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Running Title: Anti-Poverty Interventions in Rural India

Abstract

This paper analyses the targeting performance of two major anti-poverty programmes in India, namely Food-For Work (FFW) Programme and Public Distribution System (PDS). First, targeting accuracy of both was unsatisfactory. Second, controlling for demographic, occupational, educational, locational and ethnic characteristics, the demand for FFW varies inversely with agricultural wage rates, and that for PDS positively with a food price index. Greater public investment in agriculture may enhance productivity, raise agricultural wage rates and stabilise food prices, and consequently lower the demand for unaffordable anti-poverty interventions. (85 words)

Key Words: Poverty, wages, prices, anti-poverty interventions.
JEL Codes: C21, H53, I32, I38

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I. Introduction

Whether the poor respond to economic incentives is fiercely debated and the battle lines between different groups of economists are sharply drawn. In an important contribution, Besley and Coate (1992) drew attention to the disincentives of public support for the poor-a case in point being workfare or public works programme such as the National Rural Employment Guarantee Programme (NREG)-as it makes them dependent on it, and discourages job-search and income augmenting human capital. In another equally important contribution, Dreze and Sen (1989) are emphatic in their endorsement of public support for the poor that performs protective and promotional roles. The former refers to protecting the vulnerable from slipping into poverty while the latter relates to helping the poor to break out of poverty. However, huge leakages from the Public Distribution System (PDS) and NREG and the fiscal burden imposed by them are likely to slow down the growth acceleration experienced in recent years, through its deleterious effects on public investment. There is thus a greater urgency now whether these anti-poverty interventions are desirable and, in that case, whether they are fiscally sustainable.

The objective of the present study is to examine the targeting performance and determinants of participation in two major anti-poverty programmes, namely Food-For-Work (FFW) and Public Distribution System (PDS), drawing upon the 61st round of the NSS (National Sample Survey) data covering the period 2004-05. This is followed by an analysis of their welfare effects. Finally, whether participation in these two programmes varies with agricultural wage rates and a food price index is analysed, followed by a few concluding observations.

II. Targeting Performance of Anti-poverty Programmes

(a) Food-For Work (FFW) Programme

The FFW was launched in January 2000-01 as part of the Employment Assurance Scheme in eight drought affected states and subsequently extended to cover the notified districts experiencing natural calamities. Free foodgrains are supplied by the Government of India (GOI) to the states to enable them to offer wage employment to the rural poor. The states are allowed to pay wages in kind and cash. Preference is given to labour-intensive works that help build resilience against droughts (e.g. moisture conservation, de-silting of village ponds/tanks) and construction of rural link roads.

Targeting performance of FFW, based on the poverty cut-off point is Rs 358 per capita per month, is summarised in the first panel of Table 1. Four cases are presented to examine whether the program reached the disadvantaged: total sample (column 1), ST (column 2), SC (column 3), and 'Others' (column 4). About 37 per cent of the FFW participants were poor and the remaining were non-poor. In other words, a large majority were non-poor. Among the ST, however, the majority of the participants were poor (about 55 per cent). Among the SC, the poor participants were a little over one-third, and among 'Others' it was a little over one-quarter.[1]

(Table 1 to be inserted)

(b) Public Distribution System (PDS)

The PDS refers to the distribution of some essential commodities (e.g. wheat, rice, sugar, and kerosene) by the government at subsidised rates through ration and fair price shops. The ratio of the non-poor PDS beneficiaries was three times higher than that of the poor. Among the ST also, although the non-poor beneficiaries were the majority, the share of the poor was a little under one-half.

[1] Using stochastic dominance, conclusions about a wider class of poverty indices that allow for a range of poverty thresholds can be drawn for each programme. For example, for FFW, the targeting was most accurate among the ST, followed by the SC, and Others, for a range of poverty cut-off points and for the FGT class of poverty indices. The findings are generally supported by the stochastic dominance analyses in other cases. See Gaiha et al. (2007) for details.

III. Determinants of Participation in Anti-Poverty Programmes

Here we focus on participation of the ST and SC in two major anti-poverty programmes: the PDS and FFW, drawing upon a probit model. The results are given in Table 2 and Table 3[2]. Let us first consider the determinants of participation in the PDS. We have considered several different specifications, and a selection of the results is given below. The different probit specifications used include: (i) a set of demographic, educational, landownership, and occupational variables at the household level, supplemented by a food price index, using the Deaton-Tarozzi (2000) method of unit values, at the NSS regional level, as the right side variables. (ii) In an alternative specification, these are combined with state dummies to capture fixed effects. Since the policy regimes differ across the states, as also the concerns for mitigating deprivation of disadvantaged groups such as the ST and SC, the state dummies are likely to capture some of these differences. (iii) These specifications are first tried on the aggregate sample, and then on each social group.

(Tables 2 and 3 to be inserted)

[2] See Greene (2002) for technical details of a probit model.

A brief summary of the results is given below to examine why a substantial share of the non-poor participated in the scheme. The coefficient estimates for Cases (a) and (b) (for total sample) are by and large expected. A few points, however, must be noted. Even those owning small quantities of land (i.e. between 0.1-2.5 ha) are more likely to buy from the PDS, relative to the default category of landless; while the SC dummy has a positive and significant coefficient, that of the ST dummy is not significant in Case (a); while many of the coefficients change in magnitude without a loss of significance, the coefficients of both the ST and SC dummies are positive and significant in Case (b); controlling for these and other effects, the food price index has a significant positive effect on PDS participation.

In Case (c) for the ST, only matriculates and above have a lower probability of buying from the PDS. Also, both land dummies have significant positive coefficients, implying higher probabilities of participating in this scheme, relative to the landless.

In Case (d) for the SC, while the dummy for the highest educational level (i.e. matriculation and above) is negative and significant, the remaining two dummies do not have significant coefficients. So the implication is that only SC households with at least a matriculate or above have lower probabilities of participating in this scheme, relative to those with illiterate members. However, between the ST and SC, the differences are more striking. Female-headed households among the SC are more

likely to participate in the PDS but not among the ST. Also, while larger numbers of male adults among the SC households are associated with higher probabilities of participation in this scheme, this is not the case among the ST. Also, the effects of amount of landowned differ. Among the SC, households with landowned between 0.1-2.5 ha are more likely to participate, while among the ST both land dummies have significant coefficients, implying that households in the highest landowned group (i.e. > 2.5 ha) were also more likely to participate relative to the landless. The remaining results are similar in sign and significance.

As in the case of the PDS, we discuss a selection of the results to throw light on the determinants of participation in FFW. It is found in Case (a) for total sample that both ST and SC households are more likely to participate in FFW, relative to Others/non-SC and ST group and annual agricultural wage rate interacted with ST and SC dummies has significant negative coefficients.

In Case (b) of Table 3, when annual agricultural wage rate is replaced with annual agricultural wage rate for males, both the wage variable itself and its interactions with ST and SC dummies have significant negative coefficients. These results have an important policy implication: if agricultural wage rates are higher, the demand for FFW and other rural public works (such as the NREG) is likely to be lower. Similar results are obtained with the sub-samples for ethnic groups. As shown

below, many of the results are reproduced in the sub-samples of the ST, SC and Others. But there are a few differences as well. In the sub-sample for the ST (Case (c)), for example, participation in FFW declines with age of household head but this weakens with age. Participation and education are not inversely related at all levels except at the highest (i.e. above matriculation). Also, participation and landowned are inversely related but in the highest land category. Wage rate, however, does not have a significant effect.

In the sub-sample for the SC (Case (d)), agricultural wage rate and participation in FFW are inversely related. A similar result is obtained when this wage rate is replaced with the male wage rate. Among Others, however, female headship and participation are inversely related; there is a strong negative relationship between education and participation. Landowned and participation are positively linked in the first dummy. All occupational dummies have positive coefficients, implying higher participation relative to the residual occupation 'Others'. Agricultural wage rates have a negative influence on participation in FFW, as in the case of SC.

(Tables 2 and 3 to be inserted)

IV. Welfare Effects of Anti-Poverty Programmes

Taking into account the endogeneity of participation in PDS and FFW[3], and controlling for the effects of demographic factors, life-cycle effects, endowments of education and land, occupations, and ST and SC affiliations, both anti-poverty programmes have significant welfare enhancing effects. Per capita expenditure is higher in both cases, as shown in Table 4. One important difference, however, must be noted. When the probability of participation is low, its effect on expenditure is not significant. However, in the remaining two categories, there are significant welfare enhancing effects. By contrast, all dummies of participation in FFW programme have significant positive effects on expenditure.

V. Conclusion

Some observations from a broad policy perspective are given below. Few would dispute the colossal waste involved in both programmes (including the more than a year old NREG). Whatever the benefits of these to the poor, their cost-effectiveness is likely to be low. If the insights from our analysis are valid, much waste could be avoided through higher public investment in agriculture-especially in irrigation,

[3] Endogeneity is taken into account by estimating categorical variables for the probability of participating in the programme in the first stage. Classification is given at the bottom of Table 4. The first stage results will be furnished on request.

roads and electricity-which would translate into higher yields, lower food prices and higher agricultural wage rates.

In conclusion, there are many ways in which markets are capable of serving the poor better than large-scale and often unaffordable anti-poverty interventions.

References

Besley, T. and S. Coate (1992) Workfare versus Welfare: Incentive Arguments for Work-Requirements in Poverty Alleviation Programmes. *American Economic Review* **82**, March, 249-261.

Deaton, A. and A. Tarozzi (2000) 'Prices and Poverty in India', Princeton: Research Programme in Development Studies, processed.

Dreze, J. and A. Sen (1989) *Hunger and Public Action*, Clarendon Press, Oxford.

Gaiha, R., G. Thapa, K. Imai and Vani S. Kulkarni (2007) 'Endowments, Discrimination and Deprivation among Ethnic Groups in Rural India', *Manchester Economics Discussion Paper Series*, Number: EDP-0722, available from: http://www.socialsciences.manchester.ac.uk/disciplines/economics/research/discussionpapers/pdf/EDP-0722.pdf, accessed on 19th November 2007.

Greene, W. (2002) *Econometric Analysis*, 5th edition, Macmillan, New York.

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Table 1 Targeting Accuracy of Anti-Poverty Programmes in Rural India (2004-5)

	Column 1		Column 2		Column 3		Column 4	
	Total		Among ST		Among SC		Among Others	
	Participants	Non-Participants	Participants	Non-Participants	Participants	Non-Participants	Participants	Non-Participants
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Food-For-Work (FFW)								
Share of the poor (non-) participants in total (non-) participants (the poor + the non-poor (non-) particip	36.9	24.5	54.8	43.0	35.2	32.1	27.4	19.3
Share of participants (or non-participants) in total (or all ST, SC or Others)	2.8	97.3	7.2	92.8	2.7	97.4	2.1	97.9
Public Distribution System (PDS)- Actual Use								
Share of the poor (non-) participants in total (non-) participants (the poor + the non-poor (non-) particip	26.1	20.6	45.2	39.4	33.6	27.1	20.6	15.7
Share of participants (or non-participants) in total (or all ST, SC or Others)	77.0	23.0	23.7	76.3	78.9	21.2	76.6	23.4
FFW & PDS [*2]								
Share of the poor (non-) participants in total (non-) participants (the poor + the non-poor (non-) particip	37.5	24.5	55.6	43.0	34.9	32.1	27.5	19.3
Share of participants (or non-participants) in total (or all ST, SC or Others)	2.5	97.6	6.7	93.3	2.3	97.7	1.8	98.2

Notes: 1. The poverty cut-off point is Rs 358 per capita per month.

2. The complement consists of those ST who benefited from either FFW or PDS and those who did not benefit from either.

Table 2 Determinants of Participation in the PDS

	Probit Model		Probit Model		Probit Model		Probit Model		Probit Model	
	Case (a)		Case (b)		Case (c)		Case (d)		Case (e)	
Programme	PDS		PDS		PDS		PDS		PDS	
Sample	Aggregate		Aggregate		ST(Scheduled tribe)		SC(Scheduled tribe)		Others	
State Dummies	Without dummies		with state dummies		with state dummies		with state dummies		with state dummies	
	Coef.	Z value	Coef.	Z value	Coef.	Z value	Coef.	Z value	Coef.	Z value
Whether a household is headed by a female member (1=yes; 0=no)	0.108	(5.86) **	0.094	(4.92) **	-0.057	(-1.13)	0.105	(2.13) *	0.116	(5.03) **
Number of adult female members	0.117	(14.04) **	0.122	(13.85) **	0.082	(3.59) **	0.123	(5.08) **	0.127	(12.20) **
Number of adult male members	0.041	(5.10) **	0.034	(3.95) **	0.023	(1.03)	0.045	(1.93) +	0.032	(3.18) **
The proportion of adults in a household	-0.402	(-17.32) **	-0.383	(-15.73) **	-0.215	(-3.53) **	-0.338	(-5.49) **	-0.412	(-13.89) **
Age of household head	4.072	(17.90) **	4.516	(19.02) **	4.733	(7.36) **	4.475	(7.28) **	4.656	(16.19) **
(Age of household head)^2	-3.504	(-15.05) **	-3.766	(-15.48) **	-4.264	(-6.18) **	-3.686	(-5.70) **	-3.861	(-13.27) **
Education of any adult (Primary)	0.005	(0.34)	0.033	(2.09) *	0.021	(0.60)	0.027	(0.73)	0.025	(1.28)
Education of any adult (Middle)	-0.114	(-8.08) **	-0.020	(-1.34)	0.055	(1.44)	0.031	(0.85)	-0.046	(-2.47) *
Education of any adult (>=Matriculates)	-0.307	(-17.26) **	-0.214	(-11.32) **	-0.189	(-3.38) **	-0.131	(-2.53) *	-0.240	(-10.58) **
Land (0.1<=2.5 ha) (deault: the landless)	0.277	(21.39) **	0.210	(15.30) **	0.388	(11.46) **	0.184	(5.28) **	0.191	(11.37) **
Land (>2.5 ha) (deault: the landless)	-0.029	(-1.26)	-0.038	(-1.53)	0.153	(2.52) *	-0.063	(-0.64)	-0.053	(-1.86) +
Occupation type 1	0.294	(14.64) **	0.256	(12.11) **	0.193	(2.61) *	0.282	(4.81) **	0.262	(10.78) **
Occupation type 2	0.381	(19.85) **	0.401	(19.66) **	0.333	(5.38) **	0.370	(7.09) **	0.425	(17.13) **
Occupation type 3	0.274	(12.34) **	0.281	(11.96) **	0.306	(4.27) **	0.251	(4.33) **	0.291	(10.10) **
Occupation type 4	0.259	(13.49) **	0.236	(11.72) **	0.142	(2.28) *	0.160	(2.71) **	0.271	(11.56) **
Whether a household belongs to SC (Scheduled Cast	0.000	(-0.01)	0.096	(5.02) **	-	-	-	-	-	-
Whether a household belongs to ST (Scheduled Tribe	0.111	(8.31) **	0.111	(7.81) **	-	-	-	-	-	-
Food price index	0.096	(30.70) **	0.102	(11.18) **	0.064	(2.46) *	0.095	(3.27) **	0.100	(9.35) **
Constant	-1.490	(-25.47)	-2.202	(-14.26)	-1.549	(-2.29)	-2.404	(-6.78)	-1.843	(-10.68)
Number of obs	78874		78874		12676		13637		52540	
Joint Significance Tests	LR chi2(18) =4158		LR chi2(52) =11386		LR chi2(45) =1469.34		LR chi2(42) =2448.20		LR chi2(50) =7674	
Prob > chi^2	0.0000		0.0000		0.0000		0.0000		0.0000	
Log likelihood	-39791.61		-36177.79		-5796.62		-5681.19		-24541.53	
Pseudo R^2	0.0497		0.1360		0.1125		0.1773		0.1352	

Note: ** = significant at 1 % level. * = significant at 1 % level. + = significant at 1 % level.

Table 3 Determinants of Participation in the FFW

	Case (a)		Case (b)		Case (c)		Case (d)		Case (e)	
Programme	FFW		FFW		FFW		FFW		FFW	
Sample	Aggregate		Aggregate		ST(Scheduled tribe)		SC(Scheduled tribe)		Others	
NSS Region Dummies	with region dummies with aggregate wage rate		with region dummies with male wage rate		with region dummies with aggregate wage rat		with region dummies with aggregate wage rate		with region dummies with aggregate wage rat	
	Coef.	Z value	Coef.	Z value	Coef.	Z value	Coef.	Z value	Coef.	Z value
Whether a household is headed by a female member (1=yes; 0=no)	-0.160	(-3.30) **	-0.160	(-3.30) **	-0.128	(-1.41)	0.015	(0.14)	-0.273	(-3.88) **
Number of adult female members	-0.001	(-0.04)	-0.001	(-0.04)	0.018	(0.50)	-0.061	(-1.15)	0.029	(1.04)
Number of adult male members	0.108	(5.52) **	0.108	(5.52) **	0.125	(3.53) **	0.066	(1.33)	0.128	(4.78) **
The proportion of adults in a household	-0.231	(-3.96) **	-0.231	(-3.95) **	-0.349	(-3.42) **	0.030	(0.22)	-0.300	(-3.61) **
Age of household head	-0.037	(-0.06)	-0.031	(-0.05)	-2.263	(-2.19) *	-0.583	(-0.43)	1.033	(1.23)
(Age of household head)^2	-0.225	(-0.37)	-0.231	(-0.38)	2.403	(2.17) *	0.438	(0.30)	-1.426	(-1.64)
Education of any adult (Primary)	-0.072	(-2.33) *	-0.073	(-2.34) *	0.040	(0.76)	0.068	(0.94)	-0.183	(-4.12) **
Education of any adult (Middle)	-0.118	(-3.57) **	-0.119	(-3.59) **	0.189	(3.09) **	-0.022	(-0.29)	-0.274	(-5.90) **
Education of any adult (>=Matriculates)	-0.413	(-7.71) **	-0.414	(-7.74) **	-0.177	(-1.61)	-0.215	(-1.70) +	-0.596	(-8.16) **
Land (0.1<=2.5 ha) (deault: the landless)	0.134	(4.58) **	0.133	(4.56) **	-0.040	(-0.72)	0.123	(1.85) +	0.181	(4.39) **
Land (>2.5 ha) (deault: the landless)	-0.038	(-0.66)	-0.038	(-0.67)	-0.553	(-4.65) **	-0.164	(-0.92)	0.104	(1.41)
Occupation type 1	0.481	(5.29) **	0.481	(5.29) **	0.349	(1.89) +	0.699	(3.00) **	0.453	(3.79) **
Occupation type 2	1.172	(13.70) **	1.170	(13.69) **	1.083	(6.79) **	1.135	(5.10) **	1.260	(11.10) **
Occupation type 3	1.137	(12.96) **	1.135	(12.94) **	1.052	(6.36) **	1.172	(5.19) **	1.215	(10.41) **
Occupation type 4	0.725	(8.47) **	0.724	(8.46) **	0.768	(4.84) **	0.911	(3.99) **	0.665	(5.90) **
Whether a household belongs to SC (Scheduled Cast	0.539	(3.10) **	0.491	(2.48) *	-	-	-	-	-	-
Whether a household belongs to ST (Scheduled Tribe	0.285	(1.83) +	0.391	(2.16) *	-	-	-	-	-	-
Annual agricultural wage rate	0.034	(1.23)	-	-	0.028	(1.08)	-0.038	(-2.98) **	-0.023	(-2.42) *
Annual agricultural wage rate for males	-	-	-0.019	(-1.62) *	-	-	-	-	-	-
ST (Scheduled Tribe) dummy X wage rate	-0.007	(-2.04) *	-0.006	(-1.53)	-	-	-	-	-	-
SC (Scheduled Caste) dummy X wage rate	-0.005	(-1.65)	-0.007	(-2.00) *	-	-	-	-	-	-
Constant	-5.518	(-2.48)	-1.184	(-1.10)	-4.413	(-2.27)	0.386	(0.40)	-1.193	(-1.94)
Number of obs	35510		35510		7055		5504		21537	
Joint Significance Tests	LR chi2(80) =3093.37		LR chi2(80) =3092.92		LR chi2(49) =949.03		LR chi2(58) =336.77		LR chi2(68) =1783.8	
Prob > chi^2	0.0000		0.0000		0.0000		0.0000		0.0000	
Log likelihood	-6830.74		-5796.62		-2365.76		-1241.15		-3421.01	
Pseudo R^2	0.1846		0.1846		0.1671		0.1195		0.2068	

Note: ** = significant at 1 % level. * = significant at 1 % level. + = significant at 1 % level.

Table 4 Expenditure Enhancing Effect of PDS

	Case (a)		Case (b)	
Programme	PDS		FFW	
Sample	Aggregate		Aggregate	
NSS Region Dummies	With region D39dummies		With region D39dummies	
	Coef.	Z value	Coef.	Z value
Estimatd Participation Category 1	-0.001	(-0.24)	0.022	(2.38) *
Estimatd Participation Category 2	0.022	(2.65) *	0.046	(3.71) **
Estimatd Participation Category 3	0.044	(3.91) **	0.077	(4.45) **
Whether a household is headed by a female member (1=yes; 0=no)	-0.034	(-6.77) **	-0.025	(-3.28) **
Number of adult female members	-0.135	(-55.26) **	-0.126	(-36.20) **
Number of adult male members	-0.101	(-45.48) **	-0.111	(-31.99) **
The proportion of adults in a household	0.649	(90.44) **	0.632	(62.47) **
Age of household head	0.102	(1.38)	0.431	(4.39) **
(Age of household head)^2	0.168	(2.31) *	-0.137	(-1.36)
Education of any adult (Primary)	0.061	(14.73) **	0.086	(14.42) **
Education of any adult (Middle)	0.161	(39.85) **	0.187	(30.43) **
Education of any adult (>=Matriculates)	0.364	(67.33) **	0.403	(46.55) **
Land (0.1<=2.5 ha) (deault: the landless)	0.044	(11.08) **	0.046	(8.54) **
Land (>2.5 ha) (deault: the landless)	0.256	(36.62) **	0.220	(22.17) **
Occupation type 1	-0.137	(-22.36) **	-0.167	(-17.47) **
Occupation type 2	-0.336	(-52.91) **	-0.379	(-29.43) **
Occupation type 3	-0.241	(-35.50) **	-0.276	(-21.14) **
Occupation type 4	-0.169	(-29.10) **	-0.209	(-19.90) **
Whether a household belongs to SC (Scheduled Cast	-0.166	(-30.66) **	-0.206	(-28.67) **
Whether a household belongs to ST (Scheduled Tribe	-0.101	(-26.55) **	-0.107	(-18.98) **
Constant	6.592	(175.20)	6.282	(88.53)
Number of obs	78873		35509	
Joint Significance Tests	F(97, 78775)=599.79		F(81, 35427)=320.63	
Prob > F	0.0000		0.0000	
R^2	0.4248		0.4230	
Adjusted R^2	0.4241		0.4217	

Note: 1. ** = significant at 1 % level. * = significant at 1 % level. + = significant at 1 % level.

2. For a classification of participation in PDS and FFW, see the tables below .

Participation Category	Probability of accessing PDS	Frequency	Percent	Cummulative
comparison group	0-0.7	17041	21.61	21.61
1	0.7-0.81	20957	26.57	48.18
2	0.81-0.88	19179	24.32	72.49
3	0.88-1	21696	27.51	100
		78874	100	

Participation Category	Probability of participating in FFW	Frequency	Percent	Cummulative
comparison group	0-0.007	6856	19.31	19.31
1	0.007-0.026	8377	23.59	42.9
2	0.026-0.078	10991	30.95	73.85
3	0.078-1	9286	26.15	100
		35510	100	