-employed and agricultural labour should be given more importance while targeting the poverty alleviation policy. From the policy point of view, the importance of the other households group which is basically rentier class and represents a very small fraction of rural population, in receiving more poverty alleviation effects of growth may cause concern, particularly during the fully liberalised regime where this household group occupies the top slot in receiving the benefits of sectoral growth.

In sum, the variation of the impacts of sectoral growth on a given household follows a particular pattern and the pattern gets repeated for all the household groups except for the other households group. In similar vein, the pattern of the impacts of a given sector on different household groups does get repeated for all other sectors. However, the pattern varies with the change in the poverty measures and policy regimes.

NOTES

1..Data on average income of household groups and their distribution are collected from NCAER (1996), which has mainly covered rural India. The non-availability of data regarding urban household income at the time of carrying out the study forced us to go for the analysis of only rural poverty which accounts for 78% of total all India poverty (calculated on the basis of the number of persons below the poverty line in 1993).

2..For a detailed description on SAM and its multipliers see Pyatt et al. (1977).

3..Pyatt et al. (1977) and Pyatt and Round (1979) have done various impact studies for Sri Lankan economy through SAM multiplier decomposition.

4..A schematic SAM used here has been given in Table 1.

5..The FGT satisfies the Monotonicity Axiom for $\alpha>0$, the Transfer Axiom for $\alpha>1$, and Transfer Sensitivity Axiom for $\alpha>2$. The first two axioms are proposed by Sen (1976) and the last one is by Kakwani (1980).

6..This assumes that poverty will fall with distributionally neutral growth in mean income. However, this has nothing to do with 'distributional effects' mentioned earlier as a part of the multiplier effects.

7.. See Kakwani (1993) for the computation of elasticities for various poverty measures with respect to mean income. For example, the $\eta\alpha i$ for the head-count ratio measure, i.e. P0, is the percentage of poor who cross the poverty line as a result of 1 per cent growth in the mean income.

8..For details of the construction of SAM and its multiplier analysis for India, see Pradhan and Sahoo (1996).

9..Government of India (1993) estimated (nutritional) poverty line for rural India for the year 1973-74 based on the pattern of consumption expenditures of households. This line is updated using Consumer Price Index for Agricultural Labour. The estimated per household poverty line for 1993-94 is Rupees 13807 per annum. As we have used the NCAER (1996) survey data collected only on household income, it is assumed that the income is equal to expenditures for the household groups falling on poverty line.

10..Growth in "Education" sector leading to poverty amelioration, in our case, does not explain that education leads to increase in labour efficiency and hence, the income of the poor household group. The SAM multiplier approach is based on typical Keynesian demand side approach, where supply adjusts to the demand.

Table 1: Schematic Structure of SAM

	Factors of Pro-dction	House-holds A/C	Govt. A/C	Activi-ties	Capit-al A/C	Other A/C	Total
Factors of Production	0	0	0	T14	0	T16	Y1
Households Account	T21	0	T23	0	0	T26	Y2
Government Account	0	T32	0	T34	T35	0	Y3
Production Activities	0	T42	T43	T44	T45	T46	Y4
Capital Account	0	T52	T53	0	0	T56	Y5
Other Account	0	0	T63	T64	0	0	Y6
Total	Y1	Y2	Y3	Y4	Y5	Y6	

Table 2: Social Accounting Matrix for India (in Million rupees)

	FACTORS		RURAL HOUSEHOLDS								
	Labour	Capital	Ag.Self Employed	Agricu- ltural Labour	Non Agri- cultural Labour	Non Ag. Self- Employed	Salaried class	Other House- holds	Urban House- holds	Govern- ment	Indirect Taxes
Factors of Production											
Labour											
Capital											
Households Account											
Agriculture Self employed(Rural	1301820	87350								8440	
Agricultural Labour(rural)	285320	370								1510	
Non Agricultural Labour(Rural)	11930	30								80	
Non Agricultral Self Employed(	233710	24840								1480	
Salaried Classes	238770	10680								1540	
Other Hoseholds	28140	45830								67680	
Urban households	683945	1027605								216420	
Government Account	0	106270							118880	1660	481590
Indirect Taxes			37717	15732	985	10580	4951	8874	41714	18990	
Production Activities											
Foodgrains			189275	101475	8834	50684	18310	32865	114007	766	
Other Agriculture			169075	55552	4836	42919	21684	37253	213915	657	
Mining & Quarry			646	352	31	186	82	137	611	74	
Other Industries			259883	112115	7018	72814	37089	63618	227733	44649	
Capital Goods			7863	1695	106	1881	703	1877	16565	7634	
Construction			0	0	0	0	0	0	0	47632	
electricity, Gas & Water			5336	2912	254	1536	674	1130	5052	13245	
Education			14403	2150	1822	8873	5102	1033	24716	85152	
Health			15091	4168	4042	5321	6047	1249	18322	38886	
Other Services			209868	82224	1710	62507	20014	66728	344727	284346	
Captial Account			489573	0	0	2929	136534	0	754588	-115330	
Rest of the World										940	
Total	2783635	1302975	1398730	378375	29638	260230	251190	214764	1880830	726451	481590

Table 2 (Cont.): Social Accounting Matrix for India (in Million Rupees)

	PRODUCTION ACTIVITIES												
	Food Grain	Other Agriculture	Mining Quarry	Other Industries	Capital Goods	Construction	Electricity	Education	Health	Other Services	Captial Account	Rest of World	TOTAL
Factors of Production													
Labour	433679	623419	53188	298442	98211	219245	37223	83296	25720	911212			2783635
Capital	101581	111831	49902	309348	64759	16615	50007	34414	9780	554738			1302975
Households Account													
Agriculture Self employed(Rural)												1120	1398730
Agricultural Labour(rural)											90975	200	378375
Non Agricultural Labour(Rural)											17588	10	29638
Non Agricultral Self Employed(Rural)												200	260230
Salaried Classes												200	251190
Other Hoseholds											64144	8970	214764
Urban households												-47140	1880830
Government Account												18050	726450
Indirect Taxes	-56499	-10293	80797	40275	134451	67298	6482	6566	8946	-13121	74932	2213	481590
Production Activities													
Foodgrains	72088	31746	0	61477	0	0	17	1150	600	16826	13039	4375	717534
Other Agriculture	51419	201764	2	186314	886	18213	292	671	402	27909	41898	34796	1113357
Mining & Quarry	146	300	1197	115889	897	30035	27711	0	0	6371	8576	10131	233671
Other Industries	17300	62281	9351	633692	111964	142375	8535	11437	37261	116537	164755	211690	2382606
Capital Goods	5084	1512	8593	13250	76630	21372	7686	145	123	46392	409930	20227	652268
Construction	19017	15059	2327	10462	4362	72	4151	1644	588	43896	459537	0	608777
electricity, Gas & Water	9108	1201	7498	74115	6666	9736	53339	54	705	19582	0	0	215143
Education	0	0	0	0	0	0	0	0	0	203	0	0	143454
Health	6	37	0	0	0	0	16	105	85	998	0	0	94363
Other Services	30127	59635	11523	324861	56743	83817	19682	3971	10153	229991	45712	68368	2016707
Captial Account												122790	1391084
Rest of the World	3735	5875	9297	284479	96700	0	0	0	0	55173	0		456199
Total	717534	1113357	233670	2382604	652269	608778	215141	143453	94363	2016707	1391086	456200	

Table 3: Some Basic Poverty Related Estimates (Rural India)

	Poverty Measures				Elasticities of poverty measure to mean income			Poverty sensitivity effect to change in mean income			Group Poverty Share out of Total Poverty		
	Distribution of Households	Head count ratio P0	Poverty gap measure P1	Distribution-ally sensitive measure P2	Head count ratio e0	Poverty gap measure e1	Distribution-ally sensitive measure e2	Head count ratio q0	Poverty gap measure q1	Distribution-ally sensitive measure q2	Head count ratio s0	Poverty gap measure s1	Distribution-ally sensitive measure s2
Agriculture Self-employed	41.82	0.27	0.11	0.06	-1.39	-1.45	-1.67	-0.053	-0.055	-0.064	0.33	0.31	0.31
Agriculture Labour	16.72	0.65	0.33	0.19	-0.60	-0.97	-1.47	-0.170	-0.275	-0.417	0.32	0.37	0.40
Non-agriculture Labour	10.94	0.58	0.23	0.11	-0.94	-1.52	-2.18	-0.320	-0.518	-0.742	0.19	0.17	0.15
Non-agriculture Self-employed	14.36	0.33	0.12	0.06	-1.21	-1.75	-2.00	-0.205	-0.296	-0.339	0.14	0.11	0.11
Salaried Class	13.05	0.12	0.04	0.02	-3.47	-2.00	-2.00	-0.384	-0.221	-0.221	0.05	0.03	0.03
Other Household	3.1	0.34	0.22	0.13	-0.12	-0.55	-1.38	-0.101	-0.460	-1.168	0.03	0.05	0.05

Source: Computed using data from NCAER (1996).

Table 6A: (Scenario 3): Multiplier effects of Sectoral growth on Household Groups of Rural Inida (Capital, Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier Effects										
1.AG. SELF(R)	0.9475	0.9008	0.4761	0.7186	0.5724	0.7305	0.6414	0.7955	0.7113	0.7912
2.AG LAB(R)	0.1971	0.1880	0.0963	0.1463	0.1168	0.1516	0.1288	0.1640	0.1460	0.1618
3.NON AG.LAB(R)	0.0083	0.0079	0.0040	0.0061	0.0049	0.0063	0.0054	0.0069	0.0061	0.0068
4.NO AG.SELF(R)	0.1752	0.1663	0.0894	0.1345	0.1070	0.1353	0.1209	0.1478	0.1325	0.1477
5.SALARIED(R)	0.1708	0.1625	0.0850	0.1286	0.1025	0.1316	0.1143	0.1430	0.1276	0.1418
6.OTHERS(R)	0.0498	0.0460	0.0331	0.0499	0.0408	0.0403	0.0456	0.0453	0.0438	0.0493
Distributional Effects										
1.AG. SELF(R)	0.3995	0.3852	0.1618	0.2286	0.1674	0.2938	0.2207	0.3229	0.2650	0.2988
2.AG LAB(R)	0.0843	0.0818	0.0316	0.0456	0.0336	0.0618	0.0422	0.0667	0.0541	0.0604
3.NON AG.LAB(R)	0.0035	0.0034	0.0013	0.0019	0.0014	0.0026	0.0018	0.0028	0.0023	0.0025
4.NO AG.SELF(R)	0.0733	0.0704	0.0309	0.0432	0.0316	0.0540	0.0426	0.0599	0.0495	0.0561
5.SALARIED(R)	0.0724	0.0699	0.0286	0.0406	0.0298	0.0531	0.0387	0.0581	0.0475	0.0534
6.OTHERS(R)	0.0169	0.0150	0.0139	0.0197	0.0157	0.0139	0.0201	0.0168	0.0167	0.0195
Interdependency Effects										
1.AG. SELF(R)	2.3715	2.3387	2.9434	3.1438	3.4200	2.4863	2.9065	2.4632	2.6847	2.6474
2.AG LAB(R)	2.3380	2.2979	3.0479	3.2104	3.4792	2.4551	3.0534	2.4577	2.6963	2.6771
3.NON AG.LAB(R)	2.3388	2.2989	3.0457	3.2085	3.4769	2.4557	3.0504	2.4580	2.6961	2.6766
4.NO AG.SELF(R)	2.3902	2.3616	2.8914	3.1098	3.3900	2.5036	2.8356	2.4660	2.6784	2.6318
5.SALARIED(R)	2.3604	2.3252	2.9763	3.1649	3.4387	2.4760	2.9521	2.4614	2.6885	2.6570
6.OTHERS(R)	2.9553	3.0609	2.3760	2.5280	2.6000	2.8994	2.2669	2.6907	2.6203	2.5277

Table 5B: (Scenario 2): Poverty Alleviation Effects of Sectoral Growth on Household Groups of Rural India (ROW and Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Head-count Ratio										
1.AG. SELF(R)	0.0926	0.0875	0.0465	0.0623	0.0449	0.0690	0.0668	0.0799	0.0677	0.0787
2.AG LAB(R)	0.0808	0.0763	0.0408	0.0546	0.0393	0.0602	0.0586	0.0699	0.0592	0.0689
3.NON AG.LAB(R)	0.0119	0.0112	0.0062	0.0082	0.0059	0.0088	0.0089	0.0103	0.0088	0.0103
4.NO AG.SELF(R)	0.0664	0.0627	0.0336	0.0449	0.0323	0.0494	0.0483	0.0574	0.0487	0.0566
5.SALARIED(R)	0.1208	0.1142	0.0604	0.0809	0.0583	0.0899	0.0865	0.1040	0.0881	0.1023
6.OTHERS(R)	0.0168	0.0157	0.0094	0.0123	0.0088	0.0126	0.0137	0.0150	0.0129	0.0152
Poverty gap index										
1.AG. SELF(R)	0.0970	0.0916	0.0487	0.0652	0.0470	0.0722	0.0699	0.0836	0.0708	0.0823
2.AG LAB(R)	0.1307	0.1234	0.0660	0.0883	0.0635	0.0973	0.0948	0.1129	0.0957	0.1113
3.NON AG.LAB(R)	0.0192	0.0181	0.0100	0.0133	0.0095	0.0143	0.0144	0.0167	0.0143	0.0167
4.NO AG.SELF(R)	0.0960	0.0906	0.0486	0.0650	0.0468	0.0715	0.0699	0.0830	0.0704	0.0819
5.SALARIED(R)	0.0696	0.0658	0.0348	0.0467	0.0336	0.0518	0.0499	0.0600	0.0507	0.0589
6.OTHERS(R)	0.0764	0.0713	0.0427	0.0558	0.0399	0.0573	0.0624	0.0683	0.0588	0.0693
Distributionally sensitive index										
1.AG. SELF(R)	0.1111	0.1050	0.0558	0.0747	0.0538	0.0827	0.0800	0.0958	0.0812	0.0943
2.AG LAB(R)	0.1986	0.1875	0.1003	0.1341	0.0965	0.1479	0.1440	0.1716	0.1455	0.1692
3.NON AG.LAB(R)	0.0275	0.0259	0.0143	0.0190	0.0137	0.0205	0.0207	0.0240	0.0204	0.0239
4.NO AG.SELF(R)	0.1097	0.1036	0.0556	0.0743	0.0534	0.0817	0.0798	0.0949	0.0805	0.0936
5.SALARIED(R)	0.0696	0.0658	0.0348	0.0467	0.0336	0.0518	0.0499	0.0600	0.0507	0.0589
6.OTHERS(R)	0.1939	0.1811	0.1083	0.1418	0.1014	0.1454	0.1585	0.1733	0.1492	0.1759

Table 5A: (Scenario 2): Decomposition of Multiplier effects of Sectoral Growth on Household Groups of Rural India (ROW and Govt. accounts as exogenous)

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Total Multiplier Effects										
1.AG. SELF(R)	1.7483	1.6518	0.8782	1.1759	0.8467	1.3014	1.2597	1.5080	1.2773	1.4844
2.AG LAB(R)	0.4757	0.4492	0.2403	0.3213	0.2313	0.3542	0.3450	0.4110	0.3485	0.4052
3.NON AG.LAB(R)	0.0371	0.0349	0.0193	0.0256	0.0184	0.0276	0.0279	0.0323	0.0275	0.0322
4.NO AG.SELF(R)	0.3240	0.3058	0.1641	0.2193	0.1578	0.2413	0.2357	0.2802	0.2376	0.2764
5.SALARIED(R)	0.3148	0.2976	0.1573	0.2109	0.1519	0.2342	0.2255	0.2711	0.2294	0.2664
6.OTHERS(R)	0.1661	0.1551	0.0927	0.1214	0.0868	0.1245	0.1357	0.1484	0.1278	0.1506
Distributional Effects										
1.AG. SELF(R)	0.3994	0.3851	0.1616	0.2281	0.1668	0.2936	0.2206	0.3229	0.2647	0.2987
2.AG LAB(R)	0.0843	0.0818	0.0315	0.0455	0.0334	0.0617	0.0422	0.0667	0.0541	0.0604
3.NON AG.LAB(R)	0.0035	0.0034	0.0013	0.0019	0.0014	0.0026	0.0018	0.0028	0.0023	0.0025
4.NO AG.SELF(R)	0.0733	0.0704	0.0309	0.0431	0.0314	0.0540	0.0426	0.0599	0.0494	0.0561
5.SALARIED(R)	0.0723	0.0699	0.0285	0.0405	0.0297	0.0531	0.0387	0.0581	0.0474	0.0533
6.OTHERS(R)	0.0162	0.0144	0.0125	0.0155	0.0109	0.0125	0.0193	0.0164	0.0149	0.0183
Interdependency Effects										
1.AG. SELF(R)	4.3770	4.2893	5.4346	5.1562	5.0774	4.4321	5.7113	4.6700	4.8251	4.9695
2.AG LAB(R)	5.6424	5.4921	7.6156	7.0659	6.9144	5.7378	8.1857	6.1589	6.4411	6.7097
3.NON AG.LAB(R)	10.5054	10.1936	14.5907	13.4538	13.1404	10.7032	15.7686	11.5760	12.1606	12.7168
4.NO AG.SELF(R)	4.4204	4.3433	5.3105	5.0833	5.0181	4.4686	5.5316	4.6745	4.8065	4.9281
5.SALARIED(R)	4.3513	4.2576	5.5130	5.2015	5.1141	4.4104	5.8267	4.6674	4.8364	4.9949
6.OTHERS(R)	10.2424	10.7305	7.3946	7.8429	7.9942	9.9717	7.0482	9.0379	8.5783	8.2235