

Social Capital and Poverty Reduction in India

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ABSTRACT

The paper focuses on poverty at the state level in India and have those states with larger endowments of social capital been more successful at reducing poverty. In order to econometric model of poverty is constructed that not only captures the effects of physical and human capital, but also includes social capital as a determinant of poverty. Studies of social capital and its economic payoffs have tended to focus on industrialized countries, whilst those studies which have focused on developing countries have been based on micro level survey data. This paper therefore addresses the need to look at social capital at the wider macro level while examining the impact of social capital on poverty. The paper concludes that there is some evidence to support the hypothesis that a state's endowment of social capital does affect the ability of that state to reduce poverty.

Keyword: Social Capital, Poverty, Human capital. Etc.

1. INTRODUCTION

It is important for policy makers to understand the mechanisms through which poverty can be reduced. In the post war period, the development paradigm has been evolving from an almost exclusive focus on physical capital towards a people centered approach to sustainable development, emphasizing the social dimensions of development, in particular the role of human and social capital. This paper picks up on some of the themes of contemporary interest; concentrating on the role of social capital in development and examining whether there are economic payoffs to enhancing social capital. India is a country of enormous ethnic, linguistic, and cultural diversity; consisting of a federation of 25 states; 13 states have populations in excess of 20 million people, six have more than 60 million, three have 80 million, and one has a population of 140 million. There is a great deal of variation in the ethnic composition, religious orientation, languages, natural resources, and economic and social performance of the states.

The population of India in 1994 was 913.5 million, the world's second largest. Its per capita income, in purchasing power parity terms, was US\$1,3482 . India has the world's largest concentration of poor people with about one-third of the population living below the official poverty line. Poverty in India has been falling, on average, at a rate of 0.9 percent per annum over the last thirty years. However it can be seen that some states have been more successful than others at reducing poverty. In particular this paper tests the hypothesis that those states which have been relatively well endowed with social capital have had greater success at reducing poverty. Panel data, at the state level is used and an econometric model is constructed which integrates social capital into a broader model of poverty.

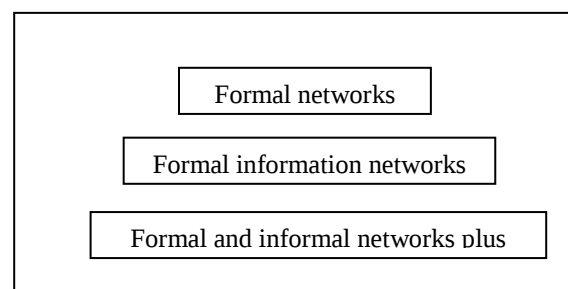
The literature on social capital has focused on problems of conceptualizing and measuring social capital and studies of the economic payoffs to social capital have relied on large, detailed survey data to capture the effects of social capital. As a consequence these studies have tended to focus on industrialized countries and small scale studies in developing countries. This paper looks at the problems of analyzing the economic payoffs to social capital, in particular their impact on poverty reduction, in developing countries. Whereas other empirical studies on social capital in developing countries have focused on micro level analysis, this paper analyses social capital at the macro level; at the state level in India.

CONCEPTUALIZATION OF SOCIAL CAPITAL

The definition and measurement of social capital remain two issues which are yet to be resolved in the literature; there is a problem of mapping the concept of social capital into an operational measure which can be used to carry out systematic studies. This section reviews some of the literature where attempts have been made to measure social capital. It will be seen that the difficulties in conceptualizing social capital are mapped onto operationalizing problems. There is a problem of discussing social capital in highly abstract terms, of building castles in the clouds, which leads to ambiguity surrounding what is meant by social capital. Several studies have been carried out on the link between social capital and economic development [Helliwell and Putnam (1995), Putterman (1995), Knack and Keefer (1996)]. These focuses on the link between culture and economy; the extent to which social factors determine economic success. They use a variety of approaches, conceptions and measures of social capital to address this issue. It can be seen that in most of these cases the analysis appears to be constrained by the availability of data. It is interesting to look at the way in which these studies have overcome the data limitations in analyzing social capital. A distinction can be drawn between the extent of social networks and the quality of social networks. It is into the latter that the concept of trust is important. A good introduction to trust is given by Furlong in his paper “The conceptualization of trust in economic thought” [Furlong (1996)]. Here, Furlong reviews the array of definitions of trust in the social sciences. It can be seen that trust is closely related to economic performance; Furlong cites Arrow (1975).

The diagram below shows narrow and broad conceptions of social capital.

PYRAMID OF SOCIAL CAPITAL CONCEPTS



It should also be noted that with regard to poverty, social capital might be considered a component of a broader conception of poverty; with lack of social capital itself being a facet of poverty. In the context of poverty, social capital can be seen as either a means to an end, or as an end in itself, depending on the definition of poverty. For the purposes of this paper narrow conceptions poverty and social capital are used; poverty is defined in terms of income and social capital in terms of the extent of civil society. The rationale for this is that whilst recognizing the broader conceptual issues, the modeling of poverty and social capital at the macro level is constrained by the availability of good, reliable data. Broader issues related to social capital and poverty are more effectively captured in specific case studies. The studies reviewed here illustrate some of the main problems associated with measuring social capital, and the divergent approaches to overcoming these. Within the context of the study of social capital in the states of India, these problems are exacerbated for two reasons: i) comparable data is required at the state level, and ii) the less developed nature of India vis-à-vis the countries in the studies reviewed above, creates problems of generalizing up to the state level.

POVERTY REDUCTION IN THE STATES OF INDIA

This paper uses the dataset prepared by Datt and Ravallion, which they allowed us to use and from which they produced their papers on poverty in India [Datt and Ravallion (1996a, 1996b)]. What are the patterns in poverty reduction in the states of India? Following Datt and Ravallion, the poverty line used is based on a nutritional norm of 2400 calories per person per day, and is defined as the level of average per capita expenditure at which this norm is typically attained [Planning Commission (1979, 1993)]. The poverty line was thus determined at a per capital monthly expenditure of Rs. 49 at October 1973-June 1974 all-India prices.

TREND RATES OF CHANGE IN RURAL LIVING STANDARDS, 1957-58 TO 1991-1992

STATE	MEAN CONSUMPTION	HEADCOUNT INDEX (INCIDENCE)	POVERTY GAP INDEX (DEPTH)	SQUARED POVERTY GAP INDEX (SEVERITY)
Percent per year				
(Pooled)	(0.41406)	(-0.88731)	(-1.68873)	(-2.32514)
Andhra Pradesh	0.98655	-1.84732	-3.19518	-4.22719
Assam	-0.42454	0.55639	0.57843	0.65803
Bihar	-0.00408	-0.0087	-0.84586	-1.56561
Gujarat	0.67011	-1.35348	-2.47739	-3.38126
Haryana	0.72957	-2.49105	-2.90517	-3.28239
Jammu and Kashmir	0.27986	-0.48026	-0.97417	-1.42312
Karnataka	-0.10782	-0.34482	-0.70595	-1.02348
Kerala	1.65314	-2.26899	-3.91682	-5.10138
Madhya Pradesh	0.39002	-0.44853	-1.5417	-2.37474
Mararashtra	0.72521	-0.89435	-1.47214	-1.89022
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Orissa	0.8012	-1.5241	-2.73323	-3.83885
Punjab	0.61311	-2.6872	-4.66962	-6.42747
Rajasthan	0.10656	-0.46839	-0.92812	-1.31608
Tamil Nadu	0.99757	-1.33711	-2.25434	-2.98289
Uttar Pradesh	0.35863	-0.69506	-1.27927	-1.79855
West Bengal	0.87655	-1.85013	-2.96017	-3.91729

Source: These results correspond to those of Datt and Ravallion (1996b) and were reproduced using their dataset

TABLE NO 1

Poverty in Punjab, Haryana and Kerala (measured by the headcount index) fell by 2.7%, 2.5% and 2.3% per annum respectively. In comparison the rates of poverty reduction in Madhya Pradesh, Karnataka and Bihar were less than half of one percent (0.4%, 0.3% and 0% respectively). In one case, Assam, the incidence of poverty actually increased at a rate of 0.6% per annum. Hypothesis tests found these four cases to be not significantly different to zero. There is clearly a very divergent experience among the states of India in reducing the incidence, depth and severity of poverty. It is therefore important to look at the reasons why some states have been more successful than others at reducing poverty.

MODELLING POVERTY AND SOCIAL CAPITAL

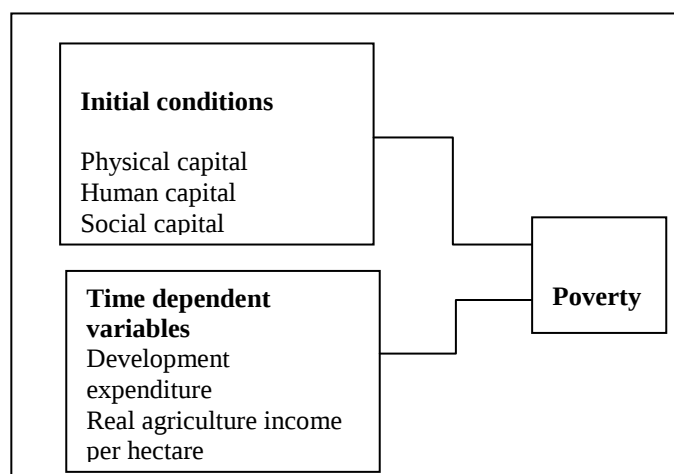
This paper builds upon the model of poverty reduction used by Datt and Ravallion (1996). In this section the model is explained, its limitations discussed and modified to include the effects of different endowments of social capital. The model contains three main components: i) the dependent variables - which consist of various measures of poverty, ii) the time-dependent explanatory variables, and iii) the initial conditions. The model therefore captures the way in which the evolution of poverty over time is a function of certain time specific factors (income, inflation, the real wage etc.) and also the states' initial endowments of physical, human capital. It is the object of this paper to extend this model to examine the effect of social capital as a determinant of poverty reduction. The diagram below shows an expanded model structure, where social capital is included.

The following econometric model is estimated for measured poverty in region i at date t (P_{it}).

$$(1) \ln P_{it} = \pi \ln Y_{it} + \gamma' X_{it} + \eta_i + \varepsilon_{it}$$

where Y_{it} is a matrix of time dependent variables, X_i is a matrix of the initial conditions, η_i are the timeinvariant state-specific fixed effects and ε_{it} is an error term which is assumed to follow an AR(1) process. The model is estimated using a Least Squares Dummy Variable (LSDV) approach [Greene (1993), Maddala (1992)]. This, fixed effects approach, assumes that differences across units can be captured in the intercept term. In the formulation above, each η_i is an unknown parameter to be estimated.

MODEL STRUCTURE



DESCRIPTION OF THE DATA

This section outlines indicators of social capital and reviews the data used by Datt and Ravallion (1996). The data come from various rounds of the Indian NSS. Variables which affect the consumption/income of a person on or near the poverty line will also affect the evolution of the poverty measure. Datt and Ravallion (1996a and 1996b) suggest important roles for agricultural yield, non-farm income, inflation and the real wage rate. In addition to this, development expenditure is included to examine the impact on poverty of government spending. Datt and Ravallion do not include these physical and human capital indicators as time dependent explanatory variables for two reasons: i) times series data is unavailable, and ii) including these indicators as time dependent variables would raise problems of endogeneity due to the development expenditure variable - refer to Annex Two (A2) for the composition of development expenditure.

This ability of this model to overcome the lack of data on physical and human is attractive in that it allows us to overcome some of the problems of deficient social capital data. The social capital data comes from a variety of sources and corresponds to values around the year 1960. Data on social capital is at best scarce, so in order to measure the stock of social capital indirect measures have been used; measures of the extent of the press, local organizations, social demographics, rural-rural linkages and voting patterns. These indicators are summarized in Annex One (A1) and the values reported in Annex Three (A3). The following variables (all in log form) were chosen for describing the initial conditions of social capital:

2. EXTENT OF THE PRESS

Here, the number of newspaper per state (NOPAP), the circulation of newspapers in hundreds of thousands (CIRC) and the average circulation of papers (AVCIRC) were used [Nair (1995)].

LOCAL ORGANISATIONS

The indicators here correspond to the numbers of youth clubs and women's groups for each state. Specifically the indicators were: i) the average number of youth clubs functioning per block (YC), ii) membership of youth clubs functioning per block (MYC), iii) average number of membership in youth clubs functioning per 100 youths (MYC100), iv) the average number of Mahila Samitas (women's groups) functioning per block (MS), v) average membership of Mahila Samitas per block (MMS), vi) average number of Balwadis/nurseries functioning per block (NURS), and vii) average membership of Balwadis/nurseries per block (MNURS) [Government of India (1966)].

SOCIAL DEMOGRAPHICS

Here the indicators used were: i) the endogamy rate - the percentage of births in rural areas occurring at the child's mother's village (ENDOG), ii) the marriage distance (MARDIST), and iii) the percentage of the rural population widowed, divorced or separated (FEM) [Sopher et al.(1980)].

ESTIMATION OF THE ECONOMETRIC MODEL AND RESULTS

Does social capital have an economic payoff in terms of reduced poverty and do differences in social capital help to explain the differing performances amongst states at raising rural living standards? This question is dealt with in two ways: i) by comparing social capital and poverty reduction performance for each state, and ii) running an econometric model to assess the poverty reducing impact of social capital, whilst holding other factors constant.

REGRESSION

$$(2) \ln Pit = \alpha_1 * (\ln YPHit + \ln YPHit-1) + \alpha_2 * (\ln YNAit + \ln YNAit-1) + \alpha_3 * \ln DEVEXit-1 + \alpha_4 * \ln INFLNit + \alpha_5 * \ln RWAGEit + \beta_1 * (\ln IRRi * T) + \beta_2 * (\ln IMRi * T) + \beta_3 * (\ln CIRCi * T) + \beta_4 * (\ln MEMMSi * T) + \beta_5 * (\ln ENDOGi * T) + \varepsilon_{it}.$$

	MEAN CONSUMPTION (MEAN)	HEADCOUNT (H)	POVERTY GAP (PG)	SQUARED POVERTY GAP (SPG)
Current plus lagged real	.0712045	-.0922870	-.1693907	-.2313947
Agricultural income per hectare	(4.102839)	(-3.445566)	(-4.073990)	(-4.144099)
Current plus lagged real	.1649921	-.2662435	-.4113088	-.5295225
non-agricultural income per capita	(7.048567)	(-7.583751)	(-7.593044)	(-7.288048)
Lagged real development	.1058163	-.0796295	-.1712729	-.2409388
expenditure per capita	(2.341506)	(-1.151763)	(-1.598803)	(-1.675416)
Inflation	-.2407043 (-4.082778)	.2383762 (2.581373)	.3664703 (2.547842)	.4298837 (2.223975)
Real wage	.0139750 (2.185411)	-.0305250 (-3.143060)	-.0475678 (-3.166259)	-.0609144 (-3.021415)
Irrigated area	.0026983 (2.587833)	-.0043792 (-2.880096)	-.0069992 (-3.000324)	-.0093713 (-2.998434)

By looking at the elasticities for the social capital variables, the impact of social capital on poverty reduction can be assessed. The signs on the coefficients suggest those states which have been relatively well endowed with social capital have been more successful at reducing poverty. Looking at the two social capital regressions which were run, the first included variables on: i) newspaper circulation, ii) members of mahila samatis and iii) the endogamy rate, and the second included: i) spoilt papers and ii) election turnout. The first regression shows that higher newspaper circulation and membership of womens groups lead to higher mean consumption and lower poverty being observed. Similarly, lower endogamy rates are associated with higher mean consumption and lower levels of poverty. The second regression shows that social capital in the form of higher levels of participation (in elections), measured by the proportion if spoilt paper and election turnout, is associated with higher levels of mean consumption and lower levels of poverty.

3. CONCLUSION

There are many problems associated with conceptualizing and measuring social capital. The idea of considering narrow versus broad conceptions of social capital is useful because it allows us to examine the limitations of various approaches to analyzing the economic impact of social capital. Here I have drawn a parallel with poverty, where the kinds of research questions which can be addressed depend crucially on the way in which the concept is conceived. The studies reviewed in this paper show that there are two main types of study on the economic payoffs to social capital: i) micro level studies based on sample data, and ii) macro level studies based on national and sample data. It can be seen that within the developing country context, the former has been the exclusive vehicle for analysis; allowing detailed study of the effects for broadly conceived social capital. However these approaches suffer from a limitation, in that they provide no means for aggregating up and looking at social capital from the macro level. The studies which have focused on social capital at the macro level have tended to focus on industrialized countries, where there is available data. In the developing country context this kind of data is scarce making analysis more problematic. In this paper a model has been constructed that makes efficient use of limited data. It can be seen clearly from the analysis that those states which were initially well endowed with social capital were also more successful at reducing poverty; thus Putnam's result for Italy can be replicated with developing country data.

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