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SOCIAL CAPITAL CREATION IN INDIAN RURAL COOPERATIVES IN THE ERA OF GLOBALIZATION

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Abstract

In an era of globalization and the concomitant movement of capital to the most profitable destinations, Indian grassroots level, rural cooperatives- the Primary Agricultural Credit Societies - have been sought to be re-structured as subsidiaries of organised banking structures. The rationale for such restructuring lies in their evaluation as loss-making units in terms of financial metrics. This paper calls for assessing such cooperatives by using a different metric- that of Social Capital Creation. It seeks to study the social capital creation by Indian PACS for the period 1999-2011, by considering a macro-level, community-based interpretation of social capital, with its three important concepts being the degree of civic norms, trust and cohesion among members. Using two regression models, it was found that civic norms, trust and cohesion can indeed explain social capital creation in Indian PACS. The paper provides a starting point towards developing a different paradigm for assessment of cooperatives.

Key Words: *Cooperatives, Primary Agricultural Credit Societies, Social Capital in India*

JEL Codes: *P13*

1. Introduction

Capital accumulation, in traditional economic theory, occupies a central role in determining the economic development of modern market economies. With its positive external effects (externalities), such capital accumulation has been stated to create skilled and responsible labour, management and enterprise, facilitate the introduction of advanced technology and bring about tangible and intangible improvements in the economic environment (**Schatz, 1968, pp. 40-41**). The capital construct, implicit in most development literature, pertains to physical, financial and human capital. The notion of social capital as an important component of capital, especially in the context of emerging economies like India, has been inadequately addressed in development literature and remains underexplored.

Microfinance organizations, self-help groups and cooperatives in emerging economies, offer rich material for research on social capital creation. However, such research, pertaining to social capital creation in emerging economies, is still at an embryonic stage[1]. This paper seeks to study the creation of social capital by grassroots level Indian rural cooperatives (in particular, Primary Agricultural Credit Societies), by using macro-level data.

In an era of globalization, the cooperative credit structure is being sought to be rationalized and the conversion of PACS into Banking Correspondents of higher level units in the cooperative/ commercial banking structure is being envisaged (**Report of the Expert Committee on Three-Tier STCCS, 2013, p.41; Economic Times, June 2, 2009**). In the context of a globalized world, such research would contribute much to existing discourse and debate. Social capital affects the transaction and monitoring costs components of credit disbursal. The objective of the study then is to examine whether there exists a case for strengthening grassroots level PACS, based on their social capital creation potential and the concomitant reduction of transaction and monitoring costs.

The study follows **Putnam's (1993, 1995)** approach and considers the macro-level, community-based interpretation of social capital, with its three important concepts being the degree of civic norms, trust and cohesion among members. It draws on data from the National Federation of State Cooperative Banks (NAFSCOB) and other sources at the all-India level for the period 1999-2011.

2. Literature Review

2.1. Brief Historical Overview Of Cooperatives In India

Cooperation and cooperative activities were prevalent in India, even before the emergence of formal cooperative structures. Thus, Devarai/Vanarai, Chit funds, Kuries, Phads, Bhishis and Lanas, among others, were the various methods of cooperation practised in various parts of the country (**Report of the High Powered Committee on Cooperatives, 2009**). The first set of cooperatives came up in 1904, as the result of the passing of the Cooperative Credit Societies Act in 1904, followed by a more comprehensive Cooperative Societies Act, 1912. With all the Committees pointing out to the important role of the cooperative structure, the Government took an active role in the encouragement, promotion and patronage of cooperatives. In 1919, with the passing of the Reforms Act, 'Cooperation' became a subject of the Provinces. This move was further strengthened with the Multi-Unit Cooperative Societies Act, passed in 1942 (later replaced by the Multi State Cooperatives Societies Act, 1984), which delegated the power of the Central Registrar of Cooperatives to the State Registrars for all practical purposes. The Agricultural Credit Organization Committee, headed by Sir Manilal Nanavati as the Chairman, recommended organisation of all credit cooperatives as multi-purpose cooperatives, as a three-tier cooperative credit banking system.

The cooperative movement witnessed active government participation up to the Eighth Five Year Plan (1992-1997). The basic premise of such a policy was the view that the Government should ensure adequate supply of cheap institutional credit to rural areas through cooperatives, failing which there had to be reorganisation of existing institutions or creation of new types of institutions. The Government's financial involvement in cooperatives, affected the functioning of cooperatives and all this ultimately began to affect the quality of the portfolio of the cooperatives. From the Ninth Plan (1997-2002) onwards, a move towards organising self-reliant cooperatives had been made through putting in place a Parallel Cooperative. A Ministerial Task Force was set up in 2002 to implement the National Cooperation Policy. Its terms of reference included doing away with the multiple parallel state laws, as also bringing about de-politicisation of cooperatives through appropriate rules and regulations, debarring Members of Parliament or Legislative Assembly from holding office of a cooperative society. Several Committees were set up to go into the problems plaguing the cooperative sector and to suggest improvement in their working. Some such committees, set up in the last decade, included the Vaidyanathan Committee in 2004, the High Powered Committee on Cooperatives in 2009 and the Bakshi Committee set up in 2013.The Bakshi Committee, in particular, had been asked to go into issues pertaining to consolidation or de-layering of the Short Term Cooperative Credit System (ST CCS) since the latter was unviable.

2.1.1. Recent Performance of PACS

The agricultural credit, disbursed through cooperatives, is basically of two types- a) Short-term credit, basically meeting the crop loan requirements of farmers and b) Long-term credit, supporting farmer level capital investments in agriculture. The short-term credit structure, popularly known as the Short Term / Cooperative Credit Structure (ST CCS), in most States, is a three-tier structure. Primary Agricultural Credit Cooperative Societies (PACS), with farmer- members, occupy the base level. Central Cooperative Banks (CCBs) occupy the intermediate federal structure, with PACS as their principal affiliated members and the State Cooperative Banks (St CB) are at the apex (state) level with CCBs and other cooperatives as their principal members. As on 31 March 2012, the ST CCS comprised of 93,000 PACS, 370 CCBs and 32 St CBs.

The salient features of the performance of the cooperative structure are as follows **(Report of the Expert Committee on Three-Tier ST CCS, 2013)**:

- Despite a modest growth of about 20 percent per year in its agricultural credit dispensation during the last five years, and having a rural penetration of over 93,000 PACS as compared to only about 50,000 rural and semi-urban branches of CBs and RRBs, the share of the cooperatives in agricultural credit had fallen to about 17 percent in 2011-12.
- Although cooperatives provided only 17 percent of agriculture credit, the share of cooperatives in total number of agricultural accounts, held by the banking system, was substantial. Cooperatives provided agricultural credit to 3.09 crore farmers during 2011-12 compared to only 2.55 crore farmers by commercial banks and 82 lakh by the RRBs. In fact, cooperatives financed 67 lakh new farmers during 2011-12 compared to 21 lakh new farmers by commercial banks and only 9 lakh new farmers by RRBs.
- About 66 percent of the loans by cooperatives were to the small and marginal accounts, indicating a greater attention to the neglected and marginalised category of small and marginal farmers.
- Only 10 percent of the agricultural loans issued by PACS were supported by deposits mobilized by them. 90 percent had to be provided to PACS by CCBs either from their own resources or through borrowings.
- Almost 41 percent of the loans provided by PACS were for non-agricultural purposes.
- The average loan size of PACS worked out to Rs. 27,405 per account and varied hugely between less than Rs.1, 000 in Jammu and Kashmir (J&K) to over Rs. 60,500 in Punjab. The average agricultural loan per account also varied similarly from less than Rs. 1,000 to almost Rs. 80,000 in some States.
- Only little more than four crore members availed loans from PACS out of the total membership of over nine crores, signifying that the majority of members did not avail loan services.

2.2. Social Capital

2.2.1. Definition

The term 'Social Capital' does not have a clear meaning (**Dolfsma and Dannreuther 2003; Foley and Edwards, 1997**). While there is no set definition of social capital, most definitions focus on social relations that have productive benefits and the resultant social cohesion that it helps to generate. **Robison, Schmid and Siles (2002)** state that the particular definition adopted will depend on the discipline and the level of investigation.

The **World Bank (1999)** defines social capital as the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions… Social capital is not just the sum of the institutions which underpin a society but it is the glue that holds them together.

This study uses the community-centric concept of social capital. It considers the degree of civic engagement and the level of trust that exists among its members. This line of research is most notably associated with **Robert Putnam's (2000)** ***Bowling Alone***. For Putnam, social capital is built up through group members' involvement in voluntary civic organizations. The norms and trust, emanating from social organizations, serve to facilitate cooperation for the mutual benefit of the group. On the collective level, social capital is often taken to be represented by norms, trust, and social cohesion.

2.2.2. Social Capital: Nature

Whether social capital can be treated as "capital" akin to other forms of capital, is debatable. **Arrow (1999, pp.3-4)** urges the abandonment of the metaphor of capital and instead use the term "social capital" as applied to social networks organized for reasons other than economic value for the participants and social interactions based on intrinsic rewards. According to him, an important aspect that "capital" implied was a deliberate sacrifice in the present for future benefits, not applicable to such social networks. Solow too criticizes the concept of "social capital". Unlike tangible capital or even human capital that represents an accumulated stock (of buildings, machineries or inventories in the case of the former and education, training and research in the case of the latter) and can be measured, social capital, encompassing things such as trust, the willingness and capacity to cooperate and coordinate, the habit of contributing to a common effort even if no one is watching, are all merely patterns of behaviour and do not represent an accumulated stock of any past investment **(Solow, 1999, pp. 6-8)**.

However, others (**Putnam, 2000; Robison, Schmid & Siles, 2002**) have disagreed with these interpretations of the term "capital". **Putnam (2000)** has spoken of the possibility of non-existence of social capital, despite the existence of physical and human capital. "Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals - social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense, social capital is closely related to what some have called "civic virtue." The difference is that "social capital" calls attention to the fact that civic virtue is most powerful when embedded in a network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital" **(Putnam, 2000, p.19)**. Social capital, defined as sympathy, has many capital-like properties including transformation capacity, durability, flexibility, substitutability, opportunities for decay (maintenance), reliability, ability to create other capital forms and investment (disinvestment) opportunities **(Robison, Schmid & Siles, 2002, pp.7-12)**.

2.2.3 Role of Social Capital

Putnam (1993) attributes to social capital the role of improving the efficiency of society by facilitating coordinated actions. **Narayan and Pritchett (1997)** describe the functions of social capital as that which help change outcomes for the better by facilitating greater cooperation. According to them, increased social capital improves governments and it leads to increased community cooperative action and solves local "common property" problems. Social Capital strengthens linkages among individuals that speeds the diffusion of innovations and improves the quantity and quality of information flows and reduces transaction costs and finally pools risks and allows households to pursue more risky and higher return activities. **Grootaert et al. (2004)** have posited that Social Capital, at the community level, is linked to outcomes such as poverty, health, the economy and crime.

3. Statement of the Problem

India's cooperative movement, which dates back to more than a hundred years, has been evaluated as ineffective, based on its limited success with regard to the creation of financial capital. In particular, the grassroots level organizations, within the Short-term Cooperative credit structure – the Primary Agricultural Credit Societies (PACS) - have been found to be deficient and loss-making units. While this is indisputable, using the lens of financial performance to view the contribution of the cooperative banking sector in India may be faulty, ignoring its social capital creation potential. This paper considers whether primary agricultural credit societies have a role to play in the context of globalization, based on their social capital creation potential.

4. Objectives of the Study

This paper seeks to expand the base of knowledge and fill an important void in the existing social capital literature in India, by studying the creation of social capital by grassroots level Indian rural cooperatives (in particular, Primary Agricultural Credit Societies) as purveyors of rural credit, using macro-level data. It seeks to do so within the context of a globalizing world.

It is clear that globalization, characterized by the movement of "capital" (in the traditional sense of human, physical and financial capital) to the most profitable destinations, has the potential to affect the pace of development in hitherto emerging economies. How would globalization impact such social capital and with what effect?

Hence, the objective of this paper is to analyze the social capital creation by cooperatives in the context of globalization. As such, the paper considered the post liberalization period and based on data availability, considered the period 1999-2011.

The ultimate objective of the study is to see whether the potential for social capital formation can provide a case for strengthening grassroots level PACS, even within the context of globalization.

5. Hypotheses

The paper seeks to test the following null hypotheses:

H1: There is no significant effect of social capital explanatory variables on civic norms.

H2: There is no significant effect of social capital explanatory variables on trust.

H3: There is no significant effect of social capital explanatory explanatory variables on cohesion.

H4: There is no significant effect of the three explanatory variables, civic norms, trust and cohesion, on social capital creation.

6. Need for the Study

Extant literature, on the subject of social capital, comprises of studies pertaining to developed economies- US and Europe, in particular. There is not much work done on cooperatives in India, using macro level data. Extant literature by individual researchers is predominantly narrative and based on case studies, either using survey data or by using balancesheet information (**Mishra, 2006**). These are restricted to particular States (**e.g. Chalam & Prasad, 2007; Kulandaiswamy & Murugesan, 2005; Shah, 2007**). Again the yardstick used to judge the cooperatives is their financial performance, based on which recommendations have been made to improve such performance (**e.g. Chalam & Prasad, 2007; Murugesan, 2007**). **Mishra (2006)** looks at the factors which impact the financial health of PACS, reflected through their recovery performance. Several Commissions and Committees too have attempted to look at the problems concerning cooperatives, using State level ratio analysis of the comparative performance of PACS. However, none of these Committees, or individual papers, attempted to look at cooperatives as agents of social capital creation. This paper seeks to fill this gap in extant literature by carrying out an empirical analysis of macro level data on social capital creation by PACS.

7. Research Framework and Methodology

The important concept of social capital is trust. Trust is associated with virtues such as honesty, duties, and reciprocity, all of which foster cooperation between individuals **(Fukuyama, 1999 cited in Lee, Jeong and Chae, 2011).** To enhance social cooperation, however, the radius of trust must extend beyond one's immediate family and friends into the entire community. In the context of the rural sector, the proportion of deposits to the total owned funds of cooperatives can be taken as a proxy for generalized trust and hence another proxy for social capital creation. The rationale for this proxy is that deposits with Primary Agricultural Credit Societies are not under the purview of the DICGC Act unlike Scheduled Commercial Banks and RRBs , and as such do not offer their depositors any protection. The larger the proportion of these deposits/ growth in deposits, the greater we can surmise is the trust, which would indicate social capital creation. Cohesion is explained through the extent of inclusiveness, as also government participation in total share capital. Greater the inclusiveness – captured through two variables, the proportion of SC/ST to the total members and the proportion of loans borrowed by SC/ST members to the total loans- greater is the extent of social cohesion and hence social capital creation.

7.1. Sample Selection

This paper considered social capital creation (accumulation) by Indian cooperatives in their role as purveyors of rural credit. Hence the sample considered was that of grassroots level cooperatives, viz. the Primary Agricultural Credit Societies at the aggregate level.

7.2. Sources of Data Collection

Data availability posed a major challenge to the study. The study relied on secondary data available from data bases including NAFSCOB and India stat. However, the data on cooperatives were extremely scanty and not of a continuous nature. Due to lack of continuous data, it was not possible to compare social capital creation in the pre-globalization with the post-globalization period. Nor was there continuous data to capture the experiences of individual States in the period concerned.

7.3. Period of Study

The study was carried out for the period 1999-2011, that is the period in the post-globalization era for which continuous and latest data were available.

7.4. Tools Used for the Study

The study used multiple linear regression and logit models to study capital creation by PACS. The regression analysis was carried out by using 'R'.

7.5. The Models

Two sets of models were used to study capital creation by PACS. The regression analysis was carried out by using 'R'. Following the macro/ community level interpretation, Social Capital Creation was defined in terms of three concepts- Civic Norms, Trust and Cohesion. Recovery of loans was used as a proxy for Civic Norms while the proportion of deposits to total owned funds was taken as a proxy for Trust. Cohesion was modelled as a dummy dependent variable, with a value of one, to indicate the event of cohesion created/ present.

7.5.1 Model-1

In **Model-1,** OLS regressions were run to estimate the proxies for Civic Norms and Trust, viz. recovery of loans (%), and proportion of deposits to total owned funds respectively. Further, the third concept, Cohesion, was tested by using the level of financial inclusion and government participation as an explanatory variable in a logit model.

The explanatory variables considered were:

- **Average Membership size per PACS (AVMEM)**-Smaller the average membership size per PACS, greater will be the peer pressure and reciprocity and hence greater will be the civic norms. Smaller the membership size per PACS, greater will be the trust among members, ***ceteris paribus***.
- **Proportion of Deposits to total Borrowings (DEPBORR)**-An anomaly in the functioning of Indian cooperatives has been the denial of full voting rights and membership to non-borrowers. Non-borrowing depositors are treated as nominal members, without voting rights. As such, larger the proportion of deposits to total borrowings, governance is adversely affected and lower will be the civic norms.
- **Participation of Government in the paid up share capital (GTOP)-** Larger the share of government share capital, more tenuous the ties among members and hence lower will be civic norms as well as trust.
- **Percentage of Profitable Societies in the State (PROFITSOC):** Larger this proportion, stronger is it indicative of the presence of civic norms.
- **Proportion of Non-Agricultural to total loans(NONAGL)-** Larger the proportion of these loans, lesser will be the recovery of loans (increase in over dues) since PACS have been envisaged as best equipped to deal with agricultural credit. Hence lower will be the civic norms as also trust.
- **Number of Villages covered by PACS (VILLGS)-** Larger the number of villages covered by the PACS, greater the cohesion and greater the social capital creation.
- **Financial Inclusion (INCL1 and INCL2)**: Greater the financial inclusion, greater will be the level of cohesion among members and hence greater the social capital creation. The measure of financial inclusion considered is: the proportion of SC/ST borrowers to total borrowers (INCL1) and the proportion of SC/ST members to total members (INCL2).

Time series data for the period 1999-2011 were considered. Time series data were not available for three explanatory variables- PROFITSOC, NONAGL and VILLGS. As such, these were omitted from the analysis.

Based on this discussion, time series regression models were used to estimate the impact of the explanatory variables on social capital creation.

Equations 1.1, 1.2 and 1.3 describe Model-1.

$Cnorm_t = ß_0 + ß_1 AVMEM_t + ß_2 GTOP_t + ß_3 PROPDEPBORR_t + e_t$ .... **(1.1)**

$Trust_t = a + \lambda_1 AVMEM_t + \lambda_2 GTOP_t + \lambda_3 PROPDEPBORR_t + e_t$ .... **(1.2)**

$\ln Cohesion_t = c + \alpha_1 INCL1_t + \alpha_2 INCL2_t + \alpha_3 GTOP_t + e_t$ .... **(1.3)**

where

$ß_1, ß_2$ and $ß_3$; λ_1, λ_2 and λ_3; and α_1, α_2 and α_3 are parameters to be estimated and

CNORM= Civic norms= Recovery of loans / Total Loans= Total Loans issued- Total Over dues/ Total Loans issued

AVMEM- Average membership size of PACS= Total Members/ Total number of PAC societies

GTOP= Government participation in Paid up capital= govt participation/paid up capital

PROPDEPBORR= Proportion of deposits to total borrowings= Total deposits/total borrowings

INCL1= Number of SC + ST borrowers/ total borrowers

INCL2= Number of SC+ST members/ total members

The models specified in **1.1** and **1.2** were estimated by using OLS while 1.3 was estimated by using a logit model which assigned 1 to the event that cohesion had occurred and 0 for the event that it had not occurred.

The logit regression was run with the binary variable, assigned with a value of one (i.e. estimating that cohesion occurred). The explanatory variables considered were the inclusiveness indicators and government participation.

7.5.2. Model-2

Model-2 was a logit model where the dependent variable was a binary variable- social capital created. A value 0 was assigned to the event, 'Social capital not created' and 1 for the event, 'Social capital created'. The model considered seven explanatory variables- AVMEM, PROPDEPBORR, CNORM, TRUST, INCL1, INCL2 and GTOP. The binary variable SCAP was assigned a value 0.

Absence of nation-level data, on certain key indicators, posed a major constraint. Another constraint was the non-availability of individual PAC level data which could be used to draw inferences on cooperatives and their functioning.

7.6. Limitations of the Research

There were two limitations of the research.

1. Community interpretation of social capital was used. There could be limitations associated with identifying this construct as an appropriate macro-level measure of social capital as created by rural credit cooperatives.
2. The study was based on aggregate level data for a limited time period. Due to lack of continuous data, it was not possible to compare social capital creation in the pre-globalization with the post-globalization period. Nor was there continuous data to capture the experiences of individual States

The specification of the **model-2** is as follows-

$\ln SCAP_t = \eta_0 + \eta_1 AVMEM + \eta_2 CNORM + \eta_3 PROPDEPBORR + \eta_4 TRUST + \eta_5 GTOP + \eta_6 INCL1 + \eta_7 INCL2$ ....(2)

The time period considered was twelve years- 1999-2011.

in the period concerned. Thus the lack of adequate data may prove to be a limitation of the study.

8. Empirical Results and Analysis

Model-1 comprised of three regressions, on the three concepts of Social Capital, as defined earlier and presented in **Table-1**. Civic Norms were significantly affected by the government participation as well as the proportion of deposits to total borrowings. Government participation, as an explanatory variable, fits with the theory and was also significant in the case of civic norms. Further, the R^2 value was 93.3 in the case of civic norms. Thus the Null Hypothesis - **H1 that there is no significant effect of social capital explanatory variables on Civic Norms,** is rejected by the study.

The OLS Model for Trust similarly had significant values for the proportion of deposits to total borrowings. Government participation, although fits the theory, in the sense of having a detrimental effect on trust, did not have significant impact. Hence the Null Hypothesis - **H2 that there is no significant effect of social capital explanatory variables on Trust**, is rejected by the study. As can be seen, larger the government participation, the lower was the social capital creation. This growing interference by the Government has been noted by several Commissions in their recommendations. Such interference, measured quantitatively, through increased government participation in the total paid up capital of the PACS, exercised a negative impact on social capital creation as well. While two of the three explanatory variables had significant coefficient values, average membership size gave mixed results.

The third model used in the study was the logit model to study Cohesion. In the logit model for Cohesion, the AIC value was 8. In general, lower the AIC value, closer is the model to the true model. Hence the Null Hypothesis **H3 that there is no significant effect of social capital explanatory variables on Cohesion,** is also rejected by the study**.**

Under the **MODEL 2,** presented in Table-2, a logit model was run to estimate whether social capital creation had taken place. The dependent variable was a binary variable, SCAP. The logit regression was run for SCAP=0 i.e. to check the outcome, 'Social Capital had not been created'. The coefficients of the explanatory variables- civic norms, trust, average membership size and social inclusion variables- carried a negative sign. In other words, these variables were negatively associated with the outcome, "Social capital had not been created". It was found that a growth in civic norms, a growth in trust, a lower average membership size and greater social inclusion (in terms of high proportion of SC/ST borrowers), all worked favourably towards social capital creation, in the manner posited by the theory. However, in this model, greater government participation did not seem to have had a negative impact on social capital creation as posited by the theory. Hence the Null Hypothesis-**H4 that there is no significant effect of the explanatory variables on social capital creation,** is rejected by the study. Noting the limitations of carrying out an analysis of this sort, based on time series models of regression, an indicator analysis was carried out to corroborate the findings.

1. PACS recorded greater rural penetration- 93000 PACS compared to the 50,000 rural and semi-urban branches of SCBs and RRBs.
2. The agricultural credit, provided by PACS, had been growing at 20% per year in the last 5 years. However, due to a greater

growth of SCBs and RRBs, their share in the overall agricultural credit was only 17%

3. The coverage of farmers, in terms of number of agricultural loan accounts, was greater for PACS than that of SCBs and RRBs. Cooperatives provided agricultural credit to 3.09 crore farmers during 2011-12, compared to 2.55 crore farmers by SCBs and 82 lakhs by RRBs.
4. The number of new farmers, financed by cooperatives in 2011-12, was three times financed by SCBs and more than 7 times financed by RRBs.
5. The proportion of small and marginal agricultural loan accounts, in the farmer's case of cooperatives, had increased from 53% in 2006-07 to 66% in 2011-12, indicative of greater inclusion.

9. Findings and Suggestions

The study presented the case for social capital creation by PACS in India. The analysis shows that PACS should be accessed through metrics other than financial metrics. An important finding is that an increase in social capital influencing variables, viz. Civic Norms, Trust and Cohesion, can have large positive impact on social capital generation. Such social capital generation, through a virtuous cycle, many impact favourably the financial capital generation too.

The latter linkage may form the subject matter for further research. There are obviously positive effects of government association with the PACS. The study, however, points to the possible negative externalities that may arise out of increased government participation in the PACS. The reliance on aggregate macro-level data, which may mask finer granular details at the state-level, is a limitation of the study.

10. Conclusion

In this paper, the central goal was to examine social capital creation by PACS in India, using three major concepts- Civic Norms, Trust and Cohesion. While financial metrics are extremely important for the long-term viability and sustainability of organizations, the current practice of assessing cooperative performance by using only financial metrics, may be misplaced. The latter has formed the basis of suggestions/ recommendations to bring the cooperatives at par with the other organised institutional banking structures, viz. commercial banks and RRBs. Such recommendations range from the mild "phased implementation of capital adequacy norms to PACS" (Draft Final Report of the Task Force on Revival of Cooperative Credit Institutions, 2004, p.45) to the more extreme recommendation of converting the PACS into Banking Correspondents of the Scheduled Commercial Banks. As has been pointed out, such a move may prove detrimental to the cooperative character of PACS and reduce them to "agents" of commercial banks (Ramesha, 2011). In the era of globalization, when the viability of the cooperative credit structure is being questioned, this research suggests that there may be a case for judging the performance of cooperatives on the basis of social capital creation as well. This would require a clear definition of social capital and impact measurement of various explanatory variables on such capital. Such an attempt, using macro-level data, has not been attempted in the Indian context. Accordingly, the research should be of interest to scholars, practitioners and policy makers.

11. Scope for Further Research

While time-series models do have certain obvious flaws, the study provides a starting point towards developing a different/ additional paradigm of assessment of cooperatives by using metrics other than the financial. More detailed studies, involving panel regressions and using state-level data, may shed greater light on this crucial aspect of the cooperative credit structure in India.This assumes importance given that social capital, with its capital-like properties, would have implications for growth and development.

12. Notes

1. Very few studies, on such social capital creation by emerging economy institutions, were found. One study on the topic was Knowles, G., Luke, B. and Barraket, J. (2013). Investing and Reinvesting in Social Capital: The Spill-over Effects of Social Capital in Self-Help Groups (SHGs), Journal of International Development, 25, 438-441. This study examined 12 SHGs, managed by six Non-Governmental Organisations (NGO) and microfinance programmes in a rural area of Tamil Nadu, India, to study the potential benefits of such SHGs.

2. The ST CCS functions as a three-tier structure in 16 States while in 13 smaller States and Union Territories, PACS are directly affiliated to the StCB and the ST CCS functions as a two tier structure. In three States, a mixed structure, i.e., two tier in some districts and three-tier in other districts, operates.

3. In both cases, positive and significant correlation was found.

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Table 1

Model 1: Estimation of Social Capital Creation by PACS

MODEL 1					
OLS OF CIVIC NORMS			**OLS OF TRUST**		
Independent Variables	**Coefficient**	**t-value (p value)**	**Independent Variables**	**Coefficient**	**t-value (p value)**
CONSTANT	8.066E+06	1.527 (0.16516)	CONSTANT	1.1328342	1.011 (0.34180)
AVMEM	5.996e+02	0.257 (0.80352)	AVMEM	-0.0001684	-0.340 (0.74243)
GTOP	-8.668e+07	-4.491 (0.00203)	GTOP	-0.6797750	-0.166 (0.87233)
PROPDEPBORR	9.647e+06	3.423 (0.00905)	PROPDEPBORR	2.6089957	4.361 (0.00241)
Multiple R^2= 0.9337, Adjusted R^2=0.9809			**Multiple R^2= 0.741, Adjusted R^2=0.6438**		
LOGIT OF COHESION (=1)					
CONSTANT	**2.457e+01**				
INCL1	**2.718e-08**				
INCL2	**-5.337e-09**				
GTOP	**-7.427e-09**				
AIC: 8					

Source: Author calculations based on NAFSCOB, Indiastat data for 1999-2011.

Table 2

Model 2: Social Capital Creation by PACS (SCAP=0)

INDEPENDENT VARIABLE	COEFFICIENT
Constant	-2.457e+01
AVMEM	-1.912e-17
CNORM	-8.190e-21
PROPDEPBORR	4.010e-14
TRUST	-9.778e-15
INCL1	-1.026e-13
INCL2	7.827e-14
GTOP	-1.173e-12

Source: Author calculations based on NAFSCOB, Indiastat data for 1999-2011